



DREXEL UNIVERSITY  
College of  
Arts and Sciences

# CATALOG

2021-2022

**UNDERGRADUATE**



[catalog.drexel.edu](http://catalog.drexel.edu)

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# The College of Arts and Sciences

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## About the College

### Mission Statement

By pursuing excellence in research and scholarship, we educate our students to become ethical professionals and citizens with knowledge of and appreciation for the fundamental interactions among the humanities, social sciences, and the sciences in a fast-changing, challenging, and diverse world.

### About the College of Arts and Sciences

Drexel University's College of Arts and Sciences (<http://www.drexel.edu/coas/>) (CoAS) stands unafraid in the face of change. We recognize that our ever-evolving, fast-paced culture requires a new approach to education, one that understands the world is malleable and can be molded by minds inspired to lead society's evolution.

But innovation requires more than an ambitious personality. It requires versatility—we must not only be experts in our field, but also agile enough to engage in the cross-disciplinary work needed to address modern problems resourcefully. That's why our faculty challenge students to see past their own perspectives and establish a deeper understanding of humanity's needs. It's why our co-op program inserts students within a professional culture, introducing them to the expectations of the job while offering hands-on practical application of coursework. And it's why, starting as early as freshman year, students team with faculty members as peers, conducting research that affects the world now.

Here at CoAS, we are committed to implementing in-the-moment change, not for personal glory, but because it's what the world needs.

### Majors

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- Science (p. 185)

### Accelerated Degrees

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- Chemistry (BS) / Chemistry (MS) (p. 199)
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- **NEW:** Communication (BS) / Strategic & Digital Communication (MS)
- **NEW:** English (BA) / Strategic & Digital Communication (MS)
- Environmental Science (BS) / Environmental Policy (MSEP) (p. 226)
- Environmental Science (BS) / Environmental Science (MSES) (p. 230)
- Environmental Studies & Sustainability (BA) / Environmental Policy (MSEP) (p. 233)
- **NEW:** Global Studies (BA) / Business Administration (MBA)
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- Mathematics (BS) / Mathematics (MS) (p. 259)
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- **NEW:** History (BA) / Law (JD)
- **NEW:** Political Science (BA) / Law (JD)
- **NEW:** Psychology (BS) / Law (JD)
- **NEW:** Sociology (BA) / Law (JD)

### Certificates

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- **NEW:** Climate Change
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## Special Programs

### Pre-professional Programs

Students wishing to prepare for admission to professional schools of medicine, veterinary medicine, dentistry, or public health may obtain pre-professional counseling and application assistance at the Steinbright Career Development Center. (<https://drexel.edu/scdc/>) For health profession application assistance, students may call 215.895.2437. For law school admission assistance, students may call 215.895.1632.

### Accelerated Programs

The College of Arts and Sciences offers several accelerated degree programs that enable academically qualified students to earn both a bachelor's and an advanced degree concurrently, graduating sooner than they would in traditional programs. Depending on the academic program, eligible students can be admitted to an accelerated degree program in one of two ways: as an incoming freshman or after completing a minimum of 90.0 credits but no more than 120.0 credits. Note: In addition to the options listed below, students can apply to combine degree programs into an accelerated BS/MS program. Talk to your academic advisor to learn more.

More details about Accelerated Programs can be found on the Undergraduate Admissions (<http://drexel.edu/coas/admissions/overview/>) website.

### BA/BS+MD Early Assurance Program

Drexel offers a BA/BS+MD program, a 4 + 4 combined program that allows outstanding high school students to gain acceptance into their undergraduate program and provisional early acceptance into medical school.

The program is open only to the following majors:

- Biological Sciences (p. 9)
- Chemistry (BA only) (p. 24)
- Biomedical Engineering (<http://catalog.drexel.edu/undergraduate/schoolofbioengscienceandhealthsystems/biomedicalengineering/>) (four year program only)

Students in this program cannot double major. However, students are encouraged to minor in one or more areas. In addition, students are not eligible to participate in combined Bachelors/Masters programs.

#### Admission Requirement

For consideration to the BA/BS+MD Early Assurance Program, applicants must:

- Submit the Common Application or the Coalition Application and all required documents prior to November 1
- Be a U.S. citizen or permanent resident applying for first-year admission
- Be on track to graduate from an American high school
- Have a minimum 3.5 GPA on a 4.0 weighted scale (subject to change)
- Have a combined SAT score of at least 1420 on the SAT (for Evidence-based Reading and Writing and Math sections) or a minimum ACT composite score of 31; submission of an SAT Subject Test is strongly recommended, preferably in the sciences, but all Subject Tests will be reviewed.

- Be on track to graduate, having satisfactorily completed four years of laboratory science with one year each of biology, chemistry, and physics

As a point of reference, first-year students admitted to the BA/BS+MD program had an average GPA of 4.42 and an average combined SAT (Evidence-based Reading and Writing and Math) of 1542 or ACT 35 composite.

A select number of students will be invited to attend an interview with the medical school admissions committee at the Drexel University College of Medicine.

**Undergraduate Program Requirements**

Upon acceptance into the BA/BS +MD Program, students will be provided with a contract of requirements for the completion of the undergraduate portion of the program. The current general requirements of the program are:

- Maintain minimum cumulative GPA of 3.6 in all coursework and a minimum GPA of 3.6 in BCPM classes (all biological sciences, chemistry, physics, and math), without repeating a course and with no grade less than a C. The GPA requirements must be met by the end of their third undergraduate year and at the end of their fourth year
- Complete a minimum of 100 hours of service that is documented and approved by the advisor.
- Complete a spring/summer six-month co-op in research, clinical, or health informatics, health law, or bioengineering. A co-op of 20 or 40 hours a week is possible.
- Complete 12.0 quarters of study, including fall, winter, and spring quarter of their 4th year as a matriculated Drexel student. In order to maintain their full-time status, BA/BS+MD program students must be registered for at least 14.0 credits per quarter for the 12.0 quarters of Drexel University undergraduate studies.
- BSMD programs follow a full 4 year co-op plan with the following schedule of classes and co-op terms. Students must follow this layout of full-time terms in class and co-op. (see below).

First Year				
Fall Courses	Credits Winter Courses	Credits Spring Courses	Credits Summer Vacation Term	Credits
	0	0	0	0
Second Year				
Fall Courses	Credits Winter Courses	Credits Spring Courses	Credits Summer Courses	Credits
	0	0	0	0
Third Year				
Fall Courses	Credits Winter Courses	Credits Spring COOP EXPERIENCE	Credits Summer COOP EXPERIENCE	Credits
	0	0	0	0
Fourth Year				
Fall Courses	Credits Winter Courses	Credits Spring Courses	Credits Summer Undergrad Degree Completed	Credits
	0	0	0	0
<b>Total Credits</b>				<b>0</b>

- The MCAT is required prior to matriculation into the College of Medicine. Students must receive a minimum MCAT score of 511, including:
  - 128 or better in chemical and physical foundations of biological systems
  - 127 or better in critical analysis and reasoning skills
  - 128 or better in biological and biochemical foundations of living systems
  - 128 or better in psychological, social, and biological foundations of behavior
- Alternatively, students can receive a minimum total score of 513 with no subsection less than 127.
- The College of Medicine reserves the right to revise the above requirements. As noted above, acceptance into the College of Medicine is provisional.

**DragonsTeach**

DragonsTeach is a collaboration between the College of Engineering, the College of Arts and Sciences, and the School of Education designed to allow students in science, technology, engineering, and math (STEM) degree programs to explore a career in education. Through a unique combination of skills development and classroom experiences, DragonsTeach students can earn a minor in STEM Education and eligibility for teaching credentials while completing their major degree program and co-ops. Learn more on the DragonsTeach website (<http://drexel.edu/dragonsteach/>).

Eligible Majors:

- BS in Biological Sciences (p. 9)
- BS or BA in Chemistry (<http://catalog.drexel.edu/undergraduate/collegeofartsandsciences/undergraduate/collegeofartsandsciences/chemistry/>)
- BS in Environmental Science (p. 92)
- BS or BA in Mathematics (p. 138)
- BS in Physics (p. 160)

**Secondary and Elementary Teacher Certification**

The School of Education offers innovative curricula that combines academic majors with appropriate coursework to satisfy state requirements for certification in elementary education. Students interested in the teacher education programs should contact the School of Education (<http://drexel.edu/soe/>).

**The Drexel Writing Center**

The Drexel Writing Center (DWC) is dedicated to helping students, faculty, and staff, at all levels of experience and across all disciplines, in their development as writers.

- The DWC works with writers at all stages in the writing process, from brainstorming ideas to polishing final drafts.
- The DWC focus is on individual, one-on-one sessions that feature a conversational, collaborative relationship between the reader and the writer they work with.
- Interaction with the DWC will help writers develop not just writing but critical thinking and reading skills.

- While DWC readers do not perform copy-editing services, they will help students learn strategies for proofreading and editing their documents.

The DWC is located at 100-103 Korman Center and can be reached at 215.895.6633. Further information can be found at the Drexel Writing Center (<https://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/drexel-writing-center/>) website.

## English Language Center

As part of the College of Arts and Sciences, Drexel's English Language Center (<http://www.drexel.edu/elc/>) offers an accredited intensive English program throughout the year. In addition to classes in academic skills such as essay writing and oral presentations, the Center offers the Language of STEM (Science, Technology, Engineering, and Math), Language of Media and Design, Global Business English program (GLOBE), English for academic purposes, TOEFL and IELTS preparation, ESL Teaching enhancement programs, and other subjects.

Through the International Gateway program, the English Language Center offers academic language preparation for students who have an admissible high school academic background but need further English language proficiency. This pathway program combines academic English language courses, credit courses taught by CoAS faculty, and acculturation activities. Students admitted into the University Preparation program (UPREP) begin their studies at Drexel in the English Language Center in a short, pre-term program designed to prepare international students for the academic work and culture of the American university.

Accepted undergraduate students have access to free language tutoring and other academic skills workshops throughout the academic year.

For more information, see the ELC website or contact the Center at:

English Language Center  
229 N. 33rd Street  
Philadelphia, PA 19104

Phone: 215-895-2022  
Fax: 215-895-6775  
E-mail: [elc@drexel.edu](mailto:elc@drexel.edu)

## The Drexel Co-op

No summers of coffee runs or mindless filing here! Drexel students embark on six-month periods of full-time employment in practical, discipline-specific positions consistent with their interests and abilities. Depending on their chosen program, students have the opportunity to participate in up to three different co-op positions—that's 18 months of real work experience—during their time at Drexel, allowing them to explore their career options, strengthen their resumes, and build a professional network in the process. While co-op opportunities can be both paid and unpaid, students who participate in the co-op program typically receive higher starting salaries post-graduation than graduates of other schools.

The number of co-op experiences required for graduation is determined by the student's chosen course of study. The following options exist for most majors:

- **Three Co-op Option** (Five Years)
- **One Co-op Option** (Four Years)

- **No Co-op Option** (Four Years) *Though this program is available, we strongly encourage students to take advantage of the co-op program, a key benefit of a Drexel education.*

Learn more on the Steinbright Career Development Center (<http://drexel.edu/scdc/>) website.

## Global Opportunities

### Global Opportunities Abound

Philadelphia may be the heart of Drexel's campus, but the world is our muse. There are numerous opportunities for Drexel Dragons to go abroad.

### Study Abroad

Study abroad allows students a unique academic experience to learn about subjects from an international perspective, often with local students and professors. From Costa Rica to Barcelona, Milan to Turkey, and Brazil to Israel, our students have studied all over the world.

### Research Abroad

Research extends far beyond the walls of any laboratory. Our students have studied sea turtles in Costa Rica, infectious diseases in Uganda, and data from the Double Chooz experiment in France. Many of our faculty members are also involved in international research collaborations and our students have the opportunity to make an impact alongside them.

### Co-Op Abroad

Co-op abroad provides students with a unique professional perspective and exposure to an international work environment. Our students have worked at Coca Cola in India, the UN Development Programme in Africa, the Italian Parliament in Rome, and the Heraklion Community Mental Health Center in Greece—just to name a few.

An international co-op gives students a distinct advantage in the global economy, making them more attractive to prospective employers. Candidates with international experience also have the ability to earn higher starting salaries upon graduation.

Visit the Steinbright Career Development Center (<http://drexel.edu/scdc/>) website to learn more.

### Travel Courses

The College of Arts and Sciences' travel-integrated courses allow students to travel domestically or internationally for one or two weeks at the end of a course to extend their studies beyond the classroom. Recent classes have traveled to France to learn about WWI and Brazil to study commodities exchange. Talk to your academic advisor to learn more.

### Alternative Spring Break

The Alternative Spring Break (ASB) program places teams of Drexel students in communities to engage in community service and experiential learning during spring break. Students may choose to work domestically or internationally in activities that benefit the environment, the community, and those in need.

### Community-Based Learning

In the College of Arts and Sciences' unique Community-Based-Learning (CBL) courses, students don't just study the issues affecting the world,



they study alongside the people affected, from prison inmates to hospice patients. CBL courses are offered in three formats:

- Side by side
- Community hybrid
- Service learning

**Side-by-side** courses create a co-learning environment in which Drexel students and the community members take classes together.

**Community hybrid** courses are composed entirely of Drexel students and time is split between the classroom and the community.

**Service-learning** courses require service in the community in addition to students' credit hours in the classroom.

For a current list of available courses, visit the Lindy Center for Civic Engagement (<http://drexel.edu/lindycenter/>).

# Biological Sciences

*Major: Biological Sciences*

*Degree Awarded: Bachelor of Science (BS)*

*Calendar Type: Quarter*

*Total Credit Hours: 183.5*

*Co-op Options: Three Co-op (Five years); One Co-op (Four years); No Co-op (Four years)*

Classification of Instructional Programs (CIP) code: 26.0101

Standard Occupational Classification (SOC) code: 19-1029

## About the Program

The biological sciences major resides in the Department of Biology (<http://drexel.edu/coas/academics/departments-centers/biology/>). Students earn a bachelor's degree in the biological sciences and are prepared for technical careers in research or commercial laboratories, or for professional schools or graduate study.

The biological sciences encompass many areas of study. Biologists study the structure and functions of living organisms from the individual cell to the full organism, and collectively to the community level. Discoveries in the biological sciences influence many aspects of our daily lives and have become the foundation of many new developments in biotechnology and medicine. In the past two decades, advances in molecular biology, cell biology and genetics have been rapid, opening many new, exciting career opportunities in biotechnology, genetic engineering and the development of new diagnostics and therapeutics. Biologists can pursue a variety of options including careers in medicine, dentistry, veterinary medicine or other health-related areas; in research or commercial laboratories at pharmaceutical companies, medical research laboratories, biotechnology companies or in government agencies; and in teaching. In fact, more than 100 different occupations have been listed for biologists. Graduates in the biological sciences are in demand and enjoy a high placement rate with competitive salaries.

The curricular choices are designed to provide a sound basis for careers in the private sector, government and research laboratories, and for advanced study in graduate and professional programs in medicine, other health related areas, or in teaching.

The course requirements identifies required support courses in chemistry, physics, mathematics, humanities, and social sciences. With proper selection of electives, students can meet teacher certification requirements or complete a minor in another field. Students are encouraged to consult frequently with their academic advisor for curriculum planning.

In addition to the core requirements, students select one of five concentrations in a field of interest:

- Cell/Molecular Biology/Genetics/Biochemistry
- Organismal Biology/Physiology
- Ecology/Evolution/Genomics
- Pathobiology
- General Biology

## Program Options

Co-op employment is an option for biological science students. The major offers three distinct plans:

### Five-year option with co-op experience

This option allows for the greatest amount of employment experience, with three distinct six-month periods of employment included with studies. After the start of the sophomore year, students study or work through all terms, including summer.

### Four-year option with co-op experience

The degree includes just one six-month period of employment. After the start of sophomore year, students study or work through all terms, including summer.

### Four-year option without co-op experience

The degree can be completed in four years without co-op/internship employment. Students are not required to pursue studies during any of the summer terms.

## Degree Requirements

The Biological Sciences curriculum is designed to provide students with both depth and flexibility within the field of biology. In addition to the core requirements, students select one of five concentrations in a field of interest.

- Cell/Molecular Biology/Genetics/Biochemistry
- Organismal Biology/Physiology
- Ecology/Evolution/Genomics

- Pathobiology
- General Biology

Concentration requirements and elective options are outlined below. Within each concentration, students are able to further specialize in a focus area by selecting electives in their area of interest.

#### Requirements

##### Humanities and Social Sciences

CIVC 101	Introduction to Civic Engagement	1.0
COM 230	Techniques of Speaking	3.0
COM 310 [WI] or COM 320	Technical Communication Science Writing	3.0
COOP 101	Career Management and Professional Development *	1.0
ENGL 101 or ENGL 111	Composition and Rhetoric I: Inquiry and Exploratory Research English Composition I	3.0
ENGL 102 or ENGL 112	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing English Composition II	3.0
ENGL 103 or ENGL 113	Composition and Rhetoric III: Themes and Genres English Composition III	3.0
PHIL 251 or PHIL 321	Ethics Biomedical Ethics	3.0
UNIV S101	The Drexel Experience	1.0
UNIV S201	Looking Forward: Academics and Careers	1.0
Humanities and Social Science Electives		9.0
Science, Technology, Health and Human Affairs Elective		3.0

##### Mathematics and Statistics

Select one of the following sequences:		12.0
Intro to Analysis		
MATH 101 & MATH 102 & MATH 239	Introduction to Analysis I and Introduction to Analysis II and Mathematics for the Life Sciences	
Calculus		
MATH 121 & MATH 122 & MATH 123	Calculus I and Calculus II and Calculus III	
MATH 410	Scientific Data Analysis I	3.0
MATH 411	Scientific Data Analysis II	3.0

##### Physical Sciences

BIO 311 or CHEM 243	Biochemistry Organic Chemistry III	3.0-4.0
CHEM 101	General Chemistry I	3.5
CHEM 102	General Chemistry II	4.5
CHEM 103	General Chemistry III	4.5
CHEM 241	Organic Chemistry I	4.0
CHEM 242	Organic Chemistry II	4.0
PHYS 152	Introductory Physics I	4.0
PHYS 153	Introductory Physics II	4.0
PHYS 154	Introductory Physics III	4.0

##### Core Biology Courses

BIO 131	Cells and Biomolecules	4.0
BIO 134 or BIO 142	Cells and Biomolecules Lab SEA-PHAGES I	1.0-2.0
BIO 132	Genetics and Evolution	4.0
BIO 135 or BIO 143	Genetics and Evolution Lab SEA-PHAGES II	1.0-2.0
BIO 133	Physiology and Ecology	4.0
BIO 136 or BIO 144	Anatomy and Ecology Lab SEA-PHAGES III	1.0-2.0
BIO 207	Applications in Biology I	1.0
BIO 208	Applications in Biology II	1.0
BIO 209	Cell, Molecular & Developmental Biology I	4.0
BIO 211	Cell, Molecular & Developmental Biology II	4.0
BIO 219 [WI]	Techniques in Molecular Biology	3.0

BIO 224	Form, Function & Evolution of Vertebrates	4.0
BIO 225	Vertebrate Biology and Evolution Laboratory	2.0
BIO 471	Seminar in Biological Sciences	2.0
BIO 472	Seminar in Biological Sciences	2.0
BIO 473 [WI]	Seminar in Biological Sciences	2.0
ENVS 212	Evolution	4.0
<b>Concentration Courses</b>		<b>28.0-30.0</b>
Free electives		24.0
<b>Total Credits</b>		<b>183.5-189.5</b>

- \* Students not participating in co-op will take one additional credit of Free Elective instead of COOP 101. Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major. COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

## Concentrations

Students select one of five concentrations and fulfill the requirements as outlined below.

### 1. The Cell/Molecular/Genetics/Biochemistry (CMGB) Concentration

This concentration provides exposure to several vital disciplines within Biology, and will prepare students for a diversity of careers in research, medicine, and industry. Students interested in tailoring their studies more specifically may follow the suggested "focus areas" when selecting their two CMGB Concentration electives.

#### Cell/Molecular/Genetics/Biochemistry (CMGB) Concentration Requirements

BIO 244	Genetics I	3.0
or BIO 444	Human Genetics	
BIO 314	Pharmacology	3.0
or BIO 404	Structure and Function of Biomolecules	
or BIO 416	Biochemistry of Major Diseases	
BIO 318	Biology of Cancer	3.0
or BIO 430	Cell Biology of Disease	
BIO 410	Advanced Molecular Biology	3.0
<b>Cell/Molecular/Genetics/Biochemistry (CMGB) Concentration Electives (See Lists Below)</b>		
Two Cell/Molecular/Genetics/Biochemistry (CMGB) Electives (see list below)		6.0
Organismal/Physiology Elective (see list below)		3.0
Ecology/Evolution/Genomics Elective (see list below)		3.0
<b>Concentration Laboratory Courses</b>		
Two Laboratory Electives (see list below)		4.0
<b>Total Credits</b>		<b>28.0</b>

Students interested in pursuing a focus area in Neurobiology, Pharmaceuticals, Cell Biology, Biochemistry, Molecular Biology or Genetics should contact the academic advisor in the Biology Department for specific focus recommendations.

#### Cell/Molecular/Genetics/Biochemistry (CMGB) Electives

BIO 244	Genetics I	3.0
BIO 285	Forensic Biology	3.0
BIO 311	Biochemistry	4.0
BIO 314	Pharmacology	3.0
BIO 318	Biology of Cancer	3.0
BIO 346	Stem Cell Research	3.0
BIO 348	Neuroscience: From Cells to Circuits	3.0
BIO 404	Structure and Function of Biomolecules	4.0
BIO 414	Behavioral Genetics	3.0
BIO 415	Proteins	3.0
BIO 416	Biochemistry of Major Diseases	3.0
BIO 421	Biomembranes	3.0
BIO 430	Cell Biology of Disease	3.0
BIO 433	Advanced Cell Biology	3.0
BIO 444	Human Genetics	3.0
BIO 447	Advanced Genetics and Molecular Biology	3.0

BIO 453	Protein Dysfunction in Disease	3.0
BIO 462	Biology of Neuron Function	3.0
BIO 463	Molecular Mechanisms of Neurodegeneration	3.0
BIO 465	Neurobiology of Disease	3.0
ENVS 326	Molecular Ecology	3.0
<b>Organismal/Physiology Electives</b>		
BIO 201	Human Physiology I	4.0
BIO 221	Microbiology	3.0
BIO 256	Vertebrate Morphology and Physiology	3.0
BIO 284	Biology of Stress	3.0
BIO 286	Forensic Toxicology	3.0
BIO 323	Parasitology	3.0
BIO 349	Behavioral Neuroscience	3.0
BIO 372	Histology	4.0
BIO 373	Developmental Biology	3.0
BIO 386	Gross Anatomy I	2.0
BIO 412	Biology of Aging	3.0
BIO 420	Virology	3.0
BIO 426	Immunology	3.0
BIO 461	Neurobiology of Autism Disorders	3.0
ENVS 254	Invertebrate Morphology and Physiology	3.0
ENVS 393	Entomology	3.0
<b>Ecology/Evolution/Genomics Electives</b>		
BIO 228	Evolutionary Biology & Human Health	3.0
BIO 331	Bioinformatics I	3.0
BIO 413	Genomics	3.0
BIO 436	Population Genetics	4.0
ENVS 230	General Ecology	3.0
ENVS 247	Native Plants and Sustainability	3.0
ENVS 323	Tropical Field Studies	3.0
ENVS 328	Conservation Biology	3.0
ENVS 333	Wetland Ecology	3.0
ENVS 343	Equatorial Guinea: Field Methods	3.0
ENVS 352	Ornithology	3.0
ENVS 354	Ichthyology	3.0
ENVS 355	Biogeography	3.0
ENVS 360	Evolutionary Developmental Biology	3.0
ENVS 364	Animal Behavior	3.0
ENVS 382	Field Botany of the New Jersey Pine Barrens	4.0
ENVS 383	Ecology of the New Jersey Pine Barrens	4.0
ENVS 391	Freshwater and Marine Algae	3.0
ENVS 470	Advanced Topics in Evolution	3.0
<b>Laboratory Electives</b>		
BIO 202	Human Physiology Laboratory	2.0
BIO 213	Drosophila Neural Research	3.0
BIO 215	Techniques in Cell Biology	3.0
BIO 222	Microbiology Laboratory	2.0
BIO 232	Discovering Antibiotics	3.0
BIO 257	Vertebrate Morphology & Physiology Lab	2.0
BIO 306	Biochemistry Laboratory	2.0
BIO 329	Dictyostelium Research	3.0
BIO 374	Developmental Biology Lab	2.0
BIO 387	Gross Anatomy I Laboratory	2.0
BIO 389	Gross Anatomy II Lab	2.0
BIO 497	Research	0.5-12.0
ENVS 255	Invertebrate Morphology and Physiology Lab	2.0
ENVS 344	Equatorial Guinea: Field Research	6.0
ENVS 353	Field Ornithology Lab	2.0
ENVS 394	Entomology Laboratory	2.0

## 2. The Organismal Biology/Physiology Concentration

This concentration combines courses in organismal biology and physiology with an opportunity to focus on human physiology. The concentration is designed to appeal to students interested in health and medicine, but also accommodates students seeking a wider breadth of knowledge in organismal diversity. Students can focus their electives in human physiology or can choose courses that study non-human organisms.

### Organismal Biology/Physiology Concentration Requirements

BIO 201 or ENVS 254	Human Physiology I Invertebrate Morphology and Physiology	4.0
BIO 203 or BIO 256	Human Physiology II Vertebrate Morphology and Physiology	4.0
BIO 373	Developmental Biology	3.0
Select one of the following:		
BIO 412 or BIO 284 or BIO 466 or BIO 468	Biology of Aging Biology of Stress Endocrinology Pathophysiology	3.0
<b>Organismal Biology/Physiology Concentration Concentration Electives (See List Below)</b>		
Cell/Molecular/Genetics/Biochemistry (CMGB) Elective		3.0
Two Organismal/Physiology Electives		6.0
Ecology/Evolution/Genomics Elective		3.0
<b>Concentration Laboratory Courses</b>		
Two Laboratory Electives		4.0
<b>Total Credits</b>		<b>30.0</b>

Students interesting in pursuing a focus area in Human Physiology or Organismal Biology should contact the academic advisor in the Biology Department for specific focus recommendations.

### Cell/Molecular/Genetics/Biochemistry (CMGB) electives

BIO 244	Genetics I	3.0
BIO 285	Forensic Biology	3.0
BIO 311	Biochemistry	4.0
BIO 314	Pharmacology	3.0
BIO 318	Biology of Cancer	3.0
BIO 346	Stem Cell Research	3.0
BIO 348	Neuroscience: From Cells to Circuits	3.0
BIO 404	Structure and Function of Biomolecules	4.0
BIO 410	Advanced Molecular Biology	3.0
BIO 414	Behavioral Genetics	3.0
BIO 416	Biochemistry of Major Diseases	3.0
BIO 430	Cell Biology of Disease	3.0
BIO 433	Advanced Cell Biology	3.0
BIO 444	Human Genetics	3.0
BIO 453	Protein Dysfunction in Disease	3.0
BIO 462	Biology of Neuron Function	3.0
BIO 463	Molecular Mechanisms of Neurodegeneration	3.0
ENVS 326	Molecular Ecology	3.0

### Organismal/Physiology electives

BIO 201	Human Physiology I	4.0
BIO 203	Human Physiology II	4.0
BIO 221	Microbiology	3.0
BIO 256	Vertebrate Morphology and Physiology	3.0
BIO 264	Ethnobotany	3.0
BIO 284	Biology of Stress	3.0
BIO 286	Forensic Toxicology	3.0
BIO 320	Microbial Pathogenesis	3.0
BIO 323	Parasitology	3.0
BIO 349	Behavioral Neuroscience	3.0
BIO 372	Histology	4.0
BIO 386	Gross Anatomy I	2.0
BIO 388	Gross Anatomy II	2.0
BIO 412	Biology of Aging	3.0

BIO 420	Virology	3.0
BIO 426	Immunology	3.0
BIO 435	Immunobiology of Disease	3.0
BIO 461	Neurobiology of Autism Disorders	3.0
BIO 466	Endocrinology	4.0
BIO 468	Pathophysiology	4.0
ENVS 254	Invertebrate Morphology and Physiology	3.0
ENVS 393	Entomology	3.0

**Ecology/Evolution/Genomics electives**

BIO 228	Evolutionary Biology & Human Health	3.0
BIO 331	Bioinformatics I	3.0
BIO 413	Genomics	3.0
BIO 436	Population Genetics	4.0
ENVS 230	General Ecology	3.0
ENVS 247	Native Plants and Sustainability	3.0
ENVS 323	Tropical Field Studies	3.0
ENVS 328	Conservation Biology	3.0
ENVS 333	Wetland Ecology	3.0
ENVS 343	Equatorial Guinea: Field Methods	3.0
ENVS 352	Ornithology	3.0
ENVS 354	Ichthyology	3.0
ENVS 355	Biogeography	3.0
ENVS 360	Evolutionary Developmental Biology	3.0
ENVS 364	Animal Behavior	3.0
ENVS 382	Field Botany of the New Jersey Pine Barrens	4.0
ENVS 383	Ecology of the New Jersey Pine Barrens	4.0
ENVS 388	Marine Field Methods	4.0
ENVS 391	Freshwater and Marine Algae	3.0
ENVS 438	Biodiversity	3.0
ENVS 470	Advanced Topics in Evolution	3.0

**Laboratory electives**

BIO 202	Human Physiology Laboratory	2.0
BIO 213	Drosophila Neural Research	3.0
BIO 215	Techniques in Cell Biology	3.0
BIO 222	Microbiology Laboratory	2.0
BIO 232	Discovering Antibiotics	3.0
BIO 257	Vertebrate Morphology & Physiology Lab	2.0
BIO 306	Biochemistry Laboratory	2.0
BIO 329	Dictyostelium Research	3.0
BIO 333	Bioinformatics Laboratory	2.0
BIO 374	Developmental Biology Lab	2.0
BIO 387	Gross Anatomy I Laboratory	2.0
BIO 389	Gross Anatomy II Lab	2.0
ENVS 255	Invertebrate Morphology and Physiology Lab	2.0
ENVS 344	Equatorial Guinea: Field Research	6.0
ENVS 353	Field Ornithology Lab	2.0
ENVS 394	Entomology Laboratory	2.0

### 3. The Ecology/Evolution/Genomics Concentration

This concentration focuses on ecological and evolutionary aspects of biology for biology majors who also have specific interests in ecology, evolution or genomics. This concentration is designed to maintain a breadth of knowledge in biology, but also allows students to tailor their course work more specifically to reflect their specific area of interest.

**Ecology/Evolution/Genomics Concentration Requirements**

ENVS 326	Molecular Ecology	3.0
BIO 228	Evolutionary Biology & Human Health	3.0
or BIO 331	Bioinformatics I	
BIO 436	Population Genetics	3.0-4.0
or ENVS 230	General Ecology	

Select one of the following:

3.0-5.0

BIO 221	Microbiology	
BIO 256	Vertebrate Morphology and Physiology	
BIO 323	Parasitology	
BIO 413	Genomics	
BIO 420	Virology	
ENVS 254	Invertebrate Morphology and Physiology	
ENVS 360	Evolutionary Developmental Biology	
ENVS 382	Field Botany of the New Jersey Pine Barrens	
ENVS 391	Freshwater and Marine Algae	
ENVS 393	Entomology	
ENVS 438	Biodiversity	
Ecology/Evolution/Genomics concentration electives		
Select one Cell/Molecular/Genetics/Biochemistry (CMGB) elective (see list below)		3.0
Select one Organismal/Physiology elective (see list below)		3.0
Select two Ecology/Evolution/Genomics electives (see list below)		6.0
<b>Concentration Laboratory Courses</b>		
Select two Laboratory electives (see list below)		4.0
<b>Total Credits</b>		<b>28.0-31.0</b>

Students interested in pursuing a focus area in Ecology, Evolutionary Biology or Genomics should contact the academic advisor in the Biology Department for specific focus recommendations.

#### Cell/Molecular/Genetics/Biochemistry (CMGB) electives

BIO 244	Genetics I	3.0
BIO 285	Forensic Biology	3.0
BIO 311	Biochemistry	4.0
BIO 314	Pharmacology	3.0
BIO 318	Biology of Cancer	3.0
BIO 346	Stem Cell Research	3.0
BIO 348	Neuroscience: From Cells to Circuits	3.0
BIO 404	Structure and Function of Biomolecules	4.0
BIO 410	Advanced Molecular Biology	3.0
BIO 414	Behavioral Genetics	3.0
BIO 415	Proteins	3.0
BIO 416	Biochemistry of Major Diseases	3.0
BIO 421	Biomembranes	3.0
BIO 430	Cell Biology of Disease	3.0
BIO 433	Advanced Cell Biology	3.0
BIO 444	Human Genetics	3.0
BIO 453	Protein Dysfunction in Disease	3.0
BIO 462	Biology of Neuron Function	3.0
BIO 463	Molecular Mechanisms of Neurodegeneration	3.0

#### Organismal/Physiology electives

BIO 201	Human Physiology I	4.0
BIO 221	Microbiology	3.0
BIO 256	Vertebrate Morphology and Physiology	3.0
BIO 264	Ethnobotany	3.0
BIO 284	Biology of Stress	3.0
BIO 286	Forensic Toxicology	3.0
BIO 323	Parasitology	3.0
BIO 349	Behavioral Neuroscience	3.0
BIO 372	Histology	4.0
BIO 373	Developmental Biology	3.0
BIO 386	Gross Anatomy I	2.0
BIO 388	Gross Anatomy II	2.0
BIO 412	Biology of Aging	3.0
BIO 420	Virology	3.0
BIO 426	Immunology	3.0
BIO 461	Neurobiology of Autism Disorders	3.0



ENVS 254	Invertebrate Morphology and Physiology	3.0
ENVS 393	Entomology	3.0

**Ecology/Evolution/Genomics electives**

BIO 228	Evolutionary Biology & Human Health	3.0
BIO 331	Bioinformatics I	3.0
BIO 332	Bioinformatics II	3.0
BIO 413	Genomics	3.0
BIO 436	Population Genetics	4.0
ENVS 230	General Ecology	3.0
ENVS 247	Native Plants and Sustainability	3.0
ENVS 284	Physiological and Population Ecology	3.0
ENVS 286	Community and Ecosystem Ecology	3.0
ENVS 315	Plant Animal Interactions	3.0
ENVS 322	Tropical Ecology	3.0
ENVS 328	Conservation Biology	3.0
ENVS 330	Aquatic Ecology	3.0
ENVS 333	Wetland Ecology	3.0
ENVS 343	Equatorial Guinea: Field Methods	3.0
ENVS 352	Ornithology	3.0
ENVS 354	Ichthyology	3.0
ENVS 355	Biogeography	3.0
ENVS 360	Evolutionary Developmental Biology	3.0
ENVS 364	Animal Behavior	3.0
ENVS 382	Field Botany of the New Jersey Pine Barrens	4.0
ENVS 383	Ecology of the New Jersey Pine Barrens	4.0
ENVS 390	Marine Ecology	3.0
ENVS 391	Freshwater and Marine Algae	3.0
ENVS 410	Physiological Ecology	3.0
ENVS 412	Biophysical Ecology	3.0
ENVS 438	Biodiversity	3.0
ENVS 470	Advanced Topics in Evolution	3.0

**Laboratory electives**

BIO 202	Human Physiology Laboratory	2.0
BIO 213	Drosophila Neural Research	3.0
BIO 215	Techniques in Cell Biology	3.0
BIO 222	Microbiology Laboratory	2.0
BIO 232	Discovering Antibiotics	3.0
BIO 257	Vertebrate Morphology & Physiology Lab	2.0
BIO 306	Biochemistry Laboratory	2.0
BIO 329	Dictyostelium Research	3.0
BIO 333	Bioinformatics Laboratory	2.0
BIO 374	Developmental Biology Lab	2.0
BIO 387	Gross Anatomy I Laboratory	2.0
BIO 389	Gross Anatomy II Lab	2.0
BIO 497	Research (by permission of the department)	0.5-12.0
ENVS 255	Invertebrate Morphology and Physiology Lab	2.0
ENVS 327	Molecular Ecology Laboratory	2.0
ENVS 344	Equatorial Guinea: Field Research	6.0
ENVS 353	Field Ornithology Lab	2.0
ENVS 382	Field Botany of the New Jersey Pine Barrens	4.0
ENVS 383	Ecology of the New Jersey Pine Barrens	4.0
ENVS 388	Marine Field Methods	4.0
ENVS 394	Entomology Laboratory	2.0

## 4. The Pathobiology Concentration

The Pathobiology concentration focuses on pathogenesis, and provides a unique option for students that differs from the more traditional disciplines in cell/molecular/genetics/biochemistry. This concentration is designed to appeal to students with an interest in pursuing careers in areas of public and allied health.

**Pathobiology Concentration Requirements**

BIO 221	Microbiology	3.0
BIO 320	Microbial Pathogenesis	3.0
BIO 323	Parasitology	3.0
or BIO 420	Virology	
or BIO 435	Immunobiology of Disease	
BIO 426	Immunology	3.0
Select one Cell/Molecular/Genetics/Biochemistry (CMGB) elective (see list below)		3.0
Select two Organismal/Physiology electives (see list below)		6.0
Select one Evolutionary Bio/Ecology elective (see list below)		3.0

**Concentration Laboratory Courses**

Two Laboratory electives (see list below)		4.0
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**Total Credits****28.0****Cell/Molecular/Genetics/Biochemistry (CMGB) electives**

BIO 244	Genetics I	3.0
BIO 285	Forensic Biology	3.0
BIO 311	Biochemistry	4.0
BIO 314	Pharmacology	3.0
BIO 318	Biology of Cancer	3.0
BIO 346	Stem Cell Research	3.0
BIO 348	Neuroscience: From Cells to Circuits	3.0
BIO 404	Structure and Function of Biomolecules	4.0
BIO 410	Advanced Molecular Biology	3.0
BIO 414	Behavioral Genetics	3.0
BIO 415	Proteins	3.0
BIO 416	Biochemistry of Major Diseases	3.0
BIO 421	Biomembranes	3.0
BIO 430	Cell Biology of Disease	3.0
BIO 433	Advanced Cell Biology	3.0
BIO 444	Human Genetics	3.0
BIO 453	Protein Dysfunction in Disease	3.0
BIO 462	Biology of Neuron Function	3.0
BIO 463	Molecular Mechanisms of Neurodegeneration	3.0
ENVS 326	Molecular Ecology	3.0

**Organismal/Physiology electives**

BIO 201	Human Physiology I	4.0
BIO 203	Human Physiology II	4.0
BIO 221	Microbiology	3.0
BIO 256	Vertebrate Morphology and Physiology	3.0
BIO 284	Biology of Stress	3.0
BIO 286	Forensic Toxicology	3.0
BIO 323	Parasitology	3.0
BIO 349	Behavioral Neuroscience	3.0
BIO 372	Histology	4.0
BIO 373	Developmental Biology	3.0
BIO 386	Gross Anatomy I	2.0
BIO 388	Gross Anatomy II	2.0
BIO 412	Biology of Aging	3.0
BIO 420	Virology	3.0
BIO 435	Immunobiology of Disease	3.0
BIO 461	Neurobiology of Autism Disorders	3.0
BIO 466	Endocrinology	4.0
BIO 468	Pathophysiology	4.0
ENVS 254	Invertebrate Morphology and Physiology	3.0

**Ecology/Evolution/Genomics electives**

BIO 228	Evolutionary Biology & Human Health	3.0
BIO 331	Bioinformatics I	3.0
BIO 413	Genomics	3.0
BIO 436	Population Genetics	4.0

ENVS 230	General Ecology	3.0
ENVS 247	Native Plants and Sustainability	3.0
ENVS 323	Tropical Field Studies	3.0
ENVS 328	Conservation Biology	3.0
ENVS 333	Wetland Ecology	3.0
ENVS 343	Equatorial Guinea: Field Methods	3.0
ENVS 352	Ornithology	3.0
ENVS 354	Ichthyology	3.0
ENVS 355	Biogeography	3.0
ENVS 360	Evolutionary Developmental Biology	3.0
ENVS 364	Animal Behavior	3.0
ENVS 382	Field Botany of the New Jersey Pine Barrens	4.0
ENVS 383	Ecology of the New Jersey Pine Barrens	4.0
ENVS 391	Freshwater and Marine Algae	3.0
ENVS 438	Biodiversity	3.0
ENVS 470	Advanced Topics in Evolution	3.0

**Laboratory electives**

BIO 202	Human Physiology Laboratory	2.0
BIO 213	Drosophila Neural Research	3.0
BIO 215	Techniques in Cell Biology	3.0
BIO 222	Microbiology Laboratory	2.0
BIO 232	Discovering Antibiotics	3.0
BIO 257	Vertebrate Morphology & Physiology Lab	2.0
BIO 306	Biochemistry Laboratory	2.0
BIO 329	Dictyostelium Research	3.0
BIO 333	Bioinformatics Laboratory	2.0
BIO 374	Developmental Biology Lab	2.0
BIO 387	Gross Anatomy I Laboratory	2.0
BIO 389	Gross Anatomy II Lab	2.0
BIO 497	Research (by permission of the department)	0.5-12.0
ENVS 255	Invertebrate Morphology and Physiology Lab	2.0
ENVS 344	Equatorial Guinea: Field Research	6.0
ENVS 353	Field Ornithology Lab	2.0

## 5. The General Biology Concentration

This concentration will allow maximum flexibility for students who want to develop their own unique plan of study. The concentration is designed for students who may not have one specific area of interest, but who are looking to be well-rounded in the biological sciences. Students pursuing careers in education, where a wider breadth of knowledge in biology is desirable, may choose to select this concentration.

**General Biology Concentration Requirements****General Biology Concentration electives** **24.0**

2 or 3 Cell/Molecular/Genetics/Biochemistry (CMGB) electives (see list below)

2 or 3 Organismal/Physiology electives (see list below)

2 or 3 Ecology/Evolution/Genomics electives (see list below)

**Concentration Laboratory Courses**Two Laboratory electives (see list below) 4.0**Total Credits** **28.0****Cell/Molecular/Genetics/Biochemistry (CMGB) electives**

BIO 244	Genetics I	3.0
BIO 285	Forensic Biology	3.0
BIO 311	Biochemistry	4.0
BIO 314	Pharmacology	3.0
BIO 318	Biology of Cancer	3.0
BIO 331	Bioinformatics I	3.0
BIO 332	Bioinformatics II	3.0
BIO 346	Stem Cell Research	3.0
BIO 348	Neuroscience: From Cells to Circuits	3.0
BIO 404	Structure and Function of Biomolecules	4.0
BIO 413	Genomics	3.0
BIO 415	Proteins	3.0

BIO 421	Biomembranes	3.0
BIO 430	Cell Biology of Disease	3.0
BIO 433	Advanced Cell Biology	3.0
BIO 444	Human Genetics	3.0
BIO 447	Advanced Genetics and Molecular Biology	3.0
BIO 453	Protein Dysfunction in Disease	3.0
BIO 462	Biology of Neuron Function	3.0
BIO 465	Neurobiology of Disease	3.0
ENVS 326	Molecular Ecology	3.0

**Organismal/Physiology electives**

BIO 201	Human Physiology I	4.0
BIO 203	Human Physiology II	4.0
BIO 221	Microbiology	3.0
BIO 256	Vertebrate Morphology and Physiology	3.0
BIO 264	Ethnobotany	3.0
BIO 284	Biology of Stress	3.0
BIO 286	Forensic Toxicology	3.0
BIO 320	Microbial Pathogenesis	3.0
BIO 323	Parasitology	3.0
BIO 349	Behavioral Neuroscience	3.0
BIO 372	Histology	4.0
BIO 373	Developmental Biology	3.0
BIO 386	Gross Anatomy I	2.0
BIO 388	Gross Anatomy II	2.0
BIO 412	Biology of Aging	3.0
BIO 420	Virology	3.0
BIO 426	Immunology	3.0
BIO 435	Immunobiology of Disease	3.0
BIO 461	Neurobiology of Autism Disorders	3.0
BIO 466	Endocrinology	4.0
BIO 468	Pathophysiology	4.0
ENVS 254	Invertebrate Morphology and Physiology	3.0
ENVS 393	Entomology	3.0

**Ecology/Evolution/Genomics electives**

BIO 228	Evolutionary Biology & Human Health	3.0
BIO 331	Bioinformatics I	3.0
BIO 332	Bioinformatics II	3.0
BIO 413	Genomics	3.0
ENVS 230	General Ecology	3.0
ENVS 247	Native Plants and Sustainability	3.0
ENVS 284	Physiological and Population Ecology	3.0
ENVS 286	Community and Ecosystem Ecology	3.0
ENVS 315	Plant Animal Interactions	3.0
ENVS 322	Tropical Ecology	3.0
ENVS 323	Tropical Field Studies	3.0
ENVS 328	Conservation Biology	3.0
ENVS 330	Aquatic Ecology	3.0
ENVS 333	Wetland Ecology	3.0
ENVS 343	Equatorial Guinea: Field Methods	3.0
ENVS 352	Ornithology	3.0
ENVS 354	Ichthyology	3.0
ENVS 355	Biogeography	3.0
ENVS 360	Evolutionary Developmental Biology	3.0
ENVS 364	Animal Behavior	3.0
ENVS 382	Field Botany of the New Jersey Pine Barrens	4.0
ENVS 383	Ecology of the New Jersey Pine Barrens	4.0
ENVS 388	Marine Field Methods	4.0
ENVS 390	Marine Ecology	3.0
ENVS 391	Freshwater and Marine Algae	3.0
ENVS 410	Physiological Ecology	3.0

ENVS 412	Biophysical Ecology	3.0
ENVS 438	Biodiversity	3.0
ENVS 470	Advanced Topics in Evolution	3.0

**Laboratory electives**

BIO 202	Human Physiology Laboratory	2.0
BIO 213	Drosophila Neural Research	3.0
BIO 215	Techniques in Cell Biology	3.0
BIO 222	Microbiology Laboratory	2.0
BIO 232	Discovering Antibiotics	3.0
BIO 257	Vertebrate Morphology & Physiology Lab	2.0
BIO 306	Biochemistry Laboratory	2.0
BIO 329	Dictyostelium Research	3.0
BIO 333	Bioinformatics Laboratory	2.0
BIO 374	Developmental Biology Lab	2.0
BIO 387	Gross Anatomy I Laboratory	2.0
BIO 389	Gross Anatomy II Lab	2.0
BIO 497	Research (by permission of the department)	0.5-12.0
ENVS 255	Invertebrate Morphology and Physiology Lab	2.0
ENVS 327	Molecular Ecology Laboratory	2.0
ENVS 344	Equatorial Guinea: Field Research	6.0
ENVS 353	Field Ornithology Lab	2.0
ENVS 382	Field Botany of the New Jersey Pine Barrens	4.0
ENVS 383	Ecology of the New Jersey Pine Barrens	4.0
ENVS 388	Marine Field Methods	4.0
ENVS 394	Entomology Laboratory	2.0

**Note** about laboratory credits: ENVS 382 and ENVS 388 have both a lecture and laboratory component.

## Sample Plans of Study

### 4 year, no co-op

**First Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
BIO 131	4.0 BIO 132	4.0 BIO 133	4.0 VACATION	
BIO 134 or 142	1.0-2.0 BIO 135 or 143	1.0-2.0 BIO 136 or 144	1.0-2.0	
CHEM 101	3.5 CHEM 102	4.5 CHEM 103	4.5	
ENGL 101 or 111	3.0 CIVC 101	1.0 ENGL 103 or 113	3.0	
MATH 121 or 101	4.0 ENGL 102 or 112	3.0 MATH 239 or 123	4.0	
UNIV S101	1.0 MATH 122 or 102	4.0		
	<b>16.5-17.5</b>	<b>17.5-18.5</b>	<b>16.5-17.5</b>	<b>0</b>

**Second Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
BIO 207	1.0 BIO 208	1.0 BIO 224	4.0 VACATION	
BIO 209	4.0 BIO 211	4.0 BIO 225	2.0	
BIO 219	3.0 CHEM 242	4.0 BIO 311 or CHEM 243	3.0-4.0	
CHEM 241	4.0 PHYS 153	4.0 PHIL 251	3.0	
PHYS 152	4.0 UNIV S201	1.0 PHYS 154	4.0	
	Biology Laboratory Requirement course	2.0		
	<b>16</b>	<b>16</b>	<b>16-17</b>	<b>0</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENVS 212	4.0 COM 310	3.0 COM 230	3.0 VACATION	
MATH 410	3.0 MATH 411	3.0 BIO/ENVS elective	3.0	
BIO/ENVS Elective	3.0 BIO/ENVS elective	3.0 Biology Laboratory Requirement course	2.0	
Humanities/Social Science Elective	3.0 Humanities/Social Science elective	3.0 Free elective	3.0	
Science, Technology, Health & Human Affairs elective	3.0	Humanities/Social Science elective	3.0	
	<b>16</b>	<b>12</b>	<b>14</b>	<b>0</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits
BIO 471	2.0 BIO 472	2.0 BIO 473	2.0
BIO/ENVS electives	6.0 BIO/ENVS elective	6.0 BIO/ENVS elective	3.0
Free electives **	7.0 Free electives	6.0 Free electives	9.0
	<b>15</b>	<b>14</b>	<b>14</b>

**Total Credits 183.5-187.5**

\* See degree requirements (p. 9).

\*\* Students not participating in co-op will take one additional credit of Free Elective instead of COOP 101.

**4 year, 1 co-op****First Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
BIO 131	4.0 BIO 132	4.0 BIO 133	4.0 VACATION	
BIO 134 or 142	1.0-2.0 BIO 135 or 143	1.0-2.0 BIO 136 or 144	1.0-2.0	
CHEM 101	3.5 CHEM 102	4.5 CHEM 103	4.5	
ENGL 101 or 111	3.0 CIVC 101	1.0 COOP 101*	1.0	
MATH 121 or 101	4.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
UNIV S101	1.0 MATH 122 or 102	4.0 MATH 239 or 123	4.0	
	<b>16.5-17.5</b>	<b>17.5-18.5</b>	<b>17.5-18.5</b>	<b>0</b>

**Second Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
BIO 207	1.0 BIO 208	1.0 BIO 311 or CHEM 243	3.0-4.0 BIO 224	4.0
BIO 209	4.0 BIO 211	4.0 ENVS 212	4.0 BIO 225	2.0
BIO 219	3.0 CHEM 242	4.0 PHIL 251	3.0 BIO/ENVS elective	3.0
CHEM 241	4.0 PHYS 153	4.0 PHYS 154	4.0 Humanities/Social Science elective	3.0
PHYS 152	4.0 UNIV S201	1.0	Science, Technology, Health & Human Affairs elective	3.0
	Biology Laboratory requirement**	2.0		
	<b>16</b>	<b>16</b>	<b>14-15</b>	<b>15</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE	COOP EXPERIENCE	COM 230	3.0 COM 310	3.0
		MATH 410	3.0 MATH 411	3.0
		BIO/ENVS elective	3.0 BIO/ENVS elective	3.0
		Free electives	6.0 Biology Laboratory Requirement course**	2.0
			Free elective	3.0
	<b>0</b>	<b>0</b>	<b>15</b>	<b>14</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits
BIO 471	2.0 BIO 472	2.0 BIO 473	2.0
BIO/ENVS electives	6.0 BIO/ENVS electives	6.0 BIO/ENVS elective	3.0
Free electives	6.0 Free elective	3.0 Free electives	6.0
	Humanities/Social Science elective	3.0 Humanities/Social Science elective	3.0
	<b>14</b>	<b>14</b>	<b>14</b>

**Total Credits 183.5-187.5**

\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

\*\* See degree requirements (p. 9).

## 5 year, 3 co-op

### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
BIO 131	4.0 BIO 132	4.0 BIO 133	4.0 VACATION	
BIO 134 or 142	1.0-2.0 BIO 135 or 143	1.0-2.0 BIO 136 or 144	1.0-2.0	
CHEM 101	3.5 CHEM 102	4.5 CHEM 103	4.5	
ENGL 101 or 111	3.0 CIVC 101	1.0 COOP 101*	1.0	
MATH 121 or 101	4.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
UNIV S101	1.0 MATH 122 or 102	4.0 MATH 239 or 123	4.0	
	<b>16.5-17.5</b>	<b>17.5-18.5</b>	<b>17.5-18.5</b>	<b>0</b>

### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE	COOP EXPERIENCE	BIO 207	1.0 BIO 208	1.0
		BIO 209	4.0 BIO 211	4.0
		BIO 219	3.0 CHEM 242	4.0
		CHEM 241	4.0 PHYS 153	4.0
		PHYS 152	4.0 UNIV S201	1.0
			Biology Laboratory requirement course**	2.0
	<b>0</b>	<b>0</b>	<b>16</b>	<b>16</b>

### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE	COOP EXPERIENCE	BIO 311 or CHEM 243	3.0-4.0 BIO 224	4.0
		ENVS 212	4.0 BIO 225	2.0
		PHIL 251	3.0 BIO/ENVS elective	3.0
		PHYS 154	4.0 Humanities/Social Science elective	3.0
			Science, Technology, Health & Human Affairs elective	3.0
	<b>0</b>	<b>0</b>	<b>14-15</b>	<b>15</b>

### Fourth Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE	COOP EXPERIENCE	COM 230	3.0 COM 310	3.0
		MATH 410	3.0 MATH 411	3.0
		BIO/ENVS elective	3.0 BIO/ENVS elective	3.0
		Free electives	6.0 Biology Laboratory Requirement course**	2.0
			Free elective	3.0
	<b>0</b>	<b>0</b>	<b>15</b>	<b>14</b>

### Fifth Year

Fall	Credits Winter	Credits Spring	Credits
BIO 471	2.0 BIO 472	2.0 BIO 473	2.0
BIO/ENVS electives	6.0 BIO/ENVS electives	6.0 BIO/ENVS elective	3.0
Free electives	6.0 Free elective	3.0 Free electives	6.0
	Humanities/Social Science elective	3.0 Humanities/Social Science elective	3.0
	<b>14</b>	<b>14</b>	<b>14</b>

Total Credits 183.5-187.5

\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

\*\* See degree requirements (p. 9).

## Co-op/Career Opportunities Opportunities

Students earn a bachelor's degree in the biological sciences and are prepared for technical careers in research or commercial laboratories or for professional schools.

Graduates typically work for pharmaceutical companies, university and medical research laboratories, biotechnology companies, or in government laboratories. Many graduates also choose to pursue an advanced degree in the medical, dental and veterinary disciplines; or Masters or PhD degrees in Biology-related fields and Public Health.

## Co-op Opportunities

Past co-op employers of biosciences majors have included:

- GlaxoSmithKline
- Fox Chase Cancer Center
- Children's Hospital of Philadelphia
- Johnson and Johnson
- Merck
- Wistar Institute
- Moss Rehab
- ViroPharma, Inc.
- Janssen Biotech
- Integral Molecular

Visit the Drexel Steinbright Career Development Center (<http://www.drexel.edu/scdc/>) page for more detailed information on co-op and post-graduate opportunities.

## Dual/Accelerated Degree

### Combined Bachelor's/Master's Degree

Qualified students can take graduate courses in their junior and senior years for graduate credit. They can also complete a combined Biological Sciences BS/Biological Sciences MS (p. 187) degree in five years. Further questions about the BS/MS degree program should be directed to the departmental graduate advisor:

Kate Pelusi  
Graduate Program Manager  
Department of Biology  
215.895.6374  
kp475@drexel.edu

## Facilities

The Department of Biology resides in the Papadakis Integrated Sciences Building (PISB). This state of the art facility has well-equipped teaching laboratories with networked computers and advanced digital image analysis capability. Both teaching and research laboratories contain a range of modern equipment including basic and cutting-edge light microscopes, confocal microscopy facilities, a Cell Imaging Center, basic and analytical ultracentrifuges, spectrophotometers, scintillation and luminescence counters, densitometers and cell culture facilities.

Visit the Research in Biology (<http://www.drexel.edu/coas/academics/departments-centers/biology/research/>) webpage for more information.

## Biological Sciences Faculty

Shivanthi Anandan, PhD (*University of California, Los Angeles*) *Vice Provost for Undergraduate Education*. Associate Professor. Microbial genetics, in particular the analysis of light-regulated signal transduction pathways and the regulation of gene expression in photosynthesizing organisms.

John R. Bethea, PhD (*University of Alabama at Birmingham*). Professor. Neuroscience and immunology.

Valerie Bracchi-Ricard, PhD (*University Joseph Fourier, Grenoble, France*). Research Assistant Professor. Role of TNF and TNF receptors in neuroinflammation and remyelination following spinal cord injury.

Laura Duwel, PhD (*University of Cincinnati*) *Assistant Department Head, Department of Biology*. Teaching Professor. Immunology and microbiology.

Felice Elefant, PhD (*Temple University*) *Director of the Biology Graduate Program*. Professor. Understanding the roles of two classes of chromatin regulatory proteins termed histone acetyltransferases(HATs)and histone de-methylases.

Denise Garcia, PhD (*UCLA*). Associate Professor. Neuroscience, the role of astrocytes in the central nervous system.

Tali Gidalevitz, PhD (*University of Chicago*). Associate Professor. Genetic and molecular pathways regulating protein folding homeostasis, and their role in protein conformation diseases, aging, and development.



Mary Katherine Gonder, PhD (*The City University of New York*) Department Head, Director, Bioko Biodiversity Protection Program Co-Founder, Central African Biodiversity Alliance. Professor. Deciphering spatial patterns of biodiversity across the Gulf of Guinea and Congo Basin region; Conservation measures to mitigate the effects of habitat loss and climate change in western equatorial Africa.

Meshagae Hunte-Brown, PhD (*Drexel University*). Teaching Professor. Stable isotopes in aquatic food webs, ecosystem ecology, STEM education.

Kari Lenhart, PhD (*Princeton University*). Assistant Professor. Coordination of stem cell behavior and regulation of stem cell cytokinesis in the young and aged niche.

Robert Loudon, PhD (*Thomas Jefferson University*). Associate Teaching Professor. Rho GTPases, regulation of actin cytoskeleton, Regulation of G protein-coupled receptors by receptor kinases and arrestins.

Michael O'Connor, MD, PhD (*MD, Johns Hopkins University; PhD, Colorado State*). Professor. Biophysical and physiological ecology, thermoregulation of vertebrates, ecological modeling.

Sean O'Donnell, PhD (*University of Wisconsin-Madison*). Professor. Climate ecology, focusing on geographic variation and species differences in thermal physiology; Behavior and ecology of army ant/bird interactions; Neurobiology, focusing on brain plasticity and brain evolution in social insects.

Ryan Petrie, PhD (*McGill University*). Assistant Professor. Mechanisms of cell movement through three-dimensional extracellular matrix.

Jerome Ricard, PhD (*University Joseph Fourier, Grenoble, France*). Research Assistant Professor. Inflammation and cell death after spinal cord injury. Regulation of cell death by Eph receptors.

Jacob Russell, PhD (*University of Arizona*). Professor. Microbiomes and metagenomics; ecology and evolution of symbiosis.

Nianli Sang, MB, PhD (*M.B., Fudan University Shanghai Medical College; Ph.D., Thomas Jefferson University*) Co-Director of the Cell Imaging Center. Associate Professor. Molecular and cellular biology of cancer; posttranslational modification, folding and quality control of proteins and their implication in cell physiology and human diseases.

Aleister Saunders, PhD (*University of North Carolina, Chapel Hill*) Executive Vice Provost for Research, Director of the RNAi Resource Center. Professor. Identification and characterization of genes and proteins involved in Alzheimer's disease.

Kevin P.W. Smith, PhD (*Drexel University*). Associate Teaching Professor. Linking behavioral ecology and organismal diversity, neonate behavior in herpetological models, STEM education.

Elias T. Spiliotis, PhD (*The Johns Hopkins University*) Co-Director of the Cell Imaging Center. Associate Professor. Cell polarity and cell division: regulation of cytoskeleton-dependent motility.

Jennifer Stanford, PhD (*Harvard University*). Associate Professor. Evaluating and improving approaches to teach STEM content in higher education environments to promote student learning, engagement in STEM courses, and STEM student retention.

Monica M. Togna, PhD (*New Jersey Institute of Technology*). Assistant Teaching Professor. Examination of the structure and function of living organisms from the cellular to the organismal level in order to better understand common physiological processes.

## Emeritus Faculty

Joseph Bentz, PhD (*State University of New York [SUNY] at Buffalo*). Professor Emeritus. Biophysics, biochemistry and biopharmaceutics, focused on the molecular basis of biological membrane transport and fusion.

Cecilie Goodrich, PhD (*Harvard University*). Professor Emeritus. Neuroscience and systems physiology, postnatal maturation of physiology and behavior in relation to brain immunocytochemistry.

Donna Murasko, PhD (*Penn State Hershey Medical Center*) Dean Emeritus. Professor. The effects of aging on the adaptive immune response to influenza virus and retrovirus latency and reactivation.

## Chemistry BA

Major: Chemistry

Degree Awarded: Bachelor of Arts (BA)

Calendar Type: Quarter

Total Credit Hours: 184.0

Co-op Options: One Co-op (Four years)

Classification of Instructional Programs (CIP) code: 40.0501

Standard Occupational Classification (SOC) code: 19-2031

## About the Program

The BA in Chemistry is designed for students who want a foundational education in chemistry and the flexibility to select courses in other fields. The Bachelor of Arts in Chemistry program is less demanding mathematically compared to the Bachelor of Science, and is well suited for those interested in entering medical school and other chemistry-related fields, as well as those aspiring to careers in biotechnology, forensic chemistry, and environmental chemistry. The BA in Chemistry is also well suited for students who are interested in double majoring. BA in Chemistry graduates might opt to work as laboratory technicians in the pharmaceutical industry, as research assistants in medical school science departments, such as toxicology or biochemistry, or as technicians in biotechnology and forensic firms.

## Additional Information

For more information about the major in Chemistry, contact:

Daniel King, PhD  
Undergraduate Affairs Committee Chair  
Department of Chemistry  
Drexel University  
dk68@drexel.edu

## Degree Requirements (BA)

### General Education Requirements

CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development	1.0
ENGL 101 or ENGL 111	Composition and Rhetoric I: Inquiry and Exploratory Research English Composition I	3.0
ENGL 102 or ENGL 112	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing English Composition II	3.0
ENGL 103 or ENGL 113	Composition and Rhetoric III: Themes and Genres English Composition III	3.0
UNIV S101	The Drexel Experience	1.0
UNIV S201	Looking Forward: Academics and Careers	1.0
Humanities and Arts electives *		6.0
International Studies electives *		6.0
Language Requirements courses *		8.0-12.0
Social and Behavioral Studies electives *		6.0
Studies in Diversity electives *		6.0
CHEM 121	Majors Chemistry I	5.0
CHEM 122	Majors Chemistry II	5.0
CHEM 123	Majors Chemistry III	5.5
CHEM 230	Quantitative Analysis	4.0
CHEM 231 [WI]	Quantitative Analysis Laboratory	2.0
CHEM 246	Organic Chemistry for Majors I	6.5
CHEM 248	Organic Chemistry for Majors II	6.5
CHEM 249	Organic Chemistry for Majors III	7.0
CHEM 253	Thermodynamics and Kinetics	4.0
CHEM 270	Software Skills for Chemists	3.0
CHEM 357 [WI]	Physical Chemistry Laboratory I	2.5
CHEM 367	Chemical Information Retrieval	3.0
CHEM 421	Inorganic Chemistry I	3.0
<b>Chemistry Electives</b>		
Select two Chemistry Electives **		6.0
<b>Biology Requirements</b>		
BIO 131 & BIO 134	Cells and Biomolecules and Cells and Biomolecules Lab	5.0
BIO 132 & BIO 135	Genetics and Evolution and Genetics and Evolution Lab	5.0
BIO 133 & BIO 136	Physiology and Ecology and Anatomy and Ecology Lab	5.0
<b>Mathematics Requirements</b>		
MATH 121	Calculus I	4.0
MATH 122	Calculus II	4.0
MATH 123	Calculus III	4.0
MATH 200	Multivariate Calculus	4.0

Physics Requirements		
PHYS 101	Fundamentals of Physics I	4.0
PHYS 102	Fundamentals of Physics II	4.0
PHYS 201	Fundamentals of Physics III	4.0
<b>Free Electives ***</b>		<b>33.0-37.0</b>
<b>Total Credits</b>		<b>184.0-192.0</b>

## \* Categories of Electives:

• *Humanities and Arts Electives*

Designated courses in art, art history, communication studies, foreign languages (300-level or above), history, literature, music, philosophy, religion, and theatre arts.

• *International Electives*

Designated courses in anthropology, art history, history, literature, music, politics and sociology. Courses with an international focus may be used to fulfill requirements in other categories as well.

• *Language Requirement*

Students may satisfy the language course requirements in two ways: (1) complete at least 8.0 credits of a foreign language at Drexel and, at minimum, must complete the 103 level of the target language (or beyond if they place higher); or (2) take 12.0 credits of a computer language over two terms.

• *Social and Behavioral Studies Electives*

Designated courses in anthropology, criminal justice, economics, international relations, history, politics, psychology and sociology.

• *Studies in Diversity Electives*

Africana studies, women's studies or designated cross-listed courses in anthropology, art, art history, history, literature, music, philosophy, politics and sociology.

\*\* Courses with CHEM prefix, although ENVS chemistry courses can also fulfill this requirement (with Department approval).

\*\*\* The total number of free elective credits depends on the number of credits required to fulfill the language requirement.

## Sample Plan of Study (BA)

### 4 year, 1 co-op

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
BIO 131 & BIO 134	5.0 BIO 132 & BIO 135	5.0 BIO 133 & BIO 136	5.0 VACATION	
CHEM 121	5.0 CHEM 122	5.0 CHEM 123	5.5	
ENGL 101 or 111	3.0 CIVC 101	1.0 ENGL 103 or 113	3.0	
MATH 121	4.0 ENGL 102 or 112	3.0 MATH 123	4.0	
UNIV S101	1.0 MATH 122	4.0		
	<b>18</b>	<b>18</b>	<b>17.5</b>	<b>0</b>

#### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CHEM 230 & CHEM 231	6.0 CHEM 248	6.5 CHEM 249	7.0 COOP 101*	1.0
CHEM 246	6.5 MATH 200	4.0 PHYS 102	4.0 PHYS 201	4.0
Free elective	3.0 PHYS 101	4.0 Humanities elective	3.0 Free electives	6.0
			International Studies elective	3.0
	<b>15.5</b>	<b>14.5</b>	<b>14</b>	<b>14</b>

#### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CHEM 253	4.0 CHEM 270	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
CHEM 367	3.0 CHEM 357	2.5		
CHEM 421	3.0 Diversity Studies elective	3.0		
UNIV S201	1.0 Language elective	4.0		
Language elective	4.0 Social and Behavioral Studies elective	3.0		
	<b>15</b>	<b>15.5</b>	<b>0</b>	<b>0</b>

#### Fourth Year

Fall	Credits Winter	Credits Spring	Credits
Chemistry elective	3.0 Chemistry elective	3.0 Free electives	12.0
Diversity Studies elective	3.0 Free electives	6.0	
Free electives	6.0 Humanities elective	3.0	

Social and Behavioral Studies elective	3.0 International Studies elective	3.0	
	15	15	12

**Total Credits 184**

\* COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

## Co-op/Career Opportunities

Opportunities for Chemistry majors include working in research and development in corporate and government laboratories in the chemical, pharmaceutical, and agricultural (e.g., U.S. Department of Agriculture) sectors. There is a remarkably high concentration of chemical and pharmaceutical companies in the Philadelphia region. Other options include entering medical, dental, law, or other professional schools. The major in Chemistry is sufficiently flexible to allow students to prepare to teach at the secondary level. With proper selection of electives, students can meet teacher certification requirements.

## Sample Co-op Opportunities

A four-year co-op degree is offered. When students complete their co-op job, they are asked to write an overview of their experience. These brief quotes are taken from some recent student reports:

*Assistant chemist, pharmaceuticals manufacturer:* "My position involved the synthesis and characterization of target compounds in the endothelium project. Involved the development of synthetic routes to the prescribed target. This would include the investigation of reactions which were going to be used...the position was very independent...great working environment."

*Co-op chemist, petroleum refiner:* "Performed synthesis of ligands and metal complexes. Operated FT-IR spectrometer for sample analysis. Submitted samples for analysis by mass spectrometer and NMR...The position allowed me to develop the skills necessary for independent research in organic synthesis."

*Assistant lab technician, pharmaceuticals manufacturer:* "I was an assistant technician in a mass spectrometry lab...I was responsible for the development of SDS-gel electrophoresis techniques for gels and gel membranes...I developed the methods independently and my employer encouraged me to be an expert on the technique and explore any method I found that would benefit the lab."

Visit the Drexel Steinbright Career Development Center (<http://www.drexel.edu/scdc/>) page for more detailed information on co-op and post-graduate opportunities.

## Facilities

There are nine undergraduate teaching laboratories in the department: three Freshman Chemistry labs, three Organic Chemistry labs, a Physical Chemistry lab, an Analytical Instrumentation Laboratory, and a combined Analytical/Inorganic Chemistry lab.

### Mass Spectrometry Laboratory

The department maintains a professionally staffed mass spectrometry facility available to all members of the university community. Currently available instrumentation consists of a Waters Autospec M high resolution magnetic-sector mass spectrometer, a Bruker Autoflex III MALDI Time-of-Flight Mass Spectrometer, a Thermo LTQ-FT Fourier Transform Mass Spectrometer, a Sciex API-3000 triple-quadrupole mass spectrometer, and a Varian Saturn 2000 Gas Chromatograph/Ion-trap mass spectrometer system.

### Nuclear Magnetic Resonance Laboratory

The professionally staffed Chemistry department NMR facility is equipped with 300MHz and 500MHz Varian Unity INNOVA NMR systems; both instruments have multi-nuclear capability. The probe on the 500MHz instrument is a cryogenically cooled triple resonance model (1H {13C/15N}) suitable for protein analysis. A Varian X-band 12" EPR spectrometer is also available.

### Analytical Instrumentation Laboratory

The open-access departmental Analytical Instrumentation Laboratory includes two Perkin-Elmer (PE) Spectrum One Fourier-transform infrared absorption spectrometers each with a universal diamond ATR accessory, a PE Lambda-35 UV/visible spectrometer, a PE Lambda-950 UV/visible/NIR spectrometer with a 60-mm-diameter diffuse reflectance integrating sphere, a PE model 343 polarimeter, a PE LS55B luminescence spectrometer, a PE Clarus 500 capillary-column GC with dual FID detectors, a Clarus 500 capillary-column GC/MS system (with electron impact capability), a PE Series 200 Quaternary HPLC development system with UV/visible photodiode array detector, a PE Series 200 binary HPLC system interfaced to a Sciex 2000 triple-quadrupole mass spectrometer, a PE Series 2000 binary Gel Permeation Chromatography system with refractive index detector, and a Varian AA240FS flame atomic absorption spectrometer equipped with a GTA 120 Graphite Furnace Accessory.

### Organic Instrumentation Laboratory

The Organic Instrumentation Laboratory (co-located with the organic synthesis teaching laboratories in the Papdakis Integrated Sciences Building) is equipped with two Perkin-Elmer (PE) Spectrum Two Fourier-transform infrared absorption spectrometers each with a universal diamond ATR accessory, a PE Clarus 500 capillary-column GC with one FID and one TCD detector, and an Anasazi EFT-90 FT-NMR system.

*Other Departmental Facilities*

The department has a VEECO INNOVA N3 Multimode Scanning Probe Microscope and also maintains a computational chemistry laboratory equipped with nine Dell Optiplex 790 computers running Hyperchem v 8.0. Research laboratories for each of the department faculty members are located in Disque and Stratton Halls. Instrumentation available in the research laboratories is described on individual faculty web pages. Full-time professional support includes two electronic instrument specialists (for NMR and MS- Chemistry department), two electronics specialists (College of Arts & Sciences Electronics Shop), and four machinists (Drexel University Machine Shop).

**Chemistry Faculty**

Reza Farasat, PhD (*University of Alabama*). Assistant Teaching Professor. Modification of polymers for diverse applications; utilizing Thermoanalysis techniques to study polymeric and non-polymeric materials; nanotechnology; applying Multi-detector Size Exclusion Chromatography for characterization of polymers; creating composites to improve materials' properties.

Fraser Fleming, PhD (*University of British Columbia (Canada)*). Professor. Nitriles, Isonitriles, Stereochemistry, Organometallics

Joe P. Foley, PhD (*University of Florida*) *Department Head*. Professor. Separation science, especially the fundamentals and biomedical/pharmaceutical applications of the following voltage- or pressure-driven separation techniques: capillary electrophoresis (CE), electrokinetic chromatography, supercritical fluid chromatography, and high-performance and two-dimensional liquid chromatography (LC). Within these techniques, we explore novel separation modes (e.g., dual-opposite-injection CE and sequential elution LC), novel surfactant aggregate pseudophases, and chiral separations.

Lee Hoffman, PhD (*Flinders University, Adelaide, South Australia*). Assistant Teaching Professor. Interfacial studies on the self-assembly of natural organic materials, understanding the nature of each component, and development of a mechanism describing this process; Dendrimer/metal nanocomposite design and synthesis hosting metal nanoparticles, utilizing the multivalent dendritic polymer architecture for further exploitation with other molecules such as antibodies and other targeting species.

Monica Ilies, PhD (*Polytechnic University of Bucharest*). Associate Teaching Professor. Bioorganic chemistry and chemical biology; bioinorganic chemistry and biochemistry.

Haifeng Frank Ji, PhD (*Chinese Academy of Sciences*). Professor. Micromechanical sensors for biological and environmental applications; Nanomechanical drug screening technology.

Daniel B. King, PhD (*University of Miami*). Associate Professor. Assessment of active learning methods and technology in chemistry courses; incorporation of environmental data into chemistry classroom modules; development of hands-on activities and laboratory experiments.

Jamie Ludwig, PhD (*UT Southwestern Medical Center*). Discovery and optimization of biocatalytic transformations for use inorganic synthesis.

Dionicio Martinez-Solario, PhD (*University of Alabama*). Assistant Professor. Total synthesis of complex biologically active natural products serving as inspirational platforms for the discovery and development of new reactions and synthetic methods.

Craig McClure, PhD (*University of Michigan*). Associate Teaching Professor. Promotion of quantitative literacy in introductory courses; development of guided inquiry activities for introductory chemistry; outreach programs in STEM fields.

Kevin G. Owens, PhD (*Indiana University*). Associate Professor. Mass spectrometry research, including the development of sample preparation techniques for quantitative analysis and mass spectrometric imaging using matrix-assisted laser desorption/ionization (MALDI) time-of-flight mass spectrometry (TOFMS) techniques for both biological and synthetic polymer systems, the development of laser spectroscopic techniques for combustion analysis, and the development of correlation analysis and other chemometric techniques for automating the analysis of mass spectral information.

Susan A. Rutkowsky, PhD (*Drexel University*) *Associate Department Head*. Associate Teaching Professor. Development of labs and lecture demonstrations for general and organic chemistry courses; STEM outreach programs.

Jeremiah Scepaniak, PhD (*New Mexico State University*). Assistant Professor. Design transition metal-based contrast agents for MRI & synthesis of bimetallic complexes to activate small molecules.

Reinhard Schweitzer-Stenner, PhD (*Universität Bremen (Germany)*). Professor. Exploring conformational ensembles of unfolded or partially folded peptides and proteins; determining the parameters governing peptide self-aggregation; structure and function of heme proteins; investigating protein-membrane interactions; use of IR, VCD, Raman, NMR and absorption spectroscopy for structure analysis.

Karl Sohlberg, PhD (*University of Delaware*). Associate Professor. Computational and theoretical materials-related chemistry: (1) complex catalytic materials; (2) mechanical and electrical molecular devices.

Anthony Wambsgans, PhD (*Rice University*). Associate Teaching Professor.

Ezra Wood, PhD (*University of California-Berkeley*). Associate Professor. Radical chemistry and formation of secondary pollutants in urban and forest environments, impacts of biomass burning on air pollution and climate change, pollutant emissions, and design and deployment of novel instrumentation for field studies.

Jun Xi, PhD (*Cornell University*). Associate Teaching Professor. Biomacromolecular interactions both in solution and in confined environment; mechanisms of DNA replication and DNA repair; structure and function of molecular chaperones; drug target identification and new therapeutic development; single molecule enzymology; DNA directed organic synthesis.

## Emeritus Faculty

Anthony W. Addison, PhD (*University of Kent at Canterbury, England*). Professor Emeritus. Design and synthesis of novel biomimetic and oligonuclear chelates of copper, nickel, iron, ruthenium and vanadium; their interpretation by magnetochemical, electrochemical and spectroscopic methods, including electron spin resonance; CD and ESR spectroscopy and kinetics for elucidation of molecular architecture of derivatives (including NO) of oxygen-binding and electron-transfer heme- and non-heme iron metalloproteins of vertebrate and invertebrate origins; energy-transfer by Ru, Ir and lanthanide-containing molecules and assemblies.

Amar Nath, PhD (*Moscow State University, Moscow USSR*). Professor Emeritus.

Peter A. Wade, PhD (*Purdue University*). Professor Emeritus. Exploration of a newly discovered [3,3]-sigmatropic rearrangement in which O-allyl nitronic esters are thermally converted to  $\alpha,\beta$ -unsaturated nitro compounds; development and exploitation of a carbon-based hemiacetal mimic; and exploration of cycloaddition reactions involving nitroethylene derivatives and novel nitrile oxides.

## Chemistry BS

Major: Chemistry

Degree Awarded: Bachelor of Science (BS)

Calendar Type: Quarter

Total Credit Hours: 189.0

Co-op Options: Three Co-op (Five years); One Co-op (Four years); No Co-op (Four years)

Classification of Instructional Programs (CIP) code: 40.0501

Standard Occupational Classification (SOC) code: 19-2031

## About the Program

The Bachelor of Science in Chemistry is certified by the American Chemical Society. The chemistry BS program provides a complete introduction to the many subfields of chemistry, along with significant hands-on laboratory research experience. All students are required to earn at least 9.0 credits of undergraduate research experience prior to graduation.

The BS in Chemistry is well suited for students wishing to pursue graduate degrees in chemistry or a related discipline. The degree also assures that students are properly trained and prepared for rewarding careers as chemists in a range of industries, including pharmaceutical, biotech, environmental, manufacturing or other allied fields.

Most graduate courses in chemistry are open to qualified seniors. Prerequisites and descriptions of available graduate courses appear in the graduate catalog.

The BS degree also can be completed with a Biochemistry concentration. Bachelor of Science in Chemistry majors in this concentration gain an enhanced ability to engage in critical thinking and communicate scientific ideas across disciplines. Interested students can contact their academic advisors for more information.

## Additional Information

For more information about the major in Chemistry, contact:

Daniel King, PhD  
Undergraduate Affairs Committee Chair  
Department of Chemistry  
Drexel University  
Drexel University  
dk68@drexel.edu

## Degree Requirements

### General Education Requirements

CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0

or ENGL 113	English Composition III	
UNIV S101	The Drexel Experience	1.0
UNIV S201	Looking Forward: Academics and Careers	1.0
Technical electives **		6.0
Liberal Studies electives **		6.0
<b>Chemistry Requirements</b>		
CHEM 121	Majors Chemistry I	5.0
CHEM 122	Majors Chemistry II	5.0
CHEM 123	Majors Chemistry III	5.5
CHEM 230	Quantitative Analysis	4.0
CHEM 231 [WI]	Quantitative Analysis Laboratory	2.0
CHEM 246	Organic Chemistry for Majors I	6.5
CHEM 248	Organic Chemistry for Majors II	6.5
CHEM 249	Organic Chemistry for Majors III	7.0
CHEM 253	Thermodynamics and Kinetics	4.0
CHEM 270	Software Skills for Chemists	3.0
CHEM 346	Qualitative Organic Chemistry	5.5
CHEM 355	Physical Chemistry IV	3.0
CHEM 357 [WI]	Physical Chemistry Laboratory I	2.5
CHEM 358	Physical Chemistry Laboratory II	2.5
CHEM 359	Atomic and Molecular Spectroscopy	3.0
CHEM 367	Chemical Information Retrieval	3.0
CHEM 420	Molecular Symmetry and Group Theory Applied Chemistry	3.0
CHEM 421	Inorganic Chemistry I	3.0
CHEM 422	Inorganic Chemistry II	3.0
CHEM 425	Inorganic Chemistry Laboratory	4.0
CHEM 430	Analytical Chemistry I	3.0
CHEM 431 [WI]	Analytical Chemistry II	4.0
CHEM 493	Senior Research Project	9.0
<b>Biology Requirements</b>		
BIO 131	Cells and Biomolecules	4.0
BIO 134	Cells and Biomolecules Lab	1.0
BIO 214	Principles of Cell Biology	4.0
<b>Biochemistry Requirements ***</b>		
BIO 311	Biochemistry	3.0-4.0
or BIO 404	Structure and Function of Biomolecules	
or CHEM 371	Chemistry of Biomolecules	
BIO 306	Biochemistry Laboratory	2.0
<b>Computer/Mathematics Requirements</b>		
MATH 121	Calculus I	4.0
MATH 122	Calculus II	4.0
MATH 123	Calculus III	4.0
MATH 200	Multivariate Calculus	4.0
MATH 201	Linear Algebra	4.0
or MATH 210	Differential Equations	
<b>Physics Requirements</b>		
PHYS 101	Fundamentals of Physics I	4.0
PHYS 102	Fundamentals of Physics II	4.0
PHYS 201	Fundamentals of Physics III	4.0
<b>Free Electives</b>		<b>21.0</b>
<b>Total Credits</b>		<b>189.0-190.0</b>

\* Students not participating in co-op will not take COOP 101; 1 credit of Free Elective will be added in place of COOP 101.

\*\* Technical electives are defined as 200+ level courses from Science, Mathematics, Business, Engineering or Information Studies. Liberal studies electives are defined as courses (at any level) from all other areas.

\*\*\* The American Chemical Society requires ACS-certified students to take a specified number of biochemistry courses. To fulfill this requirement in the BS curriculum, students should take a combination of one lecture and one lab course from the choice of: BIO 311, BIO 306, BIO 404, or CHEM 371 to fulfill the biochemistry requirement. Students may also choose to take the two lecture courses (BIO 311, BIO 404, or CHEM 371) rather than a lecture/laboratory combination.

## Sample Plan of Study

### 4 year, no co-op

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
BIO 131	4.0 CHEM 122	5.0 CHEM 123	5.5 VACATION	
BIO 134	1.0 CIVC 101	1.0 ENGL 103 or 113	3.0	
CHEM 121	5.0 ENGL 102 or 112	3.0 MATH 123	4.0	
ENGL 101 or 111	3.0 MATH 122	4.0 PHYS 102	4.0	
MATH 121	4.0 PHYS 101	4.0		
UNIV S101	1.0			
	<b>18</b>	<b>17</b>	<b>16.5</b>	<b>0</b>

#### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CHEM 230 & CHEM 231	6.0 CHEM 248	6.5 BIO 214	4.0 VACATION	
CHEM 246	6.5 MATH 200	4.0 CHEM 249	7.0	
PHYS 201	4.0 Free elective	3.0 MATH 210 or 201	4.0	
	Technical Elective *	3.0 Free elective	3.0	
	<b>16.5</b>	<b>16.5</b>	<b>18</b>	<b>0</b>

#### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CHEM 253	4.0 CHEM 270	3.0 Liberal Studies elective	3.0 VACATION	
CHEM 367	3.0 CHEM 357	2.5 Technical elective *	3.0	
CHEM 421	3.0 CHEM 420	3.0 Free electives	9.0	
CHEM 430	3.0 CHEM 431	4.0		
UNIV S201	1.0			
	<b>14</b>	<b>12.5</b>	<b>15</b>	<b>0</b>

#### Fourth Year

Fall	Credits Winter	Credits Spring	Credits
CHEM 346	5.5 BIO 306	2.0 CHEM 358	2.5
CHEM 355	3.0 CHEM 359	3.0 CHEM 422	3.0
CHEM 493	3.0 CHEM 493	3.0 CHEM 425	4.0
BIO 311 or 404 **	4.0 Liberal Studies elective	3.0 CHEM 493	3.0
	Free elective	4.0 Free elective	3.0
	<b>15.5</b>	<b>15</b>	<b>15.5</b>

Total Credits 190

\* Technical electives are defined as 200+ level courses from Science, Mathematics, Business, Engineering or Information Studies. Liberal studies electives are defined as courses (at any level) from all other areas.

\*\* The American Chemical Society requires ACS-certified students to take a specified number of biochemistry courses. To fulfill this requirement in the BS curriculum, students should take a combination of one lecture and one lab course from the choice of: BIO 311, BIO 306, BIO 404 or CHEM 371 to fulfill the biochemistry requirement. Students may also choose to take the two lecture courses (BIO 311, BIO 404, or CHEM 371) rather than a lecture/laboratory combination.

NOTE: Students not participating in co-op will not take COOP 101; 1 credit of Free Elective will be added in place of COOP 101.

### 4 year, 1 co-op

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
BIO 131	4.0 CHEM 122	5.0 CHEM 123	5.5 VACATION	
BIO 134	1.0 CIVC 101	1.0 ENGL 103 or 113	3.0	
CHEM 121	5.0 ENGL 102 or 112	3.0 MATH 123	4.0	
ENGL 101 or 111	3.0 MATH 122	4.0 PHYS 102	4.0	
MATH 121	4.0 PHYS 101	4.0		
UNIV S101	1.0			
	<b>18</b>	<b>17</b>	<b>16.5</b>	<b>0</b>

#### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CHEM 230 & CHEM 231	6.0 CHEM 248	6.5 BIO 214	4.0 Liberal Studies elective	3.0
CHEM 246	6.5 MATH 200	4.0 CHEM 249	7.0 Technical elective *	3.0



PHYS 201	4.0 Free elective	3.0 COOP 101**	1.0 Free electives	9.0
	Technical Elective*	3.0 MATH 210 or 201	4.0	
		Free elective	3.0	
	<b>16.5</b>	<b>16.5</b>	<b>19</b>	<b>15</b>
<b>Third Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
CHEM 253	4.0 CHEM 270	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
CHEM 367	3.0 CHEM 357	2.5		
CHEM 421	3.0 CHEM 420	3.0		
CHEM 430	3.0 CHEM 431	4.0		
UNIV S201	1.0			
	<b>14</b>	<b>12.5</b>	<b>0</b>	<b>0</b>
<b>Fourth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>	
BIO 311 or 404***	4.0 BIO 306	2.0 CHEM 358	2.5	
CHEM 346	5.5 CHEM 359	3.0 CHEM 422	3.0	
CHEM 355	3.0 CHEM 493	3.0 CHEM 425	4.0	
CHEM 493	3.0 Liberal Studies elective	3.0 CHEM 493	3.0	
	Free elective	3.0 Free elective	3.0	
	<b>15.5</b>	<b>14</b>	<b>15.5</b>	

**Total Credits 190**

\* Technical electives are defined as 200+ level courses from Science, Mathematics, Business, Engineering or Information Studies. Liberal studies electives are defined as courses (at any level) from all other areas.

\*\* COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

\*\*\* The American Chemical Society requires ACS-certified students to take a specified number of biochemistry courses. To fulfill this requirement in the BS curriculum, students should take a combination of one lecture and one lab course from the choice of: BIO 311, BIO 306, BIO 404 or CHEM 371 to fulfill the biochemistry requirement. Students may also choose to take the two lecture courses (BIO 311, BIO 404, or CHEM 371) rather than a lecture/laboratory combination.

## 5 year, 3 co-op

<b>First Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
BIO 131	4.0 CHEM 122	5.0 CHEM 123	5.5 VACATION	
BIO 134	1.0 CIVC 101	1.0 COOP 101*	1.0	
CHEM 121	5.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
ENGL 101 or 111	3.0 MATH 122	4.0 MATH 123	4.0	
MATH 121	4.0 PHYS 101	4.0 PHYS 102	4.0	
UNIV S101	1.0			
	<b>18</b>	<b>17</b>	<b>17.5</b>	<b>0</b>
<b>Second Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
CHEM 230 & CHEM 231	6.0 CHEM 248	6.5 COOP EXPERIENCE	COOP EXPERIENCE	
CHEM 246	6.5 MATH 200	4.0		
PHYS 201	4.0 Free elective	3.0		
	<b>16.5</b>	<b>13.5</b>	<b>0</b>	<b>0</b>
<b>Third Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
BIO 214	4.0 CHEM 270	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
CHEM 249	7.0 CHEM 357	2.5		
CHEM 253	4.0 Technical elective**	3.0		
MATH 210 or 201	4.0 Liberal Studies Elective	3.0		
	Free elective	3.0		
	<b>19</b>	<b>14.5</b>	<b>0</b>	<b>0</b>
<b>Fourth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
CHEM 355	3.0 CHEM 359	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
CHEM 367	3.0 CHEM 420	3.0		
CHEM 421	3.0 CHEM 431	4.0		

CHEM 430	3.0 Technical elective**	3.0		
UNIV S201	1.0 Free elective	3.0		
	<b>13</b>	<b>16</b>	<b>0</b>	<b>0</b>
<b>Fifth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>	
BIO 311 or 404***	4.0 BIO 306	2.0 CHEM 422	3.0	
CHEM 346	5.5 CHEM 493	3.0 CHEM 425	4.0	
CHEM 358	2.5 Liberal Studies elective	3.0 CHEM 493	3.0	
CHEM 493	3.0 Free electives	6.0 Free electives	6.0	
	<b>15</b>	<b>14</b>	<b>16</b>	

**Total Credits 190**

- \* COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.
- \*\* Technical electives are defined as 200+ level courses from Science, Mathematics, Business, Engineering or Information Studies. Liberal studies electives are defined as courses (at any level) from all other areas.
- \*\*\* *Biochemistry Requirement:* The American Chemical Society requires ACS-certified students to take a specified number of biochemistry courses. To fulfill this requirement in the BS curriculum, you should take a combination of one lecture and one lab course from the choice of: BIO 311, BIO 306, BIO 404 or CHEM 371 to fulfill the biochemistry requirement. Students may also choose to take the two lecture courses (BIO 404, BIO 311) or CHEM 371) rather than a lecture/laboratory combination.

## Biochemistry Concentration Requirements

### General Education Requirements

ENGL 101 or ENGL 111	Composition and Rhetoric I: Inquiry and Exploratory Research English Composition I	3.0
ENGL 102 or ENGL 112	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing English Composition II	3.0
ENGL 103 or ENGL 113	Composition and Rhetoric III: Themes and Genres English Composition III	3.0
UNIV S101	The Drexel Experience	1.0
CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development	1.0
UNIV S201	Looking Forward: Academics and Careers	1.0
Technical electives *		6.0
Liberal Studies electives *		6.0

### Chemistry Requirements

CHEM 121	Majors Chemistry I	5.0
CHEM 122	Majors Chemistry II	5.0
CHEM 123	Majors Chemistry III	5.5
CHEM 230	Quantitative Analysis	4.0
CHEM 231 [WI]	Quantitative Analysis Laboratory	2.0
CHEM 246	Organic Chemistry for Majors I	6.5
CHEM 248	Organic Chemistry for Majors II	6.5
CHEM 249	Organic Chemistry for Majors III	7.0
CHEM 253	Thermodynamics and Kinetics	4.0
CHEM 270	Software Skills for Chemists	3.0
CHEM 346	Qualitative Organic Chemistry	5.5
CHEM 357 [WI]	Physical Chemistry Laboratory I	2.5
CHEM 367	Chemical Information Retrieval	3.0
CHEM 420	Molecular Symmetry and Group Theory Applied Chemistry	3.0
CHEM 421	Inorganic Chemistry I	3.0
CHEM 422	Inorganic Chemistry II	3.0
CHEM 425	Inorganic Chemistry Laboratory	4.0
CHEM 430	Analytical Chemistry I	3.0
CHEM 431 [WI]	Analytical Chemistry II	4.0
CHEM 493	Senior Research Project	9.0

### Biology Requirements

BIO 131	Cells and Biomolecules	4.0
BIO 134	Cells and Biomolecules Lab	1.0
BIO 214	Principles of Cell Biology	4.0

### Biochemistry Requirements

CHEM 371	Chemistry of Biomolecules	3.0
BIO 311	Biochemistry	4.0
BIO 306	Biochemistry Laboratory	2.0
BIO 404	Structure and Function of Biomolecules	4.0
<b>Computer/Mathematics Requirements</b>		
MATH 121	Calculus I	4.0
MATH 122	Calculus II	4.0
MATH 123	Calculus III	4.0
MATH 200	Multivariate Calculus	4.0
MATH 201	Linear Algebra	4.0
<b>Physics Requirements</b>		
PHYS 101	Fundamentals of Physics I	4.0
PHYS 102	Fundamentals of Physics II	4.0
PHYS 201	Fundamentals of Physics III	4.0
<b>Free electives</b>		
Free electives		21.0
Total Credits		188.5

\* Technical electives are defined as 200+ level courses from Science, Mathematics, Business, Engineering or Information Science. Liberal studies electives are defined as courses (at any level) from all other areas.

## Biochemistry Concentration Sample Plan of Study

### 4 year, no-cop

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
BIO 131 & BIO 134	5.0 CHEM 122	5.0 CHEM 123	5.5 VACATION	
CHEM 121	5.0 CIVC 101	1.0 ENGL 103 or 113	3.0	
ENGL 101 or 111	3.0 ENGL 102 or 112	3.0 MATH 123	4.0	
MATH 121	4.0 MATH 122	4.0 PHYS 102	4.0	
UNIV S101	1.0 PHYS 101	4.0		
	<b>18</b>	<b>17</b>	<b>16.5</b>	<b>0</b>

#### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CHEM 230 & CHEM 231	6.0 CHEM 248	6.5 BIO 214	4.0 VACATION	
CHEM 246	6.5 MATH 200	4.0 CHEM 249	7.0	
PHYS 201	4.0 Liberal Studies elective	3.0 MATH 201 or 210	4.0	
	Free elective*	4.0 Technical elective**	3.0	
	<b>16.5</b>	<b>17.5</b>	<b>18</b>	<b>0</b>

#### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CHEM 253	4.0 CHEM 270	3.0 BIO 311	4.0 VACATION	
CHEM 367	3.0 CHEM 357	2.5 CHEM 371	3.0	
CHEM 421	3.0 CHEM 420	3.0 Technical elective**	3.0	
CHEM 430	3.0 CHEM 431	4.0 Free electives	6.0	
UNIV S201	1.0			
	<b>14</b>	<b>12.5</b>	<b>16</b>	<b>0</b>

#### Fourth Year

Fall	Credits Winter	Credits Spring	Credits
BIO 404	4.0 BIO 306	2.0 CHEM 422	3.0
CHEM 346	5.5 CHEM 493	3.0 CHEM 425	4.0
CHEM 493	3.0 Liberal Studies elective	3.0 CHEM 493	3.0
Free elective	3.0 Free electives	6.0 Free elective	3.0
	<b>15.5</b>	<b>14</b>	<b>13</b>

Total Credits 188.5

\* Students not participating in co-op will not take COOP 101; 1 credit of Free Elective will be added in place of COOP 101.

\*\* Must be at a 200+ level. See Degree Requirements for more information on acceptable classes.

## 4 year, 1 co-op

First Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
BIO 131 & BIO 134	5.0 CHEM 122	5.0 CHEM 123	5.5 VACATION	
CHEM 121	5.0 CIVC 101	1.0 ENGL 103 or 113	3.0	
ENGL 101 or 111	3.0 ENGL 102 or 112	3.0 MATH 123	4.0	
MATH 121	4.0 MATH 122	4.0 PHYS 102	4.0	
UNIV S101	1.0 PHYS 101	4.0		
	<b>18</b>	<b>17</b>	<b>16.5</b>	<b>0</b>
Second Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CHEM 230 & CHEM 231	6.0 CHEM 248	6.5 BIO 214	4.0 Technical elective **	3.0
CHEM 246	6.5 MATH 200	4.0 CHEM 249	7.0 Liberal Studies elective	3.0
PHYS 201	4.0 Liberal Studies elective	3.0 COOP 101*	1.0 Free electives	9.0
	Free elective	3.0 MATH 201 or 210	4.0	
		Free elective	3.0	
	<b>16.5</b>	<b>16.5</b>	<b>19</b>	<b>15</b>
Third Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CHEM 253	4.0 CHEM 270	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
CHEM 421	3.0 CHEM 357	2.5		
CHEM 430	3.0 CHEM 420	3.0		
CHEM 367	3.0 CHEM 431	4.0		
UNIV S201	1.0			
	<b>14</b>	<b>12.5</b>	<b>0</b>	<b>0</b>
Fourth Year				
Fall	Credits Winter	Credits Spring	Credits	
CHEM 346	5.5 CHEM 493	3.0 CHEM 371	3.0	
CHEM 493	3.0 BIO 306	2.0 CHEM 422	3.0	
BIO 311	4.0 Liberal Studies elective	3.0 CHEM 425	4.0	
BIO 404	4.0 Technical elective **	3.0 CHEM 493	3.0	
	Free elective	3.0		
	<b>16.5</b>	<b>14</b>	<b>13</b>	

Total Credits 188.5

\* COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.  
Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

\*\* Must be at a 200+ level. See Degree Requirements for more information on acceptable classes.

## 5 year, 3 co-op

First Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
BIO 131 & BIO 134	5.0 CHEM 122	5.0 CHEM 123	5.5 VACATION	
CHEM 121	5.0 CIVC 101	1.0 COOP 101*	1.0	
ENGL 101 or 111	3.0 ENGL 102 or 102	3.0 ENGL 103 or 113	3.0	
MATH 121	4.0 MATH 122	4.0 MATH 123	4.0	
UNIV S101	1.0 PHYS 101	4.0 PHYS 102	4.0	
	<b>18</b>	<b>17</b>	<b>17.5</b>	<b>0</b>
Second Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CHEM 230 & CHEM 231	6.0 CHEM 248	6.5 COOP EXPERIENCE	COOP EXPERIENCE	
CHEM 246	6.5 MATH 200	4.0		
PHYS 201	4.0 Free elective	3.0		
	<b>16.5</b>	<b>13.5</b>	<b>0</b>	<b>0</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
BIO 214	4.0 CHEM 270	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
CHEM 249	7.0 CHEM 357	2.5		
CHEM 253	4.0 Technical elective **	3.0		
MATH 201 or 210	4.0 Free elective	3.0		
	Liberal Studies elective	3.0		
	<b>19</b>	<b>14.5</b>	<b>0</b>	<b>0</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CHEM 367	3.0 CHEM 420	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
CHEM 421	3.0 CHEM 431	4.0		
CHEM 430	3.0 Technical elective **	3.0		
BIO 311	4.0 Free elective	3.0		
UNIV S201	1.0			
	<b>14</b>	<b>13</b>	<b>0</b>	<b>0</b>

**Fifth Year**

Fall	Credits Winter	Credits Spring	Credits
CHEM 346	5.5 CHEM 493	3.0 CHEM 371	3.0
CHEM 493	3.0 BIO 306	2.0 CHEM 422	3.0
BIO 404	4.0 Liberal Studies elective	3.0 CHEM 425	4.0
Free elective	3.0 Free electives	6.0 CHEM 493	3.0
		Free elective	3.0
	<b>15.5</b>	<b>14</b>	<b>16</b>

**Total Credits 188.5**

- \* COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101. Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.
- \*\* Must be at a 200+ level. See Degree Requirements for more information on acceptable classes.

## Co-op/Career Opportunities

Opportunities for Chemistry majors include working in research and development in corporate and government laboratories in the chemical, pharmaceutical, and agricultural (e.g., U.S. Department of Agriculture) sectors. There is a remarkably high concentration of chemical and pharmaceutical companies in the Philadelphia region. Other options include entering medical, dental, law, or other professional schools. The major in Chemistry is sufficiently flexible to allow students to prepare to teach at the secondary level. With proper selection of electives, students can meet teacher certification requirements.

## Sample Co-op Opportunities

Five-year and four-year co-op degrees are offered. When students complete their co-op job(s), they are asked to write an overview of their experience(s). These brief quotes are taken from some recent student reports:

*Assistant chemist, pharmaceuticals manufacturer:* "My position involved the synthesis and characterization of target compounds in the endothelium project. Involved the development of synthetic roots to the prescribed target. This would include the investigation of reactions which were going to be used...the position was very independent...great working environment."

*Co-op chemist, petroleum refiner:* "Performed synthesis of ligands and metal complexes. Operated FT-IR spectrometer for sample analysis. Submitted samples for analysis by mass spectrometer and NMR...The position allowed me to develop the skills necessary for independent research in organic synthesis."

*Assistant lab technician, pharmaceuticals manufacturer:* "I was an assistant technician in a mass spectrometry lab...I was responsible for the development of SDS-gel electrophoresis techniques for gels and gel membranes...I developed the methods independently and my employer encouraged me to be an expert on the technique and explore any method I found that would benefit the lab."

Visit the Drexel Steinbright Career Development Center (<http://www.drexel.edu/scdc/>) page for more detailed information on co-op and post-graduate opportunities.

## Facilities

There are nine undergraduate teaching laboratories in the department: three Freshman Chemistry labs, three Organic Chemistry labs, a Physical Chemistry lab, an Analytical Instrumentation Laboratory, and a combined Analytical/Inorganic Chemistry lab.

### *Mass Spectrometry Laboratory*

The department maintains a professionally staffed mass spectrometry facility available to all members of the university community. Currently available instrumentation consists of a Waters Autospec M high resolution magnetic-sector mass spectrometer, a Bruker Autoflex III MALDI Time-of-Flight Mass Spectrometer, a Thermo LTQ-FT Fourier Transform Mass Spectrometer, a Sciex API-3000 triple-quadrupole mass spectrometer, and a Varian Saturn 2000 Gas Chromatograph/Ion-trap mass spectrometer system.

### *Nuclear Magnetic Resonance Laboratory*

The professionally staffed Chemistry department NMR facility is equipped with 300MHz and 500MHz Varian Unity INNOVA NMR systems; both instruments have multi-nuclear capability. The probe on the 500MHz instrument is a cryogenically cooled triple resonance model (1H {13C/15N}) suitable for protein analysis. A Varian X-band 12" EPR spectrometer is also available.

### *Analytical Instrumentation Laboratory*

The open-access departmental Analytical Instrumentation Laboratory includes two Perkin-Elmer (PE) Spectrum One Fourier-transform infrared absorption spectrometers each with a universal diamond ATR accessory, a PE Lambda-35 UV/visible spectrometer, a PE Lambda-950 UV/visible/NIR spectrometer with a 60-mm-diameter diffuse reflectance integrating sphere, a PE model 343 polarimeter, a PE LS55B luminescence spectrometer, a PE Clarus 500 capillary-column GC with dual FID detectors, a Clarus 500 capillary-column GC/MS system (with electron impact capability), a PE Series 200 Quaternary HPLC development system with UV/visible photodiode array detector, a PE Series 200 binary HPLC system interfaced to a Sciex 2000 triple-quadrupole mass spectrometer, a PE Series 2000 binary Gel Permeation Chromatography system with refractive index detector, and a Varian AA240FS flame atomic absorption spectrometer equipped with a GTA 120 Graphite Furnace Accessory.

### *Organic Instrumentation Laboratory*

The Organic Instrumentation Laboratory (co-located with the organic synthesis teaching laboratories in the Papdakis Integrated Sciences Building) is equipped with two Perkin-Elmer (PE) Spectrum Two Fourier-transform infrared absorption spectrometers each with a universal diamond ATR accessory, a PE Clarus 500 capillary-column GC with one FID and one TCD detector, and an Anasazi EFT-90 FT-NMR system.

### *Other Departmental Facilities*

The department has a VEECO INNOVA N3 Multimode Scanning Probe Microscope and also maintains a computational chemistry laboratory equipped with nine Dell Optiplex 790 computers running Hyperchem v 8.0. Research laboratories for each of the department faculty members are located in Disque and Stratton Halls. Instrumentation available in the research laboratories is described on individual faculty web pages. Full-time professional support includes two electronic instrument specialists (for NMR and MS- Chemistry department), two electronics specialists (College of Arts & Sciences Electronics Shop), and four machinists (Drexel University Machine Shop).

## Chemistry Faculty

Reza Farasat, PhD (*University of Alabama*). Assistant Teaching Professor. Modification of polymers for diverse applications; utilizing Thermoanalysis techniques to study polymeric and non-polymeric materials; nanotechnology; applying Multi-detector Size Exclusion Chromatography for characterization of polymers; creating composites to improve materials' properties.

Fraser Fleming, PhD (*University of British Columbia (Canada)*). Professor. Nitriles, Isonitriles, Stereochemistry, Organometallics

Joe P. Foley, PhD (*University of Florida*) *Department Head*. Professor. Separation science, especially the fundamentals and biomedical/pharmaceutical applications of the following voltage- or pressure-driven separation techniques: capillary electrophoresis (CE), electrokinetic chromatography, supercritical fluid chromatography, and high-performance and two-dimensional liquid chromatography (LC). Within these techniques, we explore novel separation modes (e.g., dual-opposite-injection CE and sequential elution LC), novel surfactant aggregate pseudophases, and chiral separations.

Lee Hoffman, PhD (*Flinders University, Adelaide, South Australia*). Assistant Teaching Professor. Interfacial studies on the self-assembly of natural organic materials, understanding the nature of each component, and development of a mechanism describing this process; Dendrimer/metal nanocomposite design and synthesis hosting metal nanoparticles, utilizing the multivalent dendritic polymer architecture for further exploitation with other molecules such as antibodies and other targeting species.

Monica Ilies, PhD (*Polytechnic University of Bucharest*). Associate Teaching Professor. Bioorganic chemistry and chemical biology; bioinorganic chemistry and biochemistry.

Haifeng Frank Ji, PhD (*Chinese Academy of Sciences*). Professor. Micromechanical sensors for biological and environmental applications; Nanomechanical drug screening technology.

Daniel B. King, PhD (*University of Miami*). Associate Professor. Assessment of active learning methods and technology in chemistry courses; incorporation of environmental data into chemistry classroom modules; development of hands-on activities and laboratory experiments.

Jamie Ludwig, PhD (*UT Southwestern Medical Center*). Discovery and optimization of biocatalytic transformations for use inorganic synthesis.

Dionicio Martinez-Solario, PhD (*University of Alabama*). Assistant Professor. Total synthesis of complex biologically active natural products serving as inspirational platforms for the discovery and development of new reactions and synthetic methods.

Craig McClure, PhD (*University of Michigan*). Associate Teaching Professor. Promotion of quantitative literacy in introductory courses; development of guided inquiry activities for introductory chemistry; outreach programs in STEM fields.

Kevin G. Owens, PhD (*Indiana University*). Associate Professor. Mass spectrometry research, including the development of sample preparation techniques for quantitative analysis and mass spectrometric imaging using matrix-assisted laser desorption/ionization (MALDI) time-of-flight mass spectrometry (TOFMS) techniques for both biological and synthetic polymer systems, the development of laser spectroscopic techniques for combustion analysis, and the development of correlation analysis and other chemometric techniques for automating the analysis of mass spectral information.

Susan A. Rutkowsky, PhD (*Drexel University*) *Associate Department Head*. Associate Teaching Professor. Development of labs and lecture demonstrations for general and organic chemistry courses; STEM outreach programs.

Jeremiah Scepaniak, PhD (*New Mexico State University*). Assistant Professor. Design transition metal-based contrast agents for MRI & synthesis of bimetallic complexes to activate small molecules.

Reinhard Schweitzer-Stenner, PhD (*Universität Bremen (Germany)*). Professor. Exploring conformational ensembles of unfolded or partially folded peptides and proteins; determining the parameters governing peptide self-aggregation; structure and function of heme proteins; investigating protein-membrane interactions; use of IR, VCD, Raman, NMR and absorption spectroscopy for structure analysis.

Karl Sohlberg, PhD (*University of Delaware*). Associate Professor. Computational and theoretical materials-related chemistry: (1) complex catalytic materials; (2) mechanical and electrical molecular devices.

Anthony Wambsgans, PhD (*Rice University*). Associate Teaching Professor.

Ezra Wood, PhD (*University of California-Berkeley*). Associate Professor. Radical chemistry and formation of secondary pollutants in urban and forest environments, impacts of biomass burning on air pollution and climate change, pollutant emissions, and design and deployment of novel instrumentation for field studies.

Jun Xi, PhD (*Cornell University*). Associate Teaching Professor. Biomacromolecular interactions both in solution and in confined environment; mechanisms of DNA replication and DNA repair; structure and function of molecular chaperones; drug target identification and new therapeutic development; single molecule enzymology; DNA directed organic synthesis.

## Emeritus Faculty

Anthony W. Addison, PhD (*University of Kent at Canterbury, England*). Professor Emeritus. Design and synthesis of novel biomimetic and oligonuclear chelates of copper, nickel, iron, ruthenium and vanadium; their interpretation by magnetochemical, electrochemical and spectroscopic methods, including electron spin resonance; CD and ESR spectroscopy and kinetics for elucidation of molecular architecture of derivatives (including NO) of oxygen-binding and electron-transfer heme- and non-heme iron metalloproteins of vertebrate and invertebrate origins; energy-transfer by Ru, Ir and lanthanide-containing molecules and assemblies.

Amar Nath, PhD (*Moscow State University, Moscow USSR*). Professor Emeritus.

Peter A. Wade, PhD (*Purdue University*). Professor Emeritus. Exploration of a newly discovered [3,3]-sigmatropic rearrangement in which O-allyl nitronic esters are thermally converted to #,#-unsaturated nitro compounds; development and exploitation of a carbon-based hemiacetal mimic; and exploration of cycloaddition reactions involving nitroethylene derivatives and novel nitrile oxides.

## Communication

*Major: Communication*

*Degree Awarded: Bachelor of Arts (BA)*

*Calendar Type: Quarter*

*Total Credit Hours: 180.0*

*Co-op Options: Three Co-op (Five years); One Co-op (Four years); No Co-op (Four years)*

*Classification of Instructional Programs (CIP) code: 09.0401; 09.0900; 09.0908; 09.9999; 09.0199*

*Standard Occupational Classification (SOC) code: 11-2011; 11-2031; 27-3022; 27-3041; 27-3042; 27-3043*

## About the Program

The Department of Communication is committed to helping students gain expertise in a variety of communication theories, methods, and professional skills for creative problem solving. In doing so, students will learn the importance of engaging in ethical behavior in communication with diverse audiences, cultures, and contexts for their learning and professional experiences.

Students will also learn to appreciate the vital role of media and communication in sustaining democratic institutions, civic engagement, and inclusive citizenry. Furthermore, COM students will gain real-world acumen through their co-op experiences to understand and prepare for professional challenges in their communication field.

Students may complete the BA in Communication with a concentration in public relations or journalism. Those who want to keep their options open may concentrate in general communication.

The Department also offers a Bachelor of Science (BS) in Communication (p. 51).

All communication majors take a common core of courses that emphasize communication theory and methods. Students in the BA program also study a modern language.

## Career Paths

Students in the public relations concentration take courses and pursue careers in public relations, social media analytics and management, corporate communication, and nonprofit communication. Journalism students take courses and pursue careers as reporters, copywriters, editors, and media specialists. Students in the communication concentration have the flexibility of crafting their path through the major and thus have career possibilities in any of the areas listed here. Many communication graduates also go on to law school, business school, or graduate school.

## Additional Information

If you would like to learn more about the Department of Communication, please visit the Department of Communication website (<http://drexel.edu/coas/academics/departments-centers/communication/>).

## Degree Requirements: Communication Concentration (BA)

Students who select the communication concentration take courses in all of the existing concentrations, as well as other communication courses to prepare them for any communication-related career, or professional post-graduate options.

### General Requirements

CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development	1.0
ENGL 101 or ENGL 111	Composition and Rhetoric I: Inquiry and Exploratory Research English Composition I	3.0
ENGL 102 or ENGL 112	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing English Composition II	3.0
ENGL 103 or ENGL 113	Composition and Rhetoric III: Themes and Genres English Composition III	3.0
PSY 101	General Psychology I	3.0
UNIV H101	The Drexel Experience	1.0
UNIV H201	Looking Forward: Academics and Careers	1.0
Two mathematics courses		6.0-8.0
Two science courses		6.0-8.0
Foreign language courses **		8.0-12.0
Humanities and fine arts		12.0
Social sciences		9.0
International studies		6.0
Studies in diversity		6.0

### Communication Core Requirements

#### Theory Sequence

COM 101	Human Communication	3.0
COM 150	Mass Media and Society	3.0
COM 210	Theory and Models of Communication	3.0
COM 400	Seminar in Communication	3.0
LING 101 or LING 102	Introduction to Linguistics Language and Society	3.0

#### Methods Sequence

COM 220	Qualitative Research Methods	3.0
COM 221	Quantitative Research Methods in Communication	3.0

#### Additional Core Requirements

COM 222	Interpersonal Communication	3.0
COM 230	Techniques of Speaking	3.0
COM 240	New Technologies In Communication	3.0
COM 247	Strategic Social Media Communication	3.0



COM 491	Senior Project in Communication I	3.0
COM 492	Senior Project in Communication II	3.0
PHIL 305	Ethics and the Media	3.0
<b>Additional Breadth in COM</b>		
COM 160 [WI]	Introduction to Journalism	3.0
COM 181	Public Relations Principles and Theory	3.0
COM 261 [WI] or COM 282	Advanced Journalism Public Relations Writing	3.0
COM 310 [WI]	Technical Communication	3.0
Two additional COM classes at 300 level or higher		6.0
<b>Additional Electives</b>		
COM electives		24.0
Free electives		27.0
<b>Total Credits</b>		<b>180.0-188.0</b>

\* Students not participating in co-op will not take COOP 101; 1 credit of Free Elective will be added in place of COOP 101.

\*\* Students must complete at least 8 credits of a foreign language at Drexel and, at minimum, must complete the 103 level of the target language (or beyond if they place higher).

## Sample Plan of Study: Communication Concentration (BA)

### 4 year, no co-op

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 101	3.0 CIVC 101	1.0 COM 160 or 181	3.0 VACATION	
COM 150	3.0 COM 181 or 160	3.0 COM 230	3.0	
ENGL 101 or 111	3.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
PSY 101	3.0 Foreign Language Course*	4.0 Humanities Elective	3.0	
UNIV H101	1.0 Math Course	3.0-4.0 Math Course	3.0-4.0	
Foreign Language Course	4.0			
	<b>17</b>	<b>14-15</b>	<b>15-16</b>	<b>0</b>

#### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 210	3.0 COM 220	3.0 COM 221	3.0 VACATION	
COM 222	3.0 COM 247	3.0 COM 261 or 282	3.0	
Humanities Elective	3.0 LING 101 or 102	3.0 COM 310	3.0	
Science Course	3.0-4.0 COM Elective	3.0 COM Elective	3.0	
Social Science Elective	3.0 Science Course	3.0-4.0 International or Diversity Elective	3.0	
	<b>15-16</b>	<b>15-16</b>	<b>15</b>	<b>0</b>

#### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
PHIL 305	3.0 COM 240	3.0 COM Elective (above 300 level)	3.0 VACATION	
COM Electives	6.0 UNIV H201	1.0 Free Electives	6.0	
Free Elective	3.0 COM Electives	6.0 International or Diversity Elective	3.0	
International or Diversity Elective	3.0 Free Elective	3.0 Social Science Elective	3.0	
	Humanities Elective	3.0		
	<b>15</b>	<b>16</b>	<b>15</b>	<b>0</b>

#### Fourth Year

Fall	Credits Winter	Credits Spring	Credits
COM 400	3.0 COM 491	3.0 COM 492	3.0
Communication Elective (above 300 level)	3.0 Communication Elective	3.0 COM Elective	3.0
Free Electives**	7.0 Free Elective	3.0 Free Electives	6.0
International or Diversity Elective	3.0 Humanities Elective	3.0	

	Social Science Elective	3.0	
	<b>16</b>	<b>15</b>	<b>12</b>

**Total Credits 180-184**

\* See degree requirements (p. ).

\*\* Students not participating in co-op will not take COOP 101; 1 credit of Free Elective will be added in place of COOP 101.

### 4 year, one co-op

**First Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 101	3.0 CIVC 101	1.0 COM 160 or 181	3.0 VACATION	
COM 150	3.0 COM 181 or 160	3.0 COM 230	3.0	
ENGL 101 or 111	3.0 COOP 101**	1.0 ENGL 103 or 113	3.0	
PSY 101	3.0 ENGL 102 or 112	3.0 Humanities Elective	3.0	
UNIV H101	1.0 Foreign Language Course*	4.0 Math Course	3.0-4.0	
Foreign Language Course*	4.0 Math Course	3.0-4.0		
	<b>17</b>	<b>15-16</b>	<b>15-16</b>	<b>0</b>

**Second Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 210	3.0 COM 220	3.0 COM 221	3.0 PHIL 305	3.0
COM 222	3.0 COM 247	3.0 COM 261 or 282	3.0 COM Electives	6.0
Humanities Elective	3.0 LING 101 or 102	3.0 COM 310	3.0 Free Elective	3.0
Science Course	3.0-4.0 COM Elective	3.0 COM Elective	3.0 International or Diversity Elective	3.0
Social Science Elective	3.0 Science Course	3.0-4.0 International or Diversity Elective	3.0	
	<b>15-16</b>	<b>15-16</b>	<b>15</b>	<b>15</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 240	3.0 COM Elective (above 300 level)	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
UNIV H201	1.0 Free Electives	6.0		
COM Electives	6.0 International or Diversity Elective	3.0		
Free Elective	3.0 Social Science Elective	3.0		
Humanities Elective	3.0			
	<b>16</b>	<b>15</b>	<b>0</b>	<b>0</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits
COM 400	3.0 COM 491	3.0 COM 492	3.0
Communication Elective (above 300 level)	3.0 Communication Elective	3.0 COM Elective	3.0
Free electives	6.0 Free Elective	3.0 Free Electives	6.0
International or Diversity Elective	3.0 Humanities Elective	3.0	
	Social Science Elective	3.0	
	<b>15</b>	<b>15</b>	<b>12</b>

**Total Credits 180-184**

\* See degree requirements (p. ).

\*\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

### 5 year, 3 co-op

**First Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 101	3.0 CIVC 101	1.0 COM 160 or 181	3.0 VACATION	
COM 150	3.0 COM 181 or 160	3.0 COM 230	3.0	

ENGL 101 or 111	3.0 COOP 101**	1.0 ENGL 103 or 113	3.0	
PSY 101	3.0 ENGL 102 or 112	3.0 Humanities Elective	3.0	
UNIV H101	1.0 Foreign Language Course*	4.0 Math Course	3.0-4.0	
Foreign Language Course*	4.0 Math Course	3.0-4.0		
	<b>17</b>	<b>15-16</b>	<b>15-16</b>	<b>0</b>
<b>Second Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COM 210	3.0 COM 220	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
COM 222	3.0 COM 247	3.0		
Humanities Elective	3.0 LING 101 or 102	3.0		
Science Course	3.0-4.0 COM Elective	3.0		
Social Science Elective	3.0 Science Course	3.0-4.0		
	<b>15-16</b>	<b>15-16</b>	<b>0</b>	<b>0</b>
<b>Third Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COM 221	3.0 PHIL 305	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
COM 261 or 282	3.0 COM Electives	6.0		
COM 310	3.0 Free Elective	3.0		
COM Elective	3.0 International or Diversity Elective	3.0		
International or Diversity Elective	3.0			
	<b>15</b>	<b>15</b>	<b>0</b>	<b>0</b>
<b>Fourth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COM 240	3.0 COM Elective (above 300 level)	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
UNIV H201	1.0 Free Electives	6.0		
COM Electives	6.0 International or Diversity Elective	3.0		
Free Elective	3.0 Social Science Elective	3.0		
Humanities Elective	3.0			
	<b>16</b>	<b>15</b>	<b>0</b>	<b>0</b>
<b>Fifth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>	
COM 400	3.0 COM 491	3.0 COM 492	3.0	
Communication Elective (above 300 level)	3.0 Communication Elective	3.0 COM Elective	3.0	
Free Electives	6.0 Free Elective	3.0 Free Electives	6.0	
International or Diversity Elective	3.0 Humanities Elective	3.0		
	Social Science Elective	3.0		
	<b>15</b>	<b>15</b>	<b>12</b>	

**Total Credits 180-184**

\* See degree requirements (p. ).

\*\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

## Degree Requirements: Journalism Concentration (BA)

Journalism provides students with the skills and theoretical perspective they need to be a journalist in today's swiftly changing media environment. An extension of the program's core curriculum, the concentration hones the student's ability to write, edit, and produce audiovisual content while at the same time exposing the student to new and evolving aspects of the field.

**General Requirements**

CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development*	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0

or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
PSY 101	General Psychology I	3.0
UNIV H101	The Drexel Experience	1.0
UNIV H201	Looking Forward: Academics and Careers	1.0
Two mathematics courses		6.0-8.0
Two science courses		6.0-8.0
Foreign language courses **		8.0
Humanities and fine arts		12.0
Social sciences		9.0
International studies		6.0
Studies in diversity		6.0
<b>Communication Core Requirements</b>		
<b>Theory Sequence</b>		
COM 101	Human Communication	3.0
COM 150	Mass Media and Society	3.0
COM 210	Theory and Models of Communication	3.0
COM 400	Seminar in Communication	3.0
LING 101	Introduction to Linguistics	3.0
or LING 102	Language and Society	
<b>Methods Sequence</b>		
COM 220	Qualitative Research Methods	3.0
COM 221	Quantitative Research Methods in Communication	3.0
<b>Additional Core Requirements</b>		
COM 222	Interpersonal Communication	3.0
COM 230	Techniques of Speaking	3.0
COM 240	New Technologies In Communication	3.0
COM 247	Strategic Social Media Communication	3.0
COM 491	Senior Project in Communication I	3.0
COM 492	Senior Project in Communication II	3.0
PHIL 305	Ethics and the Media	3.0
<b>Journalism Concentration Requirements</b>		
COM 160 [WJ]	Introduction to Journalism	3.0
COM 181	Public Relations Principles and Theory	3.0
COM 261 [WJ]	Advanced Journalism	3.0
COM 266	Copy Editing for the Media	3.0
COM 315 [WJ]	Investigative Journalism	3.0
COM 365	Journalists, the Courts, and the Law	3.0
TVPR 220	TV News Writing	3.0
<b>Additional Electives</b>		
Communication electives		18.0
Free Electives		30.0
<b>Total Credits</b>		<b>180.0-184.0</b>

\* Students not participating in co-op will not take COOP 101; 1 credit of Free Elective will be added in place of COOP 101.

\*\* Students must complete at least 8 credits of a foreign language at Drexel and, at minimum, must complete the 103 level of the target language (or beyond if they place higher).

## Sample Plan of Study: Journalism Concentration (BA)

### 4 year, no co-op

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 101	3.0 CIVC 101	1.0 COM 181	3.0 VACATION	
COM 150	3.0 COM 160	3.0 COM 261	3.0	
ENGL 101 or 111	3.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
PSY 101	3.0 Foreign Language Course	4.0 Humanities Elective	3.0	

UNIV H101	1.0 Math Course	3.0-4.0 Math Course	3.0-4.0	
Foreign Language Course*	4.0			
	<b>17</b>	<b>14-15</b>	<b>15-16</b>	<b>0</b>
<b>Second Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COM 210	3.0 COM 220	3.0 COM 221	3.0 VACATION	
COM 222	3.0 COM 247	3.0 TVPR 220	3.0	
COM 230	3.0 COM 365	3.0 Free Elective	3.0	
Humanities Elective	3.0 LING 101 or 102	3.0 International or Diversity Elective	3.0	
Science Course	3.0-4.0 Free Elective	3.0		
Social Science Elective	3.0 Science Course	3.0-4.0		
	<b>18-19</b>	<b>18-19</b>	<b>12</b>	<b>0</b>
<b>Third Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COM 266	3.0 COM 240	3.0 COM 315	3.0 VACATION	
PHIL 305	3.0 UNIV H201	1.0 COM Elective	3.0	
COM Elective	3.0 COM Elective	3.0 Free Electives	6.0	
Free Elective	3.0 Free Elective	3.0 Social Science Elective	3.0	
International or Diversity Elective	3.0 Humanities Elective	3.0		
	<b>15</b>	<b>13</b>	<b>15</b>	<b>0</b>
<b>Fourth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>	
COM 400	3.0 COM 491	3.0 COM 492	3.0	
COM Elective	3.0 COM Elective	3.0 COM Elective	3.0	
Free Electives	6.0 Free Elective	3.0 Free Elective**	4.0	
International or Diversity Elective	3.0 Humanities Elective	3.0 International or Diversity Elective	3.0	
	Social Science Elective	3.0		
	<b>15</b>	<b>15</b>	<b>13</b>	

Total Credits 180-184

\* See degree requirements (p. 42).

\*\* Students not participating in co-op will not take COOP 101; 1 credit of Free Elective will be added in place of COOP 101.

## 4 year, one co-op

<b>First Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COM 101	3.0 CIVC 101	1.0 COM 181	3.0 VACATION	
COM 150	3.0 COOP 101**	1.0 COM 261	3.0	
ENGL 101 or 111	3.0 COM 160	3.0 ENGL 103 or 113	3.0	
PSY 101	3.0 ENGL 102 or 112	3.0 Humanities Elective	3.0	
UNIV H101	1.0 Foreign Language Course*	4.0 Math Course	3.0-4.0	
Foreign Language Course*	4.0 Math Course	3.0-4.0		
	<b>17</b>	<b>15-16</b>	<b>15-16</b>	<b>0</b>
<b>Second Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COM 210	3.0 COM 220	3.0 COM 221	3.0 COM 266	3.0
COM 222	3.0 COM 247	3.0 TVPR 220	3.0 PHIL 305	3.0
COM 230	3.0 COM 365	3.0 Free Elective	3.0 COM Elective	3.0
Humanities Elective	3.0 LING 101 or 102	3.0 International or Diversity Elective	3.0 Free Elective	3.0
Science Course	3.0-4.0 Free Elective	3.0	International or Diversity Elective	3.0
Social Science Elective	3.0 Science Course	3.0-4.0		
	<b>18-19</b>	<b>18-19</b>	<b>12</b>	<b>15</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 240	3.0 COM 315	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
UNIV H201	1.0 COM Elective	3.0		
COM Elective	3.0 Free Electives	6.0		
Free Elective	3.0 Social Science Elective	3.0		
Humanities Elective	3.0			
	<b>13</b>	<b>15</b>	<b>0</b>	<b>0</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits	Credits
COM 400	3.0 COM 491	3.0 COM 492	3.0	
COM Elective	3.0 COM Elective	3.0 COM Elective	3.0	
Free Electives	6.0 Free Elective	3.0 Free Elective	3.0	
International or Diversity Elective	3.0 Humanities Elective	3.0 International or Diversity Elective	3.0	
	Social Science Elective	3.0		
	<b>15</b>	<b>15</b>	<b>12</b>	

**Total Credits 180-184**

\* See degree requirements (p. 42).

\*\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.  
 COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

**5 year, 3 co-op**

**First Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 101	3.0 CIVC 101	1.0 COM 181	3.0 VACATION	
COM 150	3.0 COM 160	3.0 COM 261	3.0	
ENGL 101 or 111	3.0 COOP 101**	1.0 ENGL 103 or 113	3.0	
PSY 101	3.0 ENGL 102 or 112	3.0 Humanities Elective	3.0	
UNIV H101	1.0 Foreign Language Course*	4.0 Math Course	3.0-4.0	
Foreign Language Course*	4.0 Math Course	3.0-4.0		
	<b>17</b>	<b>15-16</b>	<b>15-16</b>	<b>0</b>

**Second Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 210	3.0 COM 220	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
COM 222	3.0 COM 247	3.0		
COM 230	3.0 COM 365	3.0		
Humanities Elective	3.0 LING 101 or 102	3.0		
Science Course	3.0-4.0 Free Elective	3.0		
Social Science Elective	3.0 Science Course	3.0-4.0		
	<b>18-19</b>	<b>18-19</b>	<b>0</b>	<b>0</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 221	3.0 COM 266	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
TVPR 220	3.0 PHIL 305	3.0		
Free Elective	3.0 COM Elective	3.0		
International or Diversity Elective	3.0 Free Elective	3.0		
	International or Diversity Elective	3.0		
	<b>12</b>	<b>15</b>	<b>0</b>	<b>0</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 240	3.0 COM 315	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
UNIV H201	1.0 COM Elective	3.0		
COM Elective	3.0 Free Electives	6.0		
Free Elective	3.0 Social Science Elective	3.0		

Humanities Elective	3.0			
	<b>13</b>	<b>15</b>	<b>0</b>	<b>0</b>
<b>Fifth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>	
COM 400	3.0 COM 491	3.0 COM 492	3.0	
COM Elective	3.0 COM Elective	3.0 COM Elective	3.0	
Free Electives	6.0 Free Elective	3.0 Free Elective	3.0	
International or Diversity Elective	3.0 Humanities Elective	3.0 International or Diversity Elective	3.0	
	Social Science Elective	3.0		
	<b>15</b>	<b>15</b>	<b>12</b>	

**Total Credits 180-184**

\* See degree requirements (p. 42).

\*\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

## Degree Requirements: Public Relations Concentration (BA)

The concentration in public relations covers a broad range of activities that help an organization and its public communicate with one another. The field includes public relations, media relations, event planning, publication design, employee and customer communication, social media, and government relations.

Skills in this field include written, oral, and visual communication. A public relations specialist might be called on to write articles for an in-house newsletter, to research and write an annual report to shareholders, to publicize a special event, to write a speech for an executive, to plan a press conference, to develop a media plan for an organization, or to script a video for an employee orientation session.

**General Requirements**

CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development *	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
PSY 101	General Psychology I	3.0
UNIV H101	The Drexel Experience	1.0
UNIV H201	Looking Forward: Academics and Careers	1.0
Two mathematics courses		6.0-8.0
Two science courses		6.0-8.0
Foreign language courses **		8.0
Humanities and fine arts		12.0
Social sciences		9.0
International studies		6.0
Studies in diversity electives		6.0

**Communication Core Requirements****Theory Sequence**

COM 101	Human Communication	3.0
COM 150	Mass Media and Society	3.0
COM 210	Theory and Models of Communication	3.0
COM 400	Seminar in Communication	3.0
LING 101	Introduction to Linguistics	3.0
or LING 102	Language and Society	

**Methods Sequence**

COM 220	Qualitative Research Methods	3.0
COM 284	Public Relations Research, Measurement and Evaluation	3.0

**Additional Core Requirements**

COM 222	Interpersonal Communication	3.0
COM 230	Techniques of Speaking	3.0
COM 240	New Technologies In Communication	3.0

COM 247	Strategic Social Media Communication	3.0
COM 491	Senior Project in Communication I	3.0
COM 492	Senior Project in Communication II	3.0
PHIL 305	Ethics and the Media	3.0
<b>Public Relations Concentration Requirements</b>		
COM 160 [WI]	Introduction to Journalism	3.0
COM 181	Public Relations Principles and Theory	3.0
COM 282 [WI]	Public Relations Writing	3.0
COM 286	Public Relations Strategies and Tactics	3.0
COM 386	Public Relations Campaign Planning	3.0
MKTG 201	Introduction to Marketing Management	4.0
Select one of the following Visual Communication courses: ***		
COM 335 [WI]	Digital Publishing	3.0
COM 340	Modern Desktop Publishing	
<b>Additional Electives</b>		
COM electives		9.0
Free electives		38.0
<b>Total Credits</b>		<b>180.0-184.0</b>

- \* Students not participating in co-op will not take COOP 101; 1 credit of Free Elective will be added in place of COOP 101.
- \*\* Students must complete at least 8 credits of a foreign language at Drexel and, at minimum, must complete the 103 level of the target language (or beyond if they place higher).
- \*\*\* Or other courses as appropriate in COM or the College of Media Arts and Design.

## Sample Plan of Study: Public Relations Concentration (BA)

### 4 year, no co-op

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 101	3.0 CIVC 101 <sup>*</sup>	1.0 COM 160	3.0 VACATION	
COM 150	3.0 COM 181	3.0 COM 230	3.0	
ENGL 101 or 111	3.0 ENGL 102 or 112	3.0 COM 282	3.0	
PSY 101	3.0 Foreign Language course <sup>*</sup>	4.0 ENGL 103 or 113	3.0	
UNIV H101 <sup>*</sup>	1.0 Math Course	3.0-4.0 Math Course	3.0-4.0	
Foreign Language Course <sup>*</sup>	4.0			
	<b>17</b>	<b>14-15</b>	<b>15-16</b>	<b>0</b>

#### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 210	3.0 COM 220	3.0 COM 284	3.0 VACATION	
COM 222	3.0 COM 247	3.0 International or Diversity Elective	3.0	
Science Elective	3.0-4.0 LING 101 or 102	3.0 Free electives	6.0	
Humanities Elective	3.0 Science Course	3.0-4.0 Social Science elective	3.0	
Social Science Elective	3.0 Humanities Elective	3.0		
	<b>15-16</b>	<b>15-16</b>	<b>15</b>	<b>0</b>

#### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
MKTG 201	4.0 COM 240	3.0 COM 340 or 335 <sup>*</sup>	3.0 VACATION	
PHIL 305	3.0 COM 286	3.0 COM Elective	3.0	
International or Diversity Elective	3.0 UNIV H201	1.0 International or Diversity Elective	3.0	
Free electives	6.0 Humanities Elective	3.0 Free Electives	6.0	
	Free Electives <sup>**</sup>	6.0		
	<b>16</b>	<b>16</b>	<b>15</b>	<b>0</b>

#### Fourth Year

Fall	Credits Winter	Credits Spring	Credits
COM 386	3.0 COM 491	3.0 COM 492	3.0
COM 400	3.0 COM Elective	3.0 COM Elective	3.0
International or Diversity Elective	3.0 Social Science Elective	3.0 Free electives	6.0



Free Electives	6.0 Humanities Elective	3.0	
	Free Elective	3.0	
	<b>15</b>	<b>15</b>	<b>12</b>

**Total Credits 180-184**

\* See degree requirements (p. ).

\*\* Students not participating in co-op will not take COOP 101; 1 credit of Free Elective will be added in place of COOP 101.

### 4 year, one co-op

**First Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 101	3.0 CIVC 101*	1.0 COM 160	3.0 VACATION	
COM 150	3.0 COM 181	3.0 COM 230	3.0	
ENGL 101 or 111	3.0 COOP 101**	1.0 COM 282	3.0	
PSY 101	3.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
UNIV H101*	1.0 Foreign Language Course*	4.0 Math Course	3.0-4.0	
Foreign Language Course	4.0 Math Course	3.0-4.0		
	<b>17</b>	<b>15-16</b>	<b>15-16</b>	<b>0</b>

**Second Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 210	3.0 COM 220	3.0 COM 284	3.0 MKTG 201	4.0
COM 222	3.0 COM 247	3.0 International or Diversity Elective	3.0 PHIL 305	3.0
Science Elective	3.0-4.0 LING 101 or 102	3.0 Free Electives	6.0 International or Diversity Elective	3.0
Humanities Elective	3.0 Science Course	3.0-4.0 Social Science Elective	3.0 Free Electives	6.0
Social Science Elective	3.0 Humanities Elective	3.0		
	<b>15-16</b>	<b>15-16</b>	<b>15</b>	<b>16</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE	COOP EXPERIENCE	COM 240	3.0 COM 340 or 335*	3.0
		COM 286	3.0 Free Electives	6.0
		UNIV H201	1.0 COM Elective	3.0
		Humanities Elective	3.0 International or Diversity Elective	3.0
		Free Electives	5.0	
	<b>0</b>	<b>0</b>	<b>15</b>	<b>15</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits
COM 386	3.0 COM 491	3.0 COM 492	3.0
COM 400	3.0 COM Elective	3.0 COM Elective	3.0
International or Diversity Elective	3.0 Social Science Elective	3.0 Free Electives	6.0
Free Electives	6.0 Humanities Elective	3.0	
	Free Elective	3.0	
	<b>15</b>	<b>15</b>	<b>12</b>

**Total Credits 180-184**

\* See degree requirements (p. ).

\*\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

### 5 year, 3 co-op

**First Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 101	3.0 CIVC 101*	1.0 COM 160	3.0 VACATION	
COM 150	3.0 COM 181	3.0 COM 230	3.0	

ENGL 101 or 111	3.0 COOP 101**	1.0 COM 282	3.0	
PSY 101	3.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
UNIV H101*	1.0 Foreign Language Course	4.0 Math Course	3.0-4.0	
Foreign Language Course	4.0 Math Course	3.0-4.0		
	<b>17</b>	<b>15-16</b>	<b>15-16</b>	<b>0</b>
<b>Second Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COM 210	3.0 COM 220	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
COM 222	3.0 COM 247	3.0		
Humanities Elective	3.0 LING 101 or 102	3.0		
Science Elective	3.0-4.0 Humanities Elective	3.0		
Social Science Elective	3.0 Science Course	3.0-4.0		
	<b>15-16</b>	<b>15-16</b>	<b>0</b>	<b>0</b>
<b>Third Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COM 284	3.0 MKTG 201	4.0 COOP EXPERIENCE	COOP EXPERIENCE	
Free Electives	6.0 PHIL 305	3.0		
International or Diversity Elective	3.0 Free Electives	5.0		
Social Science Elective	3.0 International or Diversity Elective	3.0		
	<b>15</b>	<b>15</b>	<b>0</b>	<b>0</b>
<b>Fourth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COM 240	3.0 COM 340 or 335*	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
COM 286	3.0 COM Elective	3.0		
UNIV H201	1.0 Free Electives	6.0		
Free Electives	6.0 International or Diversity Elective	3.0		
Humanities Elective	3.0			
	<b>16</b>	<b>15</b>	<b>0</b>	<b>0</b>
<b>Fifth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>	
COM 386	3.0 COM 491	3.0 COM 492	3.0	
COM 400	3.0 COM elective	3.0 COM Elective	3.0	
Free Electives	6.0 Free Elective	3.0 Free Electives	6.0	
International or Diversity Elective	3.0 Humanities Elective	3.0		
	Social Science Elective	3.0		
	<b>15</b>	<b>15</b>	<b>12</b>	

**Total Credits 180-184**

\* See degree requirements (p. ).

\*\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

## Co-op/Career Opportunities

### Public Relations Concentration

Students with a concentration in public relations find employment in a wide variety of fields, including public relations, advertising, special events planning, writing and editing, and public information. In addition, the strong communication and management skills stressed by this concentration enable students to find positions in management, human resources, marketing, consulting, and publishing.

Although graduate study is not necessary for those who pursue careers in public relations, students have used the major as a basis for graduate work in a variety of areas, including communication, business, and law.

## Co-op Experiences in Public Relations

Cooperative education opportunities are available with a variety of corporations and nonprofits in such positions as corporate communication specialist, public relations assistant, and newsletter writer. The following are samples of co-op experiences:

- *Advertising and Promotions Assistant*, CoreStates Bicycle Championships, Philadelphia.
- *Corporate Communications Co-op*, Philadelphia Electric Company, Philadelphia.
- *Advertising/ Promotions Co-op*, U.S. Marketing Division, Mobil Oil Corp., Fairfax, VA.
- *Assistant Coordinator*, Communications Bureau, United Way of Southeastern Pennsylvania, Philadelphia.

## Journalism Concentration

Journalism students pursue careers in journalism, broadcast media, and news. Given the rapidly changing nature of these fields, graduates may also find work in new types of publishing platforms, such as social media or mobile, or involving audiovisual content creation. Journalism graduates may also choose to pursue graduate study, whether in journalism or another discipline.

## Co-op Experiences in Journalism

Journalism students have held co-ops with a number of media, news, and information companies, including the following:

- *Production assistant*, WPVI-TV (Channel 6) Philadelphia
- *Staff writer*, Delaware County Daily Times
- *Promotions department*, WPLY-FM (Y-100)
- *Production assistant*, sports department, FOX-29 (WTFX-TV)

## Technical and Science Communication Concentration

Students who study technical and science communication are prepared for a variety of career options. Many students become technical writers and editors who produce manuals and reports about high-technology products and services. Students may also go on to write specifications and in-house organs for business, industry, and government. Other students conduct and interpret surveys for business. In addition, this program is excellent preparation for graduate study in a number of fields, such as law and medicine.

## Co-op Experiences in Technical and Science Communication

Communication students have worked for corporations and nonprofit organizations. The following are some samples of past co-op experiences:

- *Technical writer*, Unisys Corp. and Hewlett Packard
- *Web page writer*, Hospital of the University of Pennsylvania
- *Pharmaceutical writer*, GlaxoSmithKline
- *Medical writer*, Medcases Corp.

## Communication Concentration

Students in the communication concentration develop a focus that fits their interests in the field of communication and will thus be ready for a variety of career options that require strong writing and research skills, as well as graduate or professional school.

## Co-op Experiences in Communication

Students in this concentration can choose from the variety of co-op opportunities open to any student in communication.

Visit the Drexel Steinbright Career Development Center (<http://www.drexel.edu/scdc/>) page for more detailed information on co-op and post-graduate opportunities.

## Communication Faculty

Ronald Bishop, III, PhD (*Temple University*). Professor. Investigative reporting, sports journalism, journalism history, journalism sourcing patterns, textual narrative and ideological analysis, cultural history of fame.

Karen Cristiano, MS (*Temple University*) *Assistant Department Head of Communication*. Teaching Professor. Journalism, medical writing, feature writing, copy editing, mass media and society.

Richard Forney Assistant Teaching Professor. Broadcast journalism technology and the effects of new technologies on personal and corporate communication skills.

Ernest A. Hakanen, PhD (*Temple University*) *Director, Graduate Programs in Communication, Culture & Media*. Professor. Telecommunications policy, adolescent media use, communication theory and history, global media, and semiotics.

Barbara Hoekje, PhD (*University of Pennsylvania*). Associate Professor. Sociolinguistic theory, discourse analysis, applied linguistics (language teaching, learning, and testing).

Alexander Jenkins, PhD (*Drexel University*). Assistant Teaching Professor. Digital games, video games, emotion, morality, online fan communities, emerging media, convergence.

Hyunmin Lee, PhD (*University of Missouri*) *Director, Undergraduate Programs in Communication*. Associate Professor. Social media strategies for relationship and reputation management in public relations; media messages of public health issues and its psychological and behavioral effects on the public.

Susan Magee, MFA *Director Online Teaching*. Instructor. Digital Publishing, Content creation, Blogging, Strategic Social Media, Public Relations, Business and Technical Communication

Julia May, PhD (*Drexel University*) *Director, Strategic and Digital Communication MS Program*. Associate Teaching Professor. Political communication; international politics and its news coverage; public opinion; transatlantic relations; war, torture and human rights; debate in the public sphere.

Alexander Nikolaev, PhD (*Florida State University*). Associate Professor. Public relations, political communication, organizational communication, mass communication, international communications and negotiations, communications theory.

Rakhmiel Peltz, PhD (*University of Pennsylvania*). Professor. Judaic studies, Yiddish culture and linguistics, ethnography of communication, immigrant cultural studies.

Douglas V. Porpora, PhD (*Temple University*). Professor. War, genocide, torture, and human rights; macro-moral reasoning in public sphere debate; contemporary social theory moral and political communication; religion.

Rachel R. Reynolds, PhD (*University of Illinois*). Associate Professor. Sociolinguistics, ethnography of communication and discourse analysis; violence against women in mass media; political economy of migration; semiotics including the textual, the visual and multimodal.

Rosemary Rys, MA (*Rowan University*). Assistant Teaching Professor. Public relations and marketing.

Wesley Shumar, PhD (*University of Pennsylvania*). Professor. Digital media and learning; culture of higher education; entrepreneurship education; craft culture; semiotic of consumer culture.

Allan Stegeman, MA (*University of Houston*). Teaching Professor. Communication, technology and mass media, video.

Scott Tattar, BA (*York College of Pennsylvania*) *Faculty Advisor, Drexel PRSSA, Communication Department Recruitment Liaison*. Instructor. Public relations

Hilde Van den Bulck, PhD (*Katholieke Universiteit Leuven*) *Department Head of Communication*. Professor. Political economy of media structures; media policies for digitized media ecologies; stakeholders and coalitions in media policies; digitization; convergence and legacy media; public (service) media; celebrity culture and industry; fandom and anti-fandom.

Asta Zelenkauskaitė, PhD (*Indiana University*). Associate Professor. Social media; user-generated content; computer-mediated communication; interactivity; active audience analysis; mobile communication; gender and online identity; prosumer culture; internet of things; quantitative/qualitative research.

## Emeritus Faculty

Alexander Friedlander, PhD (*Carnegie Mellon University*). Associate Professor. Rhetorical theory and practice, document design, writing and technology.

Lawrence Souder, PhD (*Temple University*) *Director, Drexel Edits*. Teaching Professor. Science and technical writing, communication ethics, nonprofit communication.

## Communication

*Major: Communication*

*Degree Awarded: Bachelor of Science (BS)*

*Calendar Type: Quarter*

*Total Credit Hours: 180.0*

*Co-op Options: Three Co-op (Five years); One Co-op (Four years); No Co-op (Four years)*

*Classification of Instructional Programs (CIP) code: 09.0401; 09.0900; 09.0908; 09.9999; 09.0199*

*Standard Occupational Classification (SOC) code: 11-2011; 11-2031; 27-3022; 27-3041; 27-3042; 27-3043*

## About the Program

The Department of Communication is committed to helping students gain expertise in a variety of communication theories, methods, and professional skills for creative problem-solving. In doing so, students will learn the importance of engaging in ethical behavior in communication with diverse audiences, cultures, and contexts for their learning and professional experiences.

Students will also learn to appreciate the vital role of media and communication in sustaining democratic institutions, civic engagement, and inclusive citizenry. Furthermore, COM students will gain real-world acumen through their co-op experiences to understand and prepare for professional challenges in their communication field.

The Department also offers a Bachelor of Arts (BA) in Communication (p. 38).

All communication majors take a common core of courses that emphasize communication theory and methods. Students in the BS program take a lab science sequence and a math analysis sequence, which includes some calculus.

## Career Paths

Students in the public relations concentration take courses and pursue careers in public relations, social media analytics and management, corporate communication, and nonprofit communication. Those who choose the technical and science communication concentration go on to work in technical writing, science writing, publishing, and software and hardware documentation. Students in the communication concentration have the flexibility of crafting their path through the major and thus have career possibilities in any of the areas listed here. Many communication graduates also go on to law school, business school, or graduate school.

## Additional Information

If you would like to learn more about the Department of Communication, please visit the Department of Communication website (<http://drexel.edu/coas/academics/departments-centers/communication/>).

## Degree Requirements: Communication Concentration (BS)

Students who select the communication concentration take courses in all of the existing concentrations, as well as other communication courses to prepare them for any communication-related career, or professional post-graduate options.

### General Requirements

CIVC 101	Introduction to Civic Engagement *	1.0
COOP 101	Career Management and Professional Development	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
PSY 101	General Psychology I	3.0
UNIV H101	The Drexel Experience *	1.0
UNIV H201	Looking Forward: Academics and Careers *	1.0
Humanities and fine arts		12.0
Social sciences		9.0
International studies		6.0
Studies in diversity		6.0
<b>Select one of the following Science Sequences:</b>		<b>8.0</b>
Biology Sequence		
BIO 107	Cells, Genetics & Physiology	
BIO 108	Cells, Genetics and Physiology Laboratory	
BIO 109	Biological Diversity, Ecology & Evolution	
BIO 110	Biological Diversity, Ecology and Evolution Laboratory	
Chemistry Sequence		
CHEM 111	General Chemistry I	
CHEM 112	General Chemistry II	
Physics Sequence		
PHYS 170	Electricity and Motion	
PHYS 175	Light and Sound	
<b>Select one of the following Mathematics Sequences:</b>		<b>8.0</b>
Analysis Sequence		
MATH 101	Introduction to Analysis I	
MATH 102	Introduction to Analysis II	

Calculus Sequence		
MATH 121	Calculus I	
MATH 122	Calculus II	
<b>Communication Core Requirements</b>		
<b>Theory Sequence</b>		
COM 101	Human Communication	3.0
COM 150	Mass Media and Society	3.0
COM 210	Theory and Models of Communication	3.0
COM 400	Seminar in Communication	3.0
LING 101 or LING 102	Introduction to Linguistics Language and Society	3.0
<b>Methods Sequence</b>		
COM 220	Qualitative Research Methods	3.0
COM 221	Quantitative Research Methods in Communication	3.0
<b>Additional Core Requirements</b>		
COM 222	Interpersonal Communication	3.0
COM 230	Techniques of Speaking	3.0
COM 240	New Technologies In Communication	3.0
COM 247	Strategic Social Media Communication	3.0
COM 491	Senior Project in Communication I	3.0
COM 492	Senior Project in Communication II	3.0
PHIL 305	Ethics and the Media	3.0
<b>Additional Breadth in COM</b>		
COM 160 [WI]	Introduction to Journalism	3.0
COM 181	Public Relations Principles and Theory	3.0
COM 261 [WI] or COM 282	Advanced Journalism Public Relations Writing	3.0
COM 310 [WI]	Technical Communication	3.0
Two additional COM classes at 300 level or higher		6.0
<b>Additional Electives</b>		
COM electives		28.0
Free electives		27.0
<b>Total Credits</b>		<b>180.0</b>

\* Students taking this program online are not required to take CIVC 101, UNIV H101, or UNIV H201. Instead, online students are required to take AS-I 101 *Strategies for Online Learning* for 3.0 credits.

## Sample Plan of Study: Communication Concentration (BS) 4 Year, one Co-op (4COP)

*Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.*

*COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.*

### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 101	3.0 CIVC 101	1.0 COM 160 or 181	3.0 VACATION	
COM 150	3.0 COOP 101	1.0 COM 230	3.0	
ENGL 101 or 111	3.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
PSY 101	3.0 COM 181 or 160	3.0 Humanities elective	3.0	
UNIV H101	1.0 Math sequence course 2	4.0 Free elective	3.0	
Math sequence course 1	4.0 Social Science elective	3.0		
	<b>17</b>	<b>15</b>	<b>15</b>	<b>0</b>

### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 210	3.0 COM 220	3.0 COM 221	3.0 PHIL 305	3.0
COM 222	3.0 COM 247	3.0 COM 261 or 282	3.0 COM electives	6.0

Science sequence course 1	4.0 LING 101 or 102	3.0 COM 310	3.0 Free elective	3.0
Free elective	3.0 Science sequence course 2	4.0 COM elective	3.0 International or diversity elective	3.0
Humanities elective	3.0 COM elective	3.0 Free elective	3.0	
		International or diversity elective	3.0	
	<b>16</b>	<b>16</b>	<b>18</b>	<b>15</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 240	3.0 COM elective (above 300 level)	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
UNIV H201	1.0 Free elective	3.0		
COM electives	6.0 Social Science elective	3.0		
Humanities elective	3.0 International or diversity elective	3.0		
Free elective	3.0			
	<b>16</b>	<b>12</b>	<b>0</b>	<b>0</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits
COM 400	3.0 COM 491	3.0 COM 492	3.0
COM elective (above 300 level)	3.0 COM elective	3.0 COM electives	7.0
International or diversity elective	3.0 Humanities elective	3.0 Free elective	3.0
Free elective	3.0 Social Science elective	3.0	
	Free elective	3.0	
	<b>12</b>	<b>15</b>	<b>13</b>

**Total Credits 180****5 Year, three Co-op (5COP)**

Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

**First Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 101	3.0 CIVC 101	1.0 COM 160 or 181	3.0 VACATION	
COM 150	3.0 COOP 101	1.0 COM 230	3.0	
ENGL 101 or 111	3.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
PSY 101	3.0 COM 181 or 160	3.0 Humanities elective	3.0	
UNIV H101	1.0 Math sequence course 2	4.0 Free elective	3.0	
Math sequence course 1	4.0 Social Science elective	3.0		
	<b>17</b>	<b>15</b>	<b>15</b>	<b>0</b>

**Second Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 210	3.0 COM 220	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
COM 222	3.0 COM 247	3.0		
Science sequence course 1	4.0 LING 101 or 102	3.0		
Free elective	3.0 Science sequence course 2	4.0		
Humanities elective	3.0 COM elective	3.0		
	<b>16</b>	<b>16</b>	<b>0</b>	<b>0</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 221	3.0 PHIL 301	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
COM 261 or 282	3.0 COM electives	6.0		
COM 310	3.0 Free elective	3.0		

COM elective	3.0 International or diversity elective	3.0		
Free elective	3.0			
International or diversity elective	3.0			
	<b>18</b>	<b>15</b>	<b>0</b>	<b>0</b>
<b>Fourth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COM 240	3.0 COM elective (above 300 level)	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
UNIV H201	1.0 Free elective	3.0		
COM electives	6.0 Social Science elective	3.0		
Humanities elective	3.0 International or diversity elective	3.0		
Free elective	3.0			
	<b>16</b>	<b>12</b>	<b>0</b>	<b>0</b>
<b>Fifth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>	
COM 400	3.0 COM 491	3.0 COM 492	3.0	
COM elective (above 300 level)	3.0 COM elective	3.0 COM electives	7.0	
International or diversity elective	3.0 Humanities elective	3.0 Free elective	3.0	
Free elective	3.0 Social science elective	3.0		
	Free elective	3.0		
	<b>12</b>	<b>15</b>	<b>13</b>	

**Total Credits 180**

## Degree Requirements: Public Relations Concentration (BS)

### General Requirements

CIVC 101	Introduction to Civic Engagement *	1.0
COOP 101	Career Management and Professional Development **	1.0
ENGL 101 or ENGL 111	Composition and Rhetoric I: Inquiry and Exploratory Research English Composition I	3.0
ENGL 102 or ENGL 112	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing English Composition II	3.0
ENGL 103 or ENGL 113	Composition and Rhetoric III: Themes and Genres English Composition III	3.0
PSY 101	General Psychology I	3.0
UNIV H101	The Drexel Experience *	1.0
UNIV H201	Looking Forward: Academics and Careers *	1.0
Humanities and fine arts		12.0
Social sciences		9.0
International studies		6.0
Studies in diversity		6.0
<b>Select one of the following Science Sequences:</b>		<b>8.0</b>
Biology Sequence		
BIO 107	Cells, Genetics & Physiology	
BIO 108	Cells, Genetics and Physiology Laboratory	
BIO 109	Biological Diversity, Ecology & Evolution	
BIO 110	Biological Diversity, Ecology and Evolution Laboratory	
Chemistry Sequence		
CHEM 111	General Chemistry I	
CHEM 112	General Chemistry II	
Physics Sequence		
PHYS 170	Electricity and Motion	
PHYS 175	Light and Sound	
<b>Select one of the following Mathematics Sequences</b>		<b>8.0</b>
Analysis Sequence		
MATH 101	Introduction to Analysis I	
MATH 102	Introduction to Analysis II	
Calculus Sequence		



MATH 121	Calculus I	
MATH 122	Calculus II	
<b>Communication Core Requirements</b>		
<b>Theory Sequence</b>		
COM 101	Human Communication	3.0
COM 150	Mass Media and Society	3.0
COM 210	Theory and Models of Communication	3.0
COM 400	Seminar in Communication	3.0
LING 101	Introduction to Linguistics	3.0
or LING 102	Language and Society	
<b>Methods Sequence</b>		
COM 220	Qualitative Research Methods	3.0
COM 284	Public Relations Research, Measurement and Evaluation	3.0
<b>Additional Core Requirements</b>		
COM 222	Interpersonal Communication	3.0
COM 230	Techniques of Speaking	3.0
COM 240	New Technologies In Communication	3.0
COM 247	Strategic Social Media Communication	3.0
COM 491	Senior Project in Communication I	3.0
COM 492	Senior Project in Communication II	3.0
PHIL 305	Ethics and the Media	3.0
<b>Public Relations Concentration Requirements</b>		
COM 160 [W]	Introduction to Journalism	3.0
COM 181	Public Relations Principles and Theory	3.0
COM 282 [W]	Public Relations Writing	3.0
COM 286	Public Relations Strategies and Tactics	3.0
COM 386	Public Relations Campaign Planning	3.0
MKTG 201	Introduction to Marketing Management	4.0
<b>Visual Communication Courses ***</b>		
COM 335 [W]	Digital Publishing	3.0
or COM 340	Modern Desktop Publishing	
<b>Additional Electives</b>		
COM electives		9.0
Free electives		42.0
<b>Total Credits</b>		<b>180.0</b>

\* Students taking this program online are not required to take UNIV H101, UNIV H201 or CIVC 101. Instead, online students are required to take "Strategies for Online Learning" for 3 credits.

\*\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

Students not participating in co-op will not take COOP 101; 1 credit of Free Elective will be added in place of COOP 101.

\*\*\* Or other courses as appropriate in COM or the College of Media Arts and Design.

## Degree Requirements: Public Relations Concentration (BS)

### 4 year, no co-op

First Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 101	3.0 CIVC 101 <sup>*</sup>	1.0 COM 160	3.0 VACATION	
COM 150	3.0 COM 181	3.0 COM 230	3.0	
ENGL 101 or 111	3.0 ENGL 102 or 112	3.0 COM 282	3.0	
PSY 101	3.0 Humanities elective	3.0 ENGL 103 or 113	3.0	
UNIV H101 <sup>*</sup>	1.0 Math sequence course 2 <sup>*</sup>	4.0 International or diversity elective	3.0	
Math sequence course 1 <sup>*</sup>	4.0			
	17	14	15	0

**Second Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 210	3.0 COM 220	3.0 COM 284	3.0 VACATION	
COM 222	3.0 COM 247	3.0 Free electives	9.0	
Humanities elective	3.0 LING 101 or 102	3.0 International or diversity elective	3.0	
Science sequence course 1*	4.0 Science sequence course 2*	4.0		
Social Science elective	3.0 Social Science elective	3.0		
	<b>16</b>	<b>16</b>	<b>15</b>	<b>0</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
MKTG 201	4.0 COM 240	3.0 COM 335 or 340*	3.0 VACATION	
PHIL 305	3.0 COM 286	3.0 COM elective	3.0	
Free electives	6.0 UNIV H201*	1.0 Free electives	6.0	
International or diversity elective	3.0 Free electives	6.0 Social Science elective	3.0	
	Humanities elective	3.0		
	<b>16</b>	<b>16</b>	<b>15</b>	<b>0</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits
COM 386	3.0 COM 491	3.0 COM 492	3.0
COM 400	3.0 COM elective	3.0 COM elective	3.0
Free electives	6.0 Free electives	6.0 Free elective**	4.0
Humanities elective	3.0	International or diversity elective	3.0
	<b>15</b>	<b>12</b>	<b>13</b>

**Total Credits 180**

\* See degree requirements (p. ).

\*\* Students not participating in co-op will not take COOP 101; 1 credit of Free Elective will be added in place of COOP 101.

**4 year, one co-op****First Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 101	3.0 CIVC 101*	1.0 COM 160	3.0 VACATION	
COM 150	3.0 COM 181	3.0 COM 230	3.0	
ENGL 101 or 111	3.0 COOP 101**	1.0 COM 282	3.0	
PSY 101	3.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
UNIV H101*	1.0 Humanities elective	3.0 International or diversity elective	3.0	
Math sequence course 1*	4.0 Math sequence course 2*	4.0		
	<b>17</b>	<b>15</b>	<b>15</b>	<b>0</b>

**Second Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 210	3.0 COM 220	3.0 COM 284	3.0 MKTG 201	4.0
COM 222	3.0 COM 247	3.0 Free electives	9.0 PHIL 305	3.0
Humanities elective	3.0 LING 101 or 102	3.0 International or diversity elective	3.0 Free electives	6.0
Science sequence course 1*	4.0 Science sequence course 2*	4.0	International or diversity elective	3.0
Social science elective	3.0 Social Science elective	3.0		
	<b>16</b>	<b>16</b>	<b>15</b>	<b>16</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 240	3.0 COM 335 or 340*	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
COM 286	3.0 COM elective	3.0		
UNIV H201*	1.0 Free electives	6.0		
Free electives	6.0 Social Science elective	3.0		
Humanities elective	3.0			
	<b>16</b>	<b>15</b>	<b>0</b>	<b>0</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits
COM 386	3.0 COM 491	3.0 COM 492	3.0
COM 400	3.0 COM elective	3.0 COM elective	3.0
Free electives	6.0 Free electives	6.0 Free elective	3.0
Humanities elective	3.0	International or diversity elective	3.0
	<b>15</b>	<b>12</b>	<b>12</b>

**Total Credits 180**

\* See degree requirements (p. ).

\*\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

**5 year, 3 co-op****First Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 101	3.0 CIVC 101	1.0 COM 160	3.0 VACATION	
COM 150	3.0 COM 181	3.0 COM 230	3.0	
ENGL 101 or 111	3.0 COOP 101**	1.0 COM 282	3.0	
PSY 101	3.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
UNIV H101 <sup>+</sup>	1.0 Humanities elective	3.0 International or diversity elective	3.0	
Math sequence course 1 <sup>+</sup>	4.0 Math sequence course 2 <sup>+</sup>	4.0		
	<b>17</b>	<b>15</b>	<b>15</b>	<b>0</b>

**Second Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 210	3.0 COM 220	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
COM 222	3.0 COM 247	3.0		
Humanities elective	3.0 LING 101 or 102	3.0		
Science sequence course 1 <sup>+</sup>	4.0 Science sequence course 2 <sup>+</sup>	4.0		
Social Science elective	3.0 Social Science elective	3.0		
	<b>16</b>	<b>16</b>	<b>0</b>	<b>0</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 284	3.0 MKTG 201	4.0 COOP EXPERIENCE	COOP EXPERIENCE	
Free electives	9.0 PHIL 305	3.0		
International or diversity elective	3.0 Free electives	6.0		
	International or diversity elective	3.0		
	<b>15</b>	<b>16</b>	<b>0</b>	<b>0</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 240	3.0 COM 335 or 340 <sup>+</sup>	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
COM 286	3.0 COM elective	3.0		
UNIV H201 <sup>+</sup>	1.0 Free electives	6.0		
Free electives	6.0 Social Science elective	3.0		
Humanities elective	3.0			
	<b>16</b>	<b>15</b>	<b>0</b>	<b>0</b>

**Fifth Year**

Fall	Credits Winter	Credits Spring	Credits
COM 386	3.0 COM 491	3.0 COM 492	3.0
COM 400	3.0 COM elective	3.0 COM elective	3.0
Free electives	6.0 Free electives	6.0 Free elective	3.0

Humanities elective	3.0	International or diversity elective	3.0
	15	12	12

**Total Credits 180**

- \* See degree requirements (p.      ).
- \*\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.  
COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

## Degree Requirements: Technical and Science Communication Concentration (BS)

**General Requirements**

CIVC 101	Introduction to Civic Engagement *	1.0
COOP 101	Career Management and Professional Development **	1.0
ENGL 101 or ENGL 111	Composition and Rhetoric I: Inquiry and Exploratory Research English Composition I	3.0
ENGL 102 or ENGL 112	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing English Composition II	3.0
ENGL 103 or ENGL 113	Composition and Rhetoric III: Themes and Genres English Composition III	3.0
PSY 101	General Psychology I	3.0
UNIV H101	The Drexel Experience *	1.0
UNIV H201	Looking Forward: Academics and Careers *	1.0

Social sciences	9.0
Humanities and fine arts	9.0
International studies	6.0
Studies in diversity	6.0

**One of the following Science sequences: 8.0**

Biology Sequence		
BIO 107	Cells, Genetics & Physiology	
BIO 108	Cells, Genetics and Physiology Laboratory	
BIO 109	Biological Diversity, Ecology & Evolution	
BIO 110	Biological Diversity, Ecology and Evolution Laboratory	
Chemistry Sequence		
CHEM 111	General Chemistry I	
CHEM 112	General Chemistry II	

**One of the following Math sequences: 8.0**

Analysis Sequence		
MATH 101	Introduction to Analysis I	
MATH 102	Introduction to Analysis II	
Calculus Sequence		
MATH 121	Calculus I	
MATH 122	Calculus II	

**Communication Core Requirements**

**Theory Sequence**

COM 101	Human Communication	3.0
COM 150	Mass Media and Society	3.0
COM 210	Theory and Models of Communication	3.0
COM 400	Seminar in Communication	3.0
LING 101 or LING 102	Introduction to Linguistics Language and Society	3.0

**Methods Sequence**

COM 220	Qualitative Research Methods	3.0
COM 221	Quantitative Research Methods in Communication	3.0

**Additional Core Requirements**

COM 222	Interpersonal Communication	3.0
COM 230	Techniques of Speaking	3.0
COM 240	New Technologies In Communication	3.0
COM 247	Strategic Social Media Communication	3.0
COM 491	Senior Project in Communication I	3.0

COM 492	Senior Project in Communication II	3.0
PHIL 305	Ethics and the Media	3.0
<b>Technical and Science Concentration Requirements</b>		
COM 160 [WI]	Introduction to Journalism	3.0
COM 181	Public Relations Principles and Theory	3.0
COM 310 [WI]	Technical Communication	3.0
COM 320 [WI]	Science Writing	3.0
COM 335 [WI]	Digital Publishing	3.0
COM 350 [WI]	Document Design and Evaluation	3.0
COM 420	Technical, Science and Health Editing	3.0
<b>Technology, Science &amp; Communication Breadth</b>		
Select three of the following:		9.0
COM 316	Campaigns for Health & Environment	
COM 317 [WI]	Environmental Communication	
COM 318	Film, Celebrity and the Environmental Movement	
COM 330	Professional Presentations	
COM 340	Modern Desktop Publishing	
COM 345	Intercultural Communication	
COM 351	Computer Mediated Communication	
COM 355	Ethnography of Communication	
COM 384	Free Speech & Censorship	
COM 385	Media Effects	
<b>Multidisciplinary Breadth</b>		
Select three of the following:		9.0
ANTH 355	Digital Culture	
ENGL 300 [WI]	Literature & Science	
ENGL 302	Environmental Literature	
HIST 285	Technology in Historical Perspective	
INFO 101	Introduction to Computing and Security Technology	
INFO 105	Introduction to Informatics	
INFO 108	Foundations of Software	
INFO 110	Introduction to Human-Computer Interaction	
PHIL 361	Philosophy of Science	
PSY 330	Cognitive Psychology	
<b>Additional Electives</b>		
COM electives ***		15.0
Free electives		22.0
<b>Total Credits</b>		<b>180.0</b>

\* Students taking this program online are not required to take UNIV H101, UNIV H201 or CIVC 101. Instead, online students are required to take "Strategies for Online Learning" for 3.0 credits.

\*\* Students not participating in co-op will not take COOP 101; instead they will take an additional Free Elective credit. Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

\*\*\* Select any COM course (100-499) not already part of the major.

## Degree Requirements: Technical and Science Communication Concentration (BS)

### 4 year, no co-op

First Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 101	3.0 COM 160	3.0 COM 181	3.0 VACATION	
COM 150	3.0 CIVC 101*	1.0 COM 230	3.0	
ENGL 101 or 111	3.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
PSY 101	3.0 Math Sequence course 2**	4.0 Humanities elective	3.0	
UNIV H101*	1.0 Social Science elective	3.0 Social Sciences elective	3.0	

Math Sequence course 1**	4.0			
	<b>17</b>	<b>14</b>	<b>15</b>	<b>0</b>
<b>Second Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COM 210	3.0 COM 220	3.0 COM 221	3.0 VACATION	
COM 222	3.0 COM 247	3.0 COM 310	3.0	
Science Sequence course 1**	4.0 LING 101 or 102	3.0 Free elective	4.0	
Multidisciplinary elective	3.0 Science Sequence course 2**	4.0 Multidisciplinary elective	3.0	
Humanities elective	3.0 Technology, Science, and Communication elective	3.0 International or diversity elective	3.0	
	<b>16</b>	<b>16</b>	<b>16</b>	<b>0</b>
<b>Third Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COM 335	3.0 COM 240	3.0 COM 320	3.0 VACATION	
PHIL 305	3.0 UNIV H201*	1.0 COM 350	3.0	
COM elective	3.0 Technology, Science, and Communication elective	3.0 COM elective	3.0	
International or Diversity elective	3.0 Free elective	3.0 Free electives	6.0	
Technology, Science, and Communication elective	3.0 Humanities elective	3.0		
	COM elective	3.0		
	<b>15</b>	<b>16</b>	<b>15</b>	<b>0</b>
<b>Fourth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>	<b>Credits</b>
COM 400	3.0 COM 491	3.0 COM 492	3.0	
COM 420	3.0 COM elective	3.0 International or Diversity elective	3.0	
International or Diversity elective	3.0 Multidisciplinary elective	3.0 COM elective	3.0	
Free electives	6.0 Social Science elective	3.0 Free elective	4.0	
	<b>15</b>	<b>12</b>	<b>13</b>	

**Total Credits 180**

\* Students taking this program online are not required to take UNIV H101, UNIV H201 or CIVC 101. Instead, online students are required to take "Strategies for Online Learning" for 3.0 credits.

\*\* See degree requirements (p. ).

## 4 year, 1 co-op

<b>First Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COM 101	3.0 CIVC 101*	1.0 COM 181	3.0 VACATION	
COM 150	3.0 COOP 101***	1.0 COM 230	3.0	
ENGL 101 or 111	3.0 COM 160	3.0 ENGL 103 or 113	3.0	
PSY 101	3.0 ENGL 102 or 112	3.0 Humanities elective	3.0	
UNIV H101*	1.0 Math Sequence course 2**	4.0 Social Science elective	3.0	
Math Sequence course 1**	4.0 Social Science elective	3.0		
	<b>17</b>	<b>15</b>	<b>15</b>	<b>0</b>
<b>Second Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COM 210	3.0 COM 220	3.0 COM 221	3.0 COM 335	3.0
COM 222	3.0 COM 247	3.0 COM 310	3.0 PHIL 305	3.0
Science sequence course 1**	4.0 LING 101 or 102	3.0 Free elective	3.0 COM elective	3.0
Multidisciplinary elective	3.0 Science Sequence course 2**	4.0 Multidisciplinary elective	3.0 International or Diversity elective	3.0

Humanities elective	3.0 Technology, Science, and Communication elective	3.0 International or Diversity elective	3.0 Technology, Science, and Communication elective	3.0
	16	16	15	15
<b>Third Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COM 240	3.0 COM 320	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
UNIV H201*	1.0 COM 350	3.0		
Technology, Science, and Communication elective	3.0 COM elective	3.0		
Free elective	3.0 Free electives	6.0		
Humanities elective	3.0			
COM elective	3.0			
	16	15	0	0
<b>Fourth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>	
COM 400	3.0 COM 491	3.0 COM 492	3.0	
COM 420	3.0 COM elective	3.0 International or Diversity elective	3.0	
International or Diversity elective	3.0 Multidisciplinary elective	3.0 COM elective	3.0	
Free electives	6.0 Social Science elective	3.0 Free elective	4.0	
	15	12	13	
<b>Total Credits 180</b>				

\* Students taking this program online are not required to take UNIV H101, UNIV H201 or CIVC 101. Instead, online students are required to take "Strategies for Online Learning" for 3.0 credits.

\*\* See degree requirements (p. ).

\*\*\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

## 5 year, 3 co-op

<b>First Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COM 101	3.0 CIVC 101*	1.0 COM 181	3.0 VACATION	
COM 150	3.0 COM 160	3.0 COM 230	3.0	
ENGL 101 or 111	3.0 COOP 101***	1.0 ENGL 103 or 113	3.0	
PSY 101	3.0 ENGL 102 or 112	3.0 Humanities elective	3.0	
UNIV H101*	1.0 Math Sequence course 2**	4.0 Social Science elective	3.0	
Math Sequence course 1**	4.0 Social Science elective	3.0		
	17	15	15	0
<b>Second Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COM 210	3.0 COM 220	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
COM 222	3.0 COM 247	3.0		
Science sequence course 1**	4.0 LING 101 or 102	3.0		
Multidisciplinary elective	3.0 Science Sequence course 2**	4.0		
Humanities elective	3.0 Technology, Science, and Communication elective	3.0		
	16	16	0	0
<b>Third Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COM 221	3.0 COM 335	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
COM 310	3.0 PHIL 305	3.0		
Free elective	3.0 COM elective	3.0		

Multidisciplinary elective	3.0 International or Diversity elective	3.0		
International or Diversity elective	3.0 Technology, Science, and Communication elective	3.0		
	<b>15</b>	<b>15</b>	<b>0</b>	<b>0</b>
<b>Fourth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COM 240	3.0 COM 320	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
UNIV H201*	1.0 COM 350	3.0		
Technology, Science and Communication elective	3.0 COM elective	3.0		
Free elective	3.0 Free electives	6.0		
Humanities elective	3.0			
COM elective	3.0			
	<b>16</b>	<b>15</b>	<b>0</b>	<b>0</b>
<b>Fifth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>	
COM 400	3.0 COM 491	3.0 COM 492	3.0	
COM 420	3.0 COM elective	3.0 International or Diversity elective	3.0	
International or Diversity elective	3.0 Multidisciplinary elective	3.0 COM elective	3.0	
Free electives	6.0 Social Science elective	3.0 Free elective	4.0	
	<b>15</b>	<b>12</b>	<b>13</b>	

**Total Credits 180**

- \* Students taking this program online are not required to take UNIV H101, UNIV H201 or CIVC 101. Instead, online students are required to take "Strategies for Online Learning" for 3.0 credits.
- \*\* See degree requirements (p. ).
- \*\*\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.  
COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

## Communication Faculty

Ronald Bishop, III, PhD (*Temple University*). Professor. Investigative reporting, sports journalism, journalism history, journalism sourcing patterns, textual narrative and ideological analysis, cultural history of fame.

Karen Cristiano, MS (*Temple University*) Assistant Department Head of Communication. Teaching Professor. Journalism, medical writing, feature writing, copy editing, mass media and society.

Richard Forney Assistant Teaching Professor. Broadcast journalism technology and the effects of new technologies on personal and corporate communication skills.

Ernest A. Hakanen, PhD (*Temple University*) Director, Graduate Programs in Communication, Culture & Media. Professor. Telecommunications policy, adolescent media use, communication theory and history, global media, and semiotics.

Barbara Hoekje, PhD (*University of Pennsylvania*). Associate Professor. Sociolinguistic theory, discourse analysis, applied linguistics (language teaching, learning, and testing).

Alexander Jenkins, PhD (*Drexel University*). Assistant Teaching Professor. Digital games, video games, emotion, morality, online fan communities, emerging media, convergence.

Hyunmin Lee, PhD (*University of Missouri*) Director, Undergraduate Programs in Communication. Associate Professor. Social media strategies for relationship and reputation management in public relations; media messages of public health issues and its psychological and behavioral effects on the public.

Susan Magee, MFA Director Online Teaching. Instructor. Digital Publishing, Content creation, Blogging, Strategic Social Media, Public Relations, Business and Technical Communication



Julia May, PhD (*Drexel University*) Director, *Strategic and Digital Communication MS Program*. Associate Teaching Professor. Political communication; international politics and its news coverage; public opinion; transatlantic relations; war, torture and human rights; debate in the public sphere.

Alexander Nikolaev, PhD (*Florida State University*). Associate Professor. Public relations, political communication, organizational communication, mass communication, international communications and negotiations, communications theory.

Rakhmiel Peltz, PhD (*University of Pennsylvania*). Professor. Judaic studies, Yiddish culture and linguistics, ethnography of communication, immigrant cultural studies.

Douglas V. Porpora, PhD (*Temple University*). Professor. War, genocide, torture, and human rights; macro-moral reasoning in public sphere debate; contemporary social theory moral and political communication; religion.

Rachel R. Reynolds, PhD (*University of Illinois*). Associate Professor. Sociolinguistics, ethnography of communication and discourse analysis; violence against women in mass media; political economy of migration; semiotics including the textual, the visual and multimodal.

Rosemary Rys, MA (*Rowan University*). Assistant Teaching Professor. Public relations and marketing.

Wesley Shumar, PhD (*University of Pennsylvania*). Professor. Digital media and learning; culture of higher education; entrepreneurship education; craft culture; semiotic of consumer culture.

Allan Stegeman, MA (*University of Houston*). Teaching Professor. Communication, technology and mass media, video.

Scott Tattar, BA (*York College of Pennsylvania*) Faculty Advisor, *Drexel PRSSA, Communication Department Recruitment Liaison*. Instructor. Public relations

Hilde Van den Bulck, PhD (*Katholieke Universiteit Leuven*) Department Head of *Communication*. Professor. Political economy of media structures; media policies for digitized media ecologies; stakeholders and coalitions in media policies; digitization; convergence and legacy media; public (service) media; celebrity culture and industry; fandom and anti-fandom.

Asta Zelenkauskaitė, PhD (*Indiana University*). Associate Professor. Social media; user-generated content; computer-mediated communication; interactivity; active audience analysis; mobile communication; gender and online identity; prosumer culture; internet of things; quantitative/qualitative research.

## Emeritus Faculty

Alexander Friedlander, PhD (*Carnegie Mellon University*). Associate Professor. Rhetorical theory and practice, document design, writing and technology.

Lawrence Souder, PhD (*Temple University*) Director, *Drexel Edits*. Teaching Professor. Science and technical writing, communication ethics, nonprofit communication.

# Criminology and Justice Studies

## About the Department

In what ways did the War on Drugs of the 1980s and 1990s impact urban communities in terms of street-corner dealing, violence, and overall health? What are the lasting effects of that "War" paradigm as they relate to national incarceration rates, racial disparities in police shootings, stop-and-frisk, and the adjudication process? How far will the fight against terrorism push the legal and ethical boundaries of government surveillance and the monitoring of electronic communications, and what will be the impacts of such forces? In what ways are "big data" being used (now and in the future) by justice, intelligence, or private organizations to identify social networks, conduct risk assessments, and make decisions about crime policy and resource deployment? Finally, how do climate change and pandemics influence crime and conflict across communities, and where does the collective discipline of criminology and criminal justice "fit" at the intersections of crime, housing, education, climate, and infection disease policy? These are just some of the questions the Criminology and Justice Studies faculty (<https://drexel.edu/coas/academics/departments-centers/criminology-justice-studies/faculty/>) work every day to answer, both through their research and scholarship, and in the classroom with our students.

Drexel University's degree programs in Criminology and Justice Studies offer a rich educational experience that emphasizes justice and criminological theory, the use of analytical tools and data to answer big questions about crime and justice while teaching students how to translate conceptual knowledge into state of the art practice. Along the way, the Department of Criminology and Justice Studies offers global educational opportunities with two courses taught abroad, a set of community-based courses that take students beyond the classroom to practice the learning process, as well as an urban educational experience in one of the premier cities in the country. With its three thematic concentrations -- Criminal Justice, Justice Informatics, and Justice Studies -- the Department of Criminology and Justice Studies offers students many pathways through which to explore a curriculum that emphasizes innovative learning opportunities, global and civic engagement, and a culture that fosters student successes and well being.

Please click the links below to explore the degree concentrations in Criminology and Justice Studies.

## Degree Concentrations

- Criminal Justice (p. 65)
- Justice Informatics (p. 72)
- **NEW:** Justice Studies

## Criminology and Justice Studies Faculty

Robert D'Ovidio, PhD (*Temple University*). Associate Professor. The intersection of computer technology, crime, and the criminal justice system; criminological theory; surveillance; and digital forensics.

Ashley Dickinson, PhD, MPH (*Indiana University of Pennsylvania*). Associate Teaching Professor. Offender rehabilitation; capital punishment; LGBTQ+ community (criminal behavior and victimization); crime and health.

Jordan Hyatt, PhD, JD (*University of Pennsylvania, Villanova University School of Law*). Associate Professor. Community corrections; drug treatment; homelessness; probation/parole; re-entry; risk assessment; sentencing.

Shannon K. Jacobsen, PhD (*Rutgers University*). Assistant Professor. Gender, crime and victimization; fear of crime and perceptions of risk; campus crime; public safety; communities and crime; social inequalities; mixed methods research

Robert J. Kane, PhD (*Temple University*) *Department Head*. Professor. Police authority and accountability; urban ecology and sociology; violence and public health; police strategies and practices.

Kathleen Powell, PhD (*Rutgers University*). Post-Doctoral Fellow. Crime, punishment, and the life course; the intersection of health and justice system involvement; legal financial obligations; correctional interventions.

Cyndi Rickards, EdD (*Drexel University*). Associate Teaching Professor. Director of Justice Studies. Issues of mass incarceration, community-engaged scholarship, intersection of mental health and the CJ system, the criminal justice system and the lived experience.

Kristene Unsworth, PhD (*University of Washington*). Assistant Teaching Professor. Information science, policy and ethics, critical discourse analysis and qualitative methodology.

## Criminology and Justice Studies

*Major: Criminology and Justice Studies*

*Degree Awarded: Bachelor of Science (BS)*

*Calendar Type: Quarter*

*Total Credit Hours: 183.0*

*Co-op Options: One Co-op (Four years); No Co-op (Four years)*

Classification of Instructional Programs (CIP) code: 45.0401

Standard Occupational Classification (SOC) code: 11-9199

## Criminal Justice Concentration

The Criminal Justice concentration, housed in the Department of Criminology and Justice Studies, is designed as the most flexible of our three concentrations. The Criminal Justice concentration focuses its curriculum primarily on the substance of criminal justice institutions and crime and does not require many of the analytics and computer-based courses that the other two concentrations require. This concentration is primarily intended for students seeking to double major, prepare for law school, take on multiple minors (e.g., a language and legal studies), or for students who desire a traditional criminal justice education. Because the Criminal Justice concentration reserves 41.0 credits of free electives, it easily allows students to explore a wide range of curriculum opportunities throughout Drexel. Students in the Criminal Justice concentration often double major in Psychology, Behavioral Health, Legal Studies, Business, and Global Studies; and they often take on a language minor. Moreover, although the Criminal Justice concentration does not require most of the analytical courses (e.g., Crime Mapping using Geographic Information Systems) as the other two concentration, it does allow students to take any number of those courses as electives while they pursue other curricular pathways.

The Criminal Justice concentration offers the same community-based learning and global perspective courses as the other two concentrations. Students in all three concentrations are encouraged to participate in at least one faculty-led study abroad program during which students will explore various justice related themes. Recent trips have been *The Legacy of Nazi Policing in Munich and Prague*; and *Crime and Justice in Scandinavia*. Please see the Study Abroad Program (<https://studyabroad.drexel.edu/?FuseAction=Programs.ListAll>) webpage to view the location and itinerary of the study tour. The emphasis on comparative justice and study abroad reside at the leading edges of Drexel's core value of global citizenship.

## Degree Requirements (Criminal Justice Concentration)

### General Requirements

ANTH 101	Introduction to Cultural Diversity	3.0
CIVC 101	Introduction to Civic Engagement	1.0

COM 150	Mass Media and Society	3.0
COOP 101	Career Management and Professional Development **	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
PHIL 101	Introduction to Western Philosophy	3.0
PSCI 100	Introduction to Political Science	4.0
PSY 101	General Psychology I	3.0
SOC 101	Introduction to Sociology	3.0
English Elective (any ENGL course over 200-level)		3.0
Fine Arts Elective		3.0
History Elective		4.0
UNIV H101	The Drexel Experience	1.0
UNIV H201	Looking Forward: Academics and Careers	1.0
<b>Math Sequences</b>		
Take any two Math courses		6.0-8.0
<b>Science Sequence</b>		
Take any two Science courses with a lab from any combination of Biology, Chemistry, and Physics		8.0
<b>Program in Criminology and Justice Studies Core Requirements</b>		
CJS 100	Freshman Seminar in Crime and Justice	3.0
CJS 101	Introduction to Criminal Justice	3.0
CJS 200	Criminology	3.0
CJS 210	Race, Crime, and Justice	3.0
CJS 220	Crime and the City	3.0
CJS 260	Justice in Our Community	4.0
CJS 261	Prison, Society and You	3.0
CJS 290	Crime and Public Policy	3.0
CJS 375	Criminal Procedure	3.0
CJS 376	Sentencing	3.0
PHIL 330	Criminal Justice Ethics	3.0
<b>Methods and Analytics Sequence</b>		
CJS 250	Research Methods & Analytics I	3.0
CJS 300	Research Methods and Analytics II	3.0
<b>Criminal Justice Thematic Concentration</b>		
CJS 266	Crime Prevention Planning	3.0
CJS 276	Introduction to Computer Crime	3.0
CJS 278	Police and Society	3.0
CJS 280	Communities and Crime	3.0
CJS 360	Juvenile Justice	3.0
<b>Program Electives</b>		
<b>Complete 10 of the following courses: *</b>		<b>30.0</b>
CJS 265	Criminal Investigation	
CJS 273	Surveillance, Technology, and the Law	
CJS 274	Sex, Violence, & Crime on the Internet	
CJS 275	Issues in Domestic Violence	
CJS 289	Terrorism	
CJS 295	International Field Experience	
CJS 301	Methods and Analytics III	
CJS 302	Advanced Criminological Theorizing	
CJS 320	Comparative Justice Systems	
CJS 330	Crime Mapping I Using Geographic Information Systems	
CJS 331	Crime Mapping II Using Geographic Information Systems	
CJS 362	Gender, Crime, and Justice	
CJS 365	Computer Investigations and the Law	
CJS 366	Technology and the Justice System	
CJS 372	Death Penalty - An American Dilemma	
CJS 373	Environmental Crime	
CJS 377	Intellectual Property Theft in the Digital Age	
CJS T380	Special Topics in Criminology and Justice Studies	

CJS I399	Independent Study in CJS	
PSCI 229	Theories of Justice	
Free Electives		42.0
<b>Total Credits</b>		<b>183.0-185.0</b>

\* Review the prerequisites before trying to register.

\*\* COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

Students not participating in co-op will not take COOP 101; 1 credit of Free Elective will be added in place of COOP 101.

## Sample Plan of Study (Criminal Justice Concentration)

### 4 year, no co-op

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CJS 100	3.0 CJS 260	4.0 ANTH 101	3.0 VACATION	
CJS 101	3.0 COM 150	3.0 CIVC 101	1.0	
ENGL 101 or 111	3.0 ENGL 102 or 112	3.0 CJS 200	3.0	
UNIV H101	1.0 PHIL 101	3.0 CJS 261	3.0	
Math sequence	3.0-4.0 Math sequence	3.0-4.0 ENGL 103 or 113	3.0	
		PSCI 100	4.0	
	<b>13-14</b>	<b>16-17</b>	<b>17</b>	<b>0</b>

#### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CJS 210	3.0 CJS 300	3.0 CJS 266	3.0 VACATION	
CJS 250	3.0 CJS 360	3.0 CJS courses	6.0	
PHIL 330	3.0 CJS course	3.0 Free elective	3.0	
SOC 101	3.0 Free elective	3.0 Science sequence	4.0	
CJS course	3.0 Science sequence	4.0		
	<b>15</b>	<b>16</b>	<b>16</b>	<b>0</b>

#### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
PSY 101	3.0 CJS 220	3.0 CJS 280	3.0 VACATION	
CJS course	3.0 CJS 290	3.0 CJS 376	3.0	
Fine Arts elective	3.0 CJS 375	3.0 CJS course	3.0	
Free electives	6.0 Free electives	6.0 Free elective*	4.0	
		History elective	4.0	
	<b>15</b>	<b>15</b>	<b>17</b>	<b>0</b>

#### Fourth Year

Fall	Credits Winter	Credits Spring	Credits
CJS 276	3.0 CJS 278	3.0 CJS course	3.0
CJS course	3.0 UNIV H201	1.0 Free electives	9.0
English 200+	3.0 CJS courses	6.0	
Free electives	6.0 Free electives	6.0	
	<b>15</b>	<b>16</b>	<b>12</b>

**Total Credits 183-185**

\* Students not participating in co-op will not take COOP 101; 1 credit of Free Elective will be added in place of COOP 101.

### 4 year, one co-op

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CJS 100	3.0 CJS 260	4.0 ANTH 101	3.0 VACATION	
CJS 101	3.0 COM 150	3.0 CIVC 101	1.0	
ENGL 101 or 111	3.0 ENGL 102 or 112	3.0 CJS 200	3.0	
UNIV H101	1.0 PHIL 101	3.0 CJS 261	3.0	
Math sequence	3.0-4.0 Math sequence	3.0-4.0 ENGL 103 or 113	3.0	
		PSCI 100	4.0	
	<b>13-14</b>	<b>16-17</b>	<b>17</b>	<b>0</b>

**Second Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CJS 210	3.0 CJS 300	3.0 CJS 266	3.0 PSY 101	3.0
CJS 250	3.0 CJS 360	3.0 COOP 101*	1.0 CJS course	3.0
PHIL 330	3.0 CJS course	3.0 CJS courses	6.0 Fine Arts elective	3.0
SOC 101	3.0 Free elective	3.0 Free elective	3.0 Free electives	6.0
CJS course	3.0 Science sequence	4.0 Science sequence	4.0	
	<b>15</b>	<b>16</b>	<b>17</b>	<b>15</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CJS 220	3.0 CJS 280	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
CJS 290	3.0 CJS 376	3.0		
CJS 375	3.0 CJS course	3.0		
Free electives	6.0 Free elective	3.0		
	History elective	4.0		
	<b>15</b>	<b>16</b>	<b>0</b>	<b>0</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits
CJS 276	3.0 CJS 278	3.0 CJS course	3.0
CJS course	3.0 UNIV H201	1.0 Free electives	9.0
English 200+	3.0 CJS courses	6.0	
Free electives	6.0 Free electives	6.0	
	<b>15</b>	<b>16</b>	<b>12</b>

**Total Credits 183-185**

\* COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

## Criminal Justice Concentration

### Professional Experiences

Students will complete one co-op (i.e., professional placement), typically during the spring and summer quarters of their Junior year. When they return for the start of their senior year, they can immediately begin their (impending) post-graduation job search with their co-op experience still recent on their resume. Some placements are paid (usually in the private sector) and others are unpaid (primarily in the public sector). The placements earn students academic credit while providing professional socialization and learning with crime and justice professionals. The networking aspects of these placements are invaluable for future career development. In addition to the learning experiences, past students have received excellent letters of recommendation for future employment agencies and for graduate and law school admissions.

In recent years, students have been placed in local agencies such as the District Attorney's Office, the Institutional Law Project, the Juvenile Law Center, the Defendants Association of Philadelphia, the Philadelphia and Bucks County Prison Systems and the Pennsylvania Prison Society, Pennsylvania and New Jersey State Police. Several students have done co-ops and later worked full time at the Eastern State Penitentiary Historical Site and Museum. On the state level, co-op students have worked with the Board of Probation & Parole and other agencies. At the federal level, the US Customs Service had an agreement to accept cooperative education placements after having been screened by faculty. The faculty in Criminology and Justice Studies has been working over the past few years to expand its list of research co-ops (primarily for students working toward graduate school) and international co-ops.

## Criminology and Justice Studies Faculty

Robert D'Ovidio, PhD (*Temple University*). Associate Professor. The intersection of computer technology, crime, and the criminal justice system; criminological theory; surveillance; and digital forensics.

Ashley Dickinson, PhD, MPH (*Indiana University of Pennsylvania*). Associate Teaching Professor. Offender rehabilitation; capital punishment; LGBTQ+ community (criminal behavior and victimization); crime and health.

Jordan Hyatt, PhD, JD (*University of Pennsylvania, Villanova University School of Law*). Associate Professor. Community corrections; drug treatment; homelessness; probation/parole; re-entry; risk assessment; sentencing.

Shannon K. Jacobsen, PhD (*Rutgers University*). Assistant Professor. Gender, crime and victimization; fear of crime and perceptions of risk; campus crime; public safety; communities and crime; social inequalities; mixed methods research

Robert J. Kane, PhD (*Temple University*) *Department Head*. Professor. Police authority and accountability; urban ecology and sociology; violence and public health; police strategies and practices.

Kathleen Powell, PhD (*Rutgers University*). Post-Doctoral Fellow. Crime, punishment, and the life course; the intersection of health and justice system involvement; legal financial obligations; correctional interventions.

Cyndi Rickards, EdD (*Drexel University*). Associate Teaching Professor. Director of Justice Studies. Issues of mass incarceration, community-engaged scholarship, intersection of mental health and the CJ system, the criminal justice system and the lived experience.

Kristene Unsworth, PhD (*University of Washington*). Assistant Teaching Professor. Information science, policy and ethics, critical discourse analysis and qualitative methodology.

## Criminology and Justice Studies

*Major: Criminology and Justice Studies*

*Degree Awarded: Bachelor of Science (BS)*

*Calendar Type: Quarter*

*Total Credit Hours: 183.0*

*Co-op Options: One Co-op (Four years); No Co-op (Four years)*

Classification of Instructional Programs (CIP) code: 45.0401

Standard Occupational Classification (SOC) code: 21-0000

### Justice Studies Concentration

The Justice Studies concentration begins with the fundamental assertion that crime and crime policy are generally interconnected with social, economic, health, and environmental risk factors in ways that extend beyond the traditional criminal justice system. The Justice Studies concentration recognizes that housing policy is crime policy; that health policy is crime policy; that environmental policy is crime policy, and so on. Thus, while the other Criminology and Justice Studies concentrations focus largely on crime, criminology, crime science and analysis, Justice Studies more thoroughly considers issues of justice, fairness, and due process across a range of domains, groups, and places that are frequently—but not always—directly related to crime.

With emphases on engaged learning, co-curricular opportunities, data-driven problem-solving, study abroad, and cooperative education, the Justice Studies concentration both educates and gives students the tools needed to practice “justice” in a myriad of settings from the global to the hyper-local.

### Degree Requirements (Justice Studies Concentration)

ANTH 101	Introduction to Cultural Diversity	3.0
COM 150	Mass Media and Society	3.0
COOP 101	Career Management and Professional Development	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
PHIL 101	Introduction to Western Philosophy	3.0
PSCI 100	Introduction to Political Science	4.0
PSY 101	General Psychology I	3.0
SOC 101	Introduction to Sociology	3.0
UNIV H101	The Drexel Experience	1.0
UNIV H201	Looking Forward: Academics and Careers	1.0
CIVC 101	Introduction to Civic Engagement	1.0
English Elective (any ENGL course over 200-level)		3.0
Fine Arts Elective		3.0
History Elective		4.0
<b>Math Sequence</b>		
Take any two Math courses		6.0-8.0
<b>Science Sequence</b>		
Take any two Science courses with a lab from any combination of BEES, Biology, Chemistry, and Physics		8.0
<b>Core Requirements</b>		
CJS 100	Freshman Seminar in Crime and Justice	3.0
CJS 101	Introduction to Criminal Justice	3.0
CJS 200	Criminology	3.0
CJS 210	Race, Crime, and Justice	3.0
CJS 220	Crime and the City	3.0
CJS 260	Justice in Our Community	4.0

CJS 261	Prison, Society and You	3.0
CJS 290	Crime and Public Policy	3.0
CJS 375	Criminal Procedure	3.0
CJS 376	Sentencing	3.0
PHIL 330	Criminal Justice Ethics	3.0

**Global Perspectives**

Any course across the university whose descriptions are global and/or comparative 6.0

**Methods and Analytics Sequence**

CJS 250	Research Methods & Analytics I	3.0
CJS 300	Research Methods and Analytics II	3.0
CJS 301	Methods and Analytics III	4.0
CJS 302	Advanced Criminological Theorizing	3.0
CJS 320	Comparative Justice Systems	3.0
CJS 330	Crime Mapping I Using Geographic Information Systems	4.0
CJS 331	Crime Mapping II Using Geographic Information Systems	4.0
CJS 400	Capstone in Criminology and Justice Policy	3.0

**Justice Studies Thematic Concentration**

CJS 262	Places of Justice	3.0
CJS 303	Applications of Justice	3.0
CJS 304	Mental Illness and the Criminal Justice System	3.0
CJS 263	Crime, Violence, and Climate Change	3.0

**Justice Studies Program Electives****17.0**

Students must take 17 credits of Justice Studies program electives, selecting any combination of courses from the following list\*: \*Other courses are feasible upon approval from the Program Director

ANTH 110	Human Past: Anthropology and Prehistoric Archeology
ANTH 112	Language, Culture & Cognition
ANTH 117	Introduction to World Religions
ANTH 212 [WI]	Topics in World Ethnography
ANTH 215	Anthropology of Gender
ARTH 200	Principles and Methods of Art History
ANTH 240	Urban Anthropology
ARTH 311	Twentieth Century American Art
ARTH 314	Contemporary Art
ARTH 315	African-American Art
COM 181	Public Relations Principles and Theory
COM 377	Communication for Civic Engagement
COM 210	Theory and Models of Communication
ECON 201	Principles of Microeconomics
ECON 365	Behavioral Economics
ENSS 120	Introduction to Environmental Studies
ENSS 244	Sociology of the Environment
ENSS 283	Introduction to Environmental Policy
ENSS 285	Introduction to Urban Planning
ENSS 326	Cities and Sustainability
ENSS 346	Environmental Justice
ENVS 275	Global Climate Change
ENTP 210 [WI]	Leading Start-Ups
ENTP 215	Building Entrepreneurial Teams
ENTP 225 [WI]	Mindfulness & Wellbeing
ENTP 250	Ideation
ENTP 270	Social Entrepreneurship
ENTP 275	Diversity Entrepreneurship
ENTP 285	Organizational Development and Change for Corporate Entrepreneurs
ENTP 290	An Entrepreneur's Introduction to Land: Its Essence, Ethics, and Opportunity
GST 221	Introduction to Global Capital and Development
GST 231	Introduction to Identities and Communities
GST 241	Introduction to Power and Resistance
GST 251	Introduction to Global Media, Arts, and Cultures
GST 261	Introduction to Global Health and Sustainability
PSY 150	Introduction to Social Psychology
PSY 252	Death and Dying
PSY 254	Psychology of Sexual Behavior

PSY 270	Psychology of Hate
SOC 210	Race, Ethnicity and Social Inequality
SOC 220	Wealth and Power
SOC 221	Sociology of the Family
SOC 235	Sociology of Health and Illness
SOC 240	Urban Sociology
SOC 244	Sociology of the Environment
SOC 318	Social Networks and Health
SOC 406	Housing and Homelessness
WGST 101	Introduction to Women's and Gender Studies
WGST 201	Introduction to Feminisms
WGST 225	Women & Human Rights Worldwide
WGST 240	Women and Society in a Global Context
WGST 275	Women's Health and Human Rights
<b>Free Electives</b>	<b>31.0</b>
<b>Total Credits</b>	<b>183.0-185.0</b>

## Sample Plan of Study (Justice Studies Concentration)

### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CJS 100	3.0 CJS 260	4.0 ANTH 101	3.0 VACATION	
CJS 101	3.0 COM 150	3.0 CIVC 101	1.0	
ENGL 101 or 111	3.0 ENGL 102 or 112	3.0 CJS 200	3.0	
UNIV H101	1.0 PHIL 101	3.0 CJS 261	3.0	
Math Sequence	3.0-4.0 Math Sequence	3.0-4.0 ENGL 103 or 113	3.0	
		PSCI 100	4.0	
	<b>13-14</b>	<b>16-17</b>	<b>17</b>	<b>0</b>

### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CJS 210	3.0 CJS 262	3.0 CJS 263	3.0 CJS 220	3.0
CJS 250	3.0 CJS 300	3.0 CJS 301	4.0 History Elective	4.0
COOP 101	1.0 SOC 101	3.0 CJS 320	3.0 English 200+	3.0
PSY 101	3.0 Science Sequence	4.0 Fine Arts Elective	3.0 Global Perspectives	3.0
Science Sequence	4.0 Free Elective	3.0 Free Elective	3.0 Free Elective	3.0
Justice Studies Program Elective	3.0			
	<b>17</b>	<b>16</b>	<b>16</b>	<b>16</b>

### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CJS 290	3.0 CJS 304	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
CJS 303	3.0 CJS 331	4.0		
CJS 330	4.0 Justice Studies Program Elective	3.0		
PHIL 330	3.0 Global Perspectives	3.0		
Free Elective	3.0 Free Elective	3.0		
	<b>16</b>	<b>16</b>	<b>0</b>	<b>0</b>

### Fourth Year

Fall	Credits Winter	Credits Spring	Credits
CJS 375	3.0 CJS 302	3.0 CJS 400	3.0
Justice Studies Program Electives	7.0 CJS 376	3.0 Free Electives	10.0
Free Elective	3.0 UNIV H201	1.0	
	Justice Studies Program Elective	4.0	
	Free Elective	3.0	
	<b>13</b>	<b>14</b>	<b>13</b>

**Total Credits 183-185**



## Criminology and Justice Studies Faculty

Robert D'Ovidio, PhD (*Temple University*). Associate Professor. The intersection of computer technology, crime, and the criminal justice system; criminological theory; surveillance; and digital forensics.

Ashley Dickinson, PhD, MPH (*Indiana University of Pennsylvania*). Associate Teaching Professor. Offender rehabilitation; capital punishment; LGBTQ+ community (criminal behavior and victimization); crime and health.

Jordan Hyatt, PhD, JD (*University of Pennsylvania, Villanova University School of Law*). Associate Professor. Community corrections; drug treatment; homelessness; probation/parole; re-entry; risk assessment; sentencing.

Shannon K. Jacobsen, PhD (*Rutgers University*). Assistant Professor. Gender, crime and victimization; fear of crime and perceptions of risk; campus crime; public safety; communities and crime; social inequalities; mixed methods research

Robert J. Kane, PhD (*Temple University*) *Department Head*. Professor. Police authority and accountability; urban ecology and sociology; violence and public health; police strategies and practices.

Kathleen Powell, PhD (*Rutgers University*). Post-Doctoral Fellow. Crime, punishment, and the life course; the intersection of health and justice system involvement; legal financial obligations; correctional interventions.

Cyndi Rickards, EdD (*Drexel University*). Associate Teaching Professor. Director of Justice Studies. Issues of mass incarceration, community-engaged scholarship, intersection of mental health and the CJ system, the criminal justice system and the lived experience.

Kristene Unsworth, PhD (*University of Washington*). Assistant Teaching Professor. Information science, policy and ethics, critical discourse analysis and qualitative methodology.

## Criminology and Justice Studies

*Major: Criminology and Justice Studies*

*Degree Awarded: Bachelor of Science (BS)*

*Calendar Type: Quarter*

*Total Credit Hours: 182.0*

*Co-op Options: One Co-op (Four years); No Co-op (Four years)*

Classification of Instructional Programs (CIP) code: 45.0401

Standard Occupational Classification (SOC) code: 11-9199

## Justice Informatics Concentration

With its thematic concentration in Justice Informatics (JI), Drexel University has transformed the traditional criminal justice degree program to produce graduates who possess knowledge and skills that are highly valued by criminal justice agencies in the 21st century. Namely, the program draws from criminology and criminal justice and computing and informatics to produce globally aware and technology proficient graduates who bring an analytical and information-led approach to solving the problems crime creates for society.

Each exposure to the criminal justice system represents a data collection point, which becomes part of a massive and disparate array of data held by the government. Students will learn how to collect, manage, visualize, and analyze large sources of information so that they can bring their expertise into the crime and justice occupational arena and/or graduate school. In addition to learning to work with "big" data in the public justice arena, students will learn how to identify, collect, manage, and use data from the expansive—and rapidly growing—private system of justice and security to create innovative solutions for identifying, solving, and preventing crime.

Graduates of Drexel's Justice Informatics concentration will be ideally suited to meet the demands of the growing job market for crime analysts among criminal justice, defense, and intelligence agencies and in the private-sector security community. Crime analysts have become an essential part of the modern criminal justice agency. They have become vital to, for example, the large police department looking to deploy resources in a manner that matches crime trends, the intelligence agency working to prevent terrorist events, and the financial services firm hoping to identify the fraudulent use of a credit card. JI graduates can also play an integral role on teams that build future information technology solutions for intelligence, defense, and criminal justice agencies from the public and private sectors.

Given the global nature of crime and justice issues, JI requires one course on international justice systems; and it encourages all students to participate in at least one faculty-led study abroad program during which students will explore various justice-related themes (examples of recent trips: *The Legacy of Nazi Policing and Cold War Justice in Munich and Prague*; and *Crime and Justice in Scandinavia*. Please visit the Study Abroad Program (<https://studyabroad.drexel.edu/?FuseAction=Programs.ListAll>) webpage to view the location and itinerary of the study tour). The emphasis on comparative justice and study abroad reside at the leading edge of Drexel's core value of global citizenship.

The Justice Informatics thematic concentration reserves 27.0 credits of free electives so that students can earn a minor outside the Program in Criminology and Justice Studies. Students interested in intelligence/security-related careers should consider minoring in a language. Visit Drexel's Modern Languages Program (<https://drexel.edu/coas/academics/departments-centers/communication/>) webpage for a list of language minors.

## Additional Information

For more information about the Justice Informatics concentration, please contact:

Robert D'Ovidio, PhD  
Associate Professor of Criminology and Justice Studies  
College of Arts and Sciences  
rd64@drexel.edu

## Degree Requirements (Justice Informatics Concentration)

### General Degree Requirements

ANTH 101	Introduction to Cultural Diversity	3.0
CIVC 101	Introduction to Civic Engagement	1.0
COM 150	Mass Media and Society	3.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
PHIL 101	Introduction to Western Philosophy	3.0
PSCI 100	Introduction to Political Science	4.0
PSY 101	General Psychology I	3.0
SOC 101	Introduction to Sociology	3.0
UNIV H101	The Drexel Experience	1.0
UNIV H201	Looking Forward: Academics and Careers	1.0
English Elective (any ENGL course over 200-level)		3.0
Fine Arts Elective		3.0
History Elective		4.0

### Math Sequences

Take any two math courses		6.0-8.0
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### Science Sequences

Take any two Science courses with a lab from any combination of Biology, Chemistry, and Physics		8.0
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### Program in Criminology and Justice Study Core Requirements

CJS 100	Freshman Seminar in Crime and Justice	3.0
CJS 101	Introduction to Criminal Justice	3.0
CJS 200	Criminology	3.0
CJS 210	Race, Crime, and Justice	3.0
CJS 220	Crime and the City	3.0
CJS 260	Justice in Our Community	4.0
CJS 261	Prison, Society and You	3.0
CJS 290	Crime and Public Policy	3.0
CJS 375	Criminal Procedure	3.0
CJS 376	Sentencing	3.0
PHIL 330	Criminal Justice Ethics	3.0

### Global Perspectives

Any course across the University whose description is global and/or comparative		3.0
CJS 320	Comparative Justice Systems	3.0

### Methods and Analytics Sequence

CJS 250	Research Methods & Analytics I	3.0
CJS 300	Research Methods and Analytics II	3.0
CJS 301	Methods and Analytics III	4.0
CJS 330	Crime Mapping I Using Geographic Information Systems	4.0
CJS 331	Crime Mapping II Using Geographic Information Systems	4.0

### Justice Informatics Thematic Concentration

CJS 267	Introduction to Security Studies	3.0
CJS 273	Surveillance, Technology, and the Law	3.0
CJS 302	Advanced Criminological Theorizing	3.0

CJS 276	Introduction to Computer Crime	3.0
CJS 365	Computer Investigations and the Law	3.0
CJS 366	Technology and the Justice System	3.0
CJS 400	Capstone in Criminology and Justice Policy	3.0
INFO 101	Introduction to Computing and Security Technology	3.0
INFO 103	Introduction to Data Science	3.0
INFO 105	Introduction to Informatics	3.0
INFO 108	Foundations of Software	3.0
INFO 110	Introduction to Human-Computer Interaction	3.0
INFO 200	Systems Analysis I	3.0
INFO 210	Database Management Systems	3.0
INFO 440	Social Media Data Analysis	3.0
<b>Free Electives</b>		<b>24.0</b>
<b>Total Credits</b>		<b>182.0-184.0</b>

## Justice Informatics Concentration

### Professional Experiences

Students will complete one co-op (i.e., professional placement), typically during the spring and summer quarters of their Junior year. This way, when they return for the start of their senior year, they can immediately begin their (impending) post-graduation job search with their co-op experience still recent on their resume. Some placements are paid (usually in the private sector) and others are unpaid (primarily in the public sector).

The placements earn students academic credit while providing professional socialization and learning with crime and justice professionals. The networking aspects of these placements are invaluable for future career development. In addition to the learning experiences, past students have received excellent letters of recommendation for future employment agencies and for graduate and law school admissions.

In recent years, students have been placed in local agencies such as the District Attorney's Office, the Institutional Law Project, the Juvenile Law Center, the Defendants Association of Philadelphia, the Philadelphia and Bucks County Prison Systems and the Pennsylvania Prison Society, Pennsylvania and New Jersey State Police. Several students have co-op'd and later worked full time at the Eastern State Penitentiary Historical Site and Museum. On the state level, co-op students have worked with the Board of Probation & Parole and other agencies. At the federal level, The US Customs Service had an agreement to accept cooperative education placements after having been screened by faculty. The faculty in Criminology and Justice Studies has been working over the past few years to expand its list of research co-ops (primarily for students working toward graduate school) and international co-ops.

### Criminology and Justice Studies Faculty

Robert D'Ovidio, PhD (*Temple University*). Associate Professor. The intersection of computer technology, crime, and the criminal justice system; criminological theory; surveillance; and digital forensics.

Ashley Dickinson, PhD, MPH (*Indiana University of Pennsylvania*). Associate Teaching Professor. Offender rehabilitation; capital punishment; LGBTQ+ community (criminal behavior and victimization); crime and health.

Jordan Hyatt, PhD, JD (*University of Pennsylvania, Villanova University School of Law*). Associate Professor. Community corrections; drug treatment; homelessness; probation/parole; re-entry; risk assessment; sentencing.

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Robert J. Kane, PhD (*Temple University*) *Department Head*. Professor. Police authority and accountability; urban ecology and sociology; violence and public health; police strategies and practices.

Kathleen Powell, PhD (*Rutgers University*). Post-Doctoral Fellow. Crime, punishment, and the life course; the intersection of health and justice system involvement; legal financial obligations; correctional interventions.

Cyndi Rickards, EdD (*Drexel University*). Associate Teaching Professor. Director of Justice Studies. Issues of mass incarceration, community-engaged scholarship, intersection of mental health and the CJ system, the criminal justice system and the lived experience.

Kristene Unsworth, PhD (*University of Washington*). Assistant Teaching Professor. Information science, policy and ethics, critical discourse analysis and qualitative methodology.

## English

*Major: English*

*Degree Awarded: Bachelor of Arts (BA)*

*Calendar Type: Quarter*

*Total Credit Hours: 181.0*

*Co-op Options:* Three Co-op (Five years); One Co-op (Four years)  
 Classification of Instructional Programs (CIP) code: 23.9999  
 Standard Occupational Classification (SOC) code: 25-1123

## About the Program

The English curriculum focuses on three areas:

- A rich **Academic Core** grounded in disciplinary expertise that promotes literary exploration, sophisticated textual literacy, excellent writing, and other transferable skills;
- **Applied Learning** opportunities using skills in research, interpretation, analysis, and writing to solve real-world problems;
- Opportunities for **Civic Engagement**, connecting with community partners to promote social justice and the common good.

Our flexible curriculum offers three concentrations:

- Literary Studies (p. 77)
- Writing (p. 87)
- Secondary Education (p. 82)

We study British, American, and World literatures, stressing the cultural, historical, and political contexts that shape literary production. Courses in creative and professional writing are reinforced by opportunities for hands-on experience in writing, editing, and publishing.

The Department of English and Philosophy (<http://www.drexel.edu/coas/academics/departments-centers/english-philosophy/>) offers an intellectually stimulating learning experience that embraces opportunities in Philadelphia, in our region, and across the world. Our dedicated and award-winning faculty enable creativity and rigor within a supportive environment.

Students develop solid techniques in critical inquiry as well as in writing, literary analysis, and research skills. We engage issues critical to success in the twenty-first century: the connection between oral, written, and digital modes; analytical, ethical, and critical thinking; the relevance and relation of the past to the present; the relations between and among cultures; the role of literary and philosophical texts in our attempts to explain human motives and behavior; issues of personal and communal identity; and the connection of the literary arts to social change.

## Co-op/Career Opportunities

English majors pursue a range of professions. Many go on to law school or graduate studies. Others build careers in business, politics and government, education, digital and popular media, publishing, and communications. The critical thinking, analytical, and writing skills provided by our program are essential for high-level decision-making and problem solving in any professional situation.

At Drexel, English majors gain valuable work experience through co-op employment and internship opportunities. They work as writers, analysts, and researchers at major corporations, Philadelphia-area museums, city government and visitors' bureaus, television and radio stations, law firms, and nonprofit organizations.

Visit the Drexel Steinbright Career Development Center (<http://www.drexel.edu/scdc/>) for more detailed information on co-op and post-graduate opportunities.

## English Faculty

Jan Armon, PhD (*University of Michigan*). Associate Teaching Professor. Academic functions of personal writing, composition.

Kenneth Bingham, MA (*Temple University*). Teaching Professor. First-year writing; engineering ethics; literature of baseball.

Valerie Booth, PhD (*Emory University*). Associate Teaching Professor.

Paula Marantz Cohen, PhD (*Columbia University*) *Distinguished Professor, Dean of the Pennoni Honors College*. Co-editor, *Journal of Modern Literature*; Host of the Drexel Interview. Nineteenth- and early twentieth-century English and American literature; film studies.

Lisa DiMaio, MEd (*Temple University*). Teaching Professor. English as a second language

Dan Driscoll, MA (*Temple University*) *Associate Director University Writing Program*. Teaching Professor. Associate Director, University Writing Center: Curricular Initiatives. Co-Director, Minor in Writing. First-year writing.

Anne Erickson, PhD (*Purdue University*). Assistant Teaching Professor. Online educational applications; the short story cycle.

Nomi Eve, MFA (*Brown University*) *Director of the Creative Writing MFA Program*. Assistant Teaching Professor.

Robert Finegan, MFA (*University of Pittsburgh*). Associate Teaching Professor. First-year writing; technical and creative writing.

Valerie Fox, PhD (*SUNY at Binghamton*). Teaching Professor. Founding Editor, *Press 1*. Twentieth century drama; modern and contemporary American poetry; first-year writing.

Edward Fristrom, PhD (*State University of New York-Albany*). Associate Teaching Professor. Professional writing, creative writing, multimedia, and writing education.

Keunah Han, PhD (*Temple University*). Associate Teaching Professor. English as a Second Language (ESL)

Cassandra Hirsch, MFA (*Rosemont College*). Associate Teaching Professor. Fiction.

Gabriella Ibieta, PhD (*City University of New York*) *Director, Programs in English*. Associate Professor. Comparative literature; Cuban and Latin American fiction.

Henry Israeli, MFA (*University of Iowa*). Associate Teaching Professor. Founder and editor of Saturnalia Books, a publisher of contemporary poetry.

Kirsten Kaschock, PhD (*University of Georgia*). Associate Teaching Professor. Creative writing (poetry and prose).

Elizabeth Kimball, PhD (*Temple University*). Assistant Professor. College writing, civic engaged learning, multi lingual and trans lingual practice, history and theory of rhetoric, public and community writing, 18th and 19th century U.S. rhetorical history

Miriam Kotzin, PhD (*New York University*). Professor. Founding Editor, *Per Contra*. American literature; genre studies; creative writing; communications.

Roger Kurtz, PhD (*University of Iowa*) *Department Head*. Professor. Postcolonial and world literatures

Stephen Mandell, PhD (*Temple University*). Professor. First-year writing; technical writing; speech; American literature.

Deirdre McMahon, PhD (*University of Iowa*). Teaching Professor. 19th-century British literature and culture: empire, critical race studies and analyses of material culture.

Marianaliet Mendez-Rivera, PhD (*University of Minnesota*). Assistant Teaching Professor. Use of the mass media to secure, maintain and enhance political power; international technical communication—including issues of translation v. localization.

Harriet Levin Millan, MFA (*University of Iowa*) *Director, Certificate in Writing and Publishing*. Associate Teaching Professor. Poetry.

Jill Moses, MFA (*University of Oregon*). Associate Teaching Professor. Dramatic literature; first-year writing.

Christopher T. Nielson, PhD (*Purdue University*). Teaching Professor. Shakespeare; Renaissance drama and literature; dramatic literature; first-year writing.

Karen Nulton, PhD (*Rutgers University*) *Director, Writing Assessment*. Teaching Professor. Writing assessment, writing pedagogy, and writing across the curriculum.

Margene Peterson, MA (*Rhode Island School of Design*). Assistant Teaching Professor. English as a Second Language (ESL); the learning styles and strategies of non-native speakers of English.

Maegan Poland, PhD (*University of Nevada, Las Vegas*). Assistant Teaching Professor. Creative writing; first-year writing

Abioseh Porter, PhD (*University of Alberta, Canada*). Professor. Comparative literature; postcolonial literatures

Donald Riggs, PhD (*University of North Carolina-Chapel Hill*). Teaching Professor. Cinematic monsters; science fiction and fantasy literature and film; Renaissance literature; creative writing; first-year writing.

Donna Rondolone, PhD (*University of Pennsylvania*). Associate Teaching Professor. Medieval literature; Arthurian legend; first-year writing.

Gail Rosen, JD (*Temple University*). Teaching Professor. Literature and law; first-year writing.

Doreen Alvarez Saar, PhD (*SUNY Buffalo*). Professor. Early American literature; Eighteenth-century America; race and gender studies.

Sheila Sandapen, PhD (*Indiana University of Pennsylvania*) *Assistant Director, First Year Writing Program*. Associate Teaching Professor. First-year writing; cultural studies; women's studies; history and film.

Fred A. Siegel, PhD (*New York University*) *Director, First-Year Writing Program*. Teaching Professor. Popular theater; dramatic literature, creative non-fiction; first-year writing.

Scott Stein, MFA (*University of Miami*) *Director, Drexel Publishing Group*. Teaching Professor. Creative writing; first-year writing; Founding Editor, *When Falls the Coliseum: A Journal of American Culture (Or Lack Thereof)*.

Eva Thury, PhD (*University of Pennsylvania*). Associate Professor. Mythology; classical literature; drama; first-year writing; desktop publishing and software documentation.

Kathleen Volk Miller, MA (*Rutgers University*). Teaching Professor. Co-Editor, Painted Bride Quarterly (PBQ); creative writing; first-year writing.

Maria Volynsky, EdD (*Temple University*) Associate Director, First-Year Writing Program; ESL Coordinator. Associate Teaching Professor. English as a Second Language (ESL).

Scott Warnock, PhD (*Temple University*) Associate Dean for Undergraduate Education. Professor. Rhetoric and composition; medical writing; information technology and literacy.

Robert A. Watts, MA (*Temple University*). Associate Teaching Professor. Creative writing; first-year writing.

Vincent Williams, PhD (*Temple University*). Associate Teaching Professor. First-year writing; the intersection of race, gender, class and urbanism.

Jennifer Yusin, PhD (*Emory University*). Associate Professor. Postcolonial literature; trauma theory; literary theory; psychoanalysis, and memory studies in contemporary literature in English.

## Emeritus Faculty

Valarie Arms, PhD (*Temple University*). Professor Emeritus. Rhetoric and Composition

Richard Astro, PhD (*University of Washington*) Distinguished Professor. Provost Emeritus. Twentieth-century American literature; literature and sports.

Raymond Brebach, PhD (*University of Illinois*). Professor Emeritus. Modern British fiction; the novel; textual studies.

## English

Major: English

Degree Awarded: Bachelor of Arts (BA)

Calendar Type: Quarter

Total Credit Hours: 181.0

Co-op Options: Three Co-op (Five years); One Co-op (Four years)

Classification of Instructional Programs (CIP) code: 23.1399

Standard Occupational Classification (SOC) code: 25-1123

## Literary Studies Concentration

English majors who select the concentration in Literary Studies benefit from the full range of courses and opportunities that we offer. These include core courses taken by all our majors, offering a strong foundation in textual and rhetorical analysis along with writing skills.

The concentration offers additional in-depth study of British, American, and World literatures. We develop skills in literary and cultural analysis and in related research. We take full advantage of our location to tap into the rich opportunities in literary and dramatic arts in Philadelphia.

## Degree Requirements

### UNIVERSITY REQUIREMENTS (minimum 63 credits)

CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development	1.0
UNIV H101	The Drexel Experience	1.0
UNIV H201	Looking Forward: Academics and Careers	1.0
ENGL 101 or ENGL 111	Composition and Rhetoric I: Inquiry and Exploratory Research English Composition I	3.0
ENGL 102 or ENGL 112	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing English Composition II	3.0
ENGL 103 or ENGL 113	Composition and Rhetoric III: Themes and Genres English Composition III	3.0
Mathematics elective courses for a minimum of 6.0 credits		6.0
Science elective courses for a minimum of 6.0 credits		6.0
Social/Behavioral Science elective courses for a minimum of 12 credits		12.0
Humanities elective courses (other than ENGL or WRIT) for a minimum of 6 credits		6.0
Diversity Studies elective courses for a minimum of 6 credits		6.0
International Studies elective courses for a minimum of 6 credits		6.0
Foreign Language requirement (2 consecutive courses, reaching at least 103)		8.0

**MAJOR REQUIREMENTS (30-credit CORE plus 36-credit concentration)**

<b>Core Courses</b>		
ENGL 195	English Freshman Seminar	3.0
ENGL 207 [WI]	African American Literature	3.0
ENGL 301	English Major Colloquium (1-credit course, repeat twice for 3 credits total)	3.0
ENGL 315 [WI]	Shakespeare	3.0
ENGL 325	Topics in World Literature	3.0
ENGL 355 [WI]	Women and Literature	3.0
ENGL 495	Senior Project in Literature	3.0
WRIT 195	Threshold Concepts in Writing	3.0
WRIT 200	Language Puzzles and Word Games: Issues in Modern Grammar	3.0
WRIT 225 [WI]	Creative Writing	3.0

**Concentration in Literary Studies 36.0**

Literature Surveys - Select 4 for a minimum of 12 credits

ENGL 200 [WI]	Classical to Medieval Literature
ENGL 201	Renaissance to the Enlightenment
ENGL 202 [WI]	Romanticism to Modernism
ENGL 203 [WI]	Survey of World Literature
ENGL 204	Post-Colonial Literature
ENGL 205 [WI]	American Literature I
ENGL 206 [WI]	American Literature II
ENGL 211 [WI]	British Literature I
ENGL 212	British Literature II

Authors and Periods - Select 1 for a minimum of 3 credits

ENGL 310 [WI]	Period Studies
ENGL 320 [WI]	Major Authors

Literary Impacts - Select 1 for a minimum of 3 credits

ENGL 300 [WI]	Literature & Science
ENGL 323	Literature and Other Arts
ENGL 360 [WI]	Literature and Society

Literary Traditions - Select 1 for a minimum of 3 credits

ENGL 330	The Bible as Literature
ENGL 335	Mythology

Literary Theory - 3 credits

ENGL 380	Literary Theory
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Literature Seminars - Take both for a minimum of 6 credits

ENGL 490	Seminar in English and American Literature
ENGL 492	Seminar in World Literature

English Electives - minimum of 6 credits

Choose any additional 2 courses (300+) in WRIT or ENGL for a minimum of 6 credits

**ELECTIVES 52.0-54.0**

Choose 52 credits from any discipline. Consider a second major or minor, or education certification.

**Total Credits 181.0-183.0****Sample Plan of Study****4 year, one co-op****First Year**

<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
ENGL 101 or 111	3.0 CIVC 101	1.0 COOP 101	1.0 VACATION	
ENGL 195	3.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
UNIV H101	1.0 WRIT 200	3.0 ENGL 207	3.0	
Foreign Language Course (1st consecutive course)	4.0 Foreign Language Course (2nd consecutive course, at least 103-level)	4.0 WRIT 195	3.0	
Mathematics elective	3.0 Mathematics elective	3.0 Social/Behavioral Science elective	3.0	
Social/Behavioral Science elective	3.0 Social/Behavioral Science elective	3.0 Science elective	3.0	
	<b>17</b>	<b>17</b>	<b>16</b>	<b>0</b>

**Second Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 301 (1st of 3)	1.0 Literature Survey (2nd of 4)	3.0 ENGL 301 (2nd of 3)	1.0 ENGL 325	3.0
WRIT 225	3.0 Authors & Periods (1st of 1)	3.0 ENGL 315	3.0 Literature Survey (4th of 4)	3.0
Science elective	3.0 Diversity Studies	3.0 Literature Survey (3rd of 4)	3.0 Literary Impacts (1st of 1)	3.0
Literature Survey (1st of 4)	3.0 International Studies elective	3.0 Diversity Studies	3.0 Free Electives	6.0
International Studies elective	3.0 Humanities elective	3.0 Humanities elective	3.0	
Social/Behavioral Science elective	3.0	Free elective	3.0	
	<b>16</b>	<b>15</b>	<b>16</b>	<b>15</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE	COOP EXPERIENCE	ENGL 301 (3rd of 3)	1.0 Free Electives	15.0
		ENGL 380	3.0	
		Free Electives	9.0	
	<b>0</b>	<b>0</b>	<b>13</b>	<b>15</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits
UNIV H201	1.0 ENGL 355	3.0 ENGL 495	3.0
Literary Traditions (1st of 1)	3.0 ENGL 492	3.0 Free Electives	9.0
ENGL 490	3.0 English Elective (ENGL or WRIT)	3.0	
English Elective (ENGL or WRIT)	3.0 Free Electives	6.0	
Free Electives	6.0		
	<b>16</b>	<b>15</b>	<b>12</b>

Total Credits 183

**5 year, 3 co-op**

**First Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 CIVC 101	1.0 COOP 101	1.0 VACATION	
ENGL 195	3.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
UNIV H101	1.0 WRIT 200	3.0 ENGL 207	3.0	
Foreign Language Course (1st consecutive course)	4.0 Foreign Language Course (2nd consecutive course, at least 103-level)	4.0 WRIT 195	3.0	
Math Elective	3.0 Math Elective	3.0 Social/Behavioral Science	3.0	
Social/Behavioral Sciences Elective	3.0 Social/Behavioral Science Elective	3.0 Science Elective	3.0	
	<b>17</b>	<b>17</b>	<b>16</b>	<b>0</b>

**Second Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE	COOP EXPERIENCE	ENGL 301 (1st of 3)	1.0 Literature Survey (2nd of 4)	3.0
		WRIT 225	3.0 Diversity Studies	3.0
		Science Elective	3.0 International Studies Elective	3.0
		Literature Survey (1st of 4)	3.0 Humanities Elective	3.0
		International Studies Elective	3.0 Free elective	3.0
		Social/Behavioral Sciences	3.0	
	<b>0</b>	<b>0</b>	<b>16</b>	<b>15</b>



**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE	COOP EXPERIENCE	ENGL 301 (2nd of 3)	1.0 ENGL 325	3.0
		ENGL 315	3.0 Literature Survey (4th of 4)	3.0
		Literature Survey (3rd of 4)	3.0 Free Electives	9.0
		Authors and Periods (1st of 1)	3.0	
		Diversity Studies	3.0	
		Humanities Elective	3.0	
	<b>0</b>	<b>0</b>	<b>16</b>	<b>15</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE	COOP EXPERIENCE	ENGL 301 (3rd of 3)	1.0 Free Electives	15.0
		ENGL 355	3.0	
		Literary Impacts (1st of 1)	3.0	
		Literary Traditions (1st of 1)	3.0	
		Free Electives	3.0	
	<b>0</b>	<b>0</b>	<b>13</b>	<b>15</b>

**Fifth Year**

Fall	Credits Winter	Credits Spring	Credits
UNIV H201	1.0 ENGL 492	3.0 ENGL 495	3.0
English Elective (ENGL or WRIT)	3.0 English Elective (ENGL or WRIT)	3.0 Free Electives	12.0
ENGL 380	3.0 Free Electives	6.0	
ENGL 490	3.0		
Free Electives	6.0		
	<b>16</b>	<b>12</b>	<b>15</b>

**Total Credits 183**

\* See degree requirements (p. ).

## English Faculty

Jan Armon, PhD (*University of Michigan*). Associate Teaching Professor. Academic functions of personal writing, composition.

Kenneth Bingham, MA (*Temple University*). Teaching Professor. First-year writing; engineering ethics; literature of baseball.

Valerie Booth, PhD (*Emory University*). Associate Teaching Professor.

Paula Marantz Cohen, PhD (*Columbia University*) *Distinguished Professor, Dean of the Pennoni Honors College*. Co-editor, *Journal of Modern Literature*; Host of the Drexel Interview. Nineteenth- and early twentieth-century English and American literature; film studies.

Lisa DiMaio, MEd (*Temple University*). Teaching Professor. English as a second language

Dan Driscoll, MA (*Temple University*) *Associate Director University Writing Program*. Teaching Professor. Associate Director, University Writing Center: Curricular Initiatives. Co-Director, Minor in Writing. First-year writing.

Anne Erickson, PhD (*Purdue University*). Assistant Teaching Professor. Online educational applications; the short story cycle.

Nomi Eve, MFA (*Brown University*) *Director of the Creative Writing MFA Program*. Assistant Teaching Professor.

Robert Finegan, MFA (*University of Pittsburgh*). Associate Teaching Professor. First-year writing; technical and creative writing.

Valerie Fox, PhD (*SUNY at Binghamton*). Teaching Professor. Founding Editor, *Press 1.* Twentieth century drama; modern and contemporary American poetry; first-year writing.

Edward Fristrom, PhD (*State University of New York-Albany*). Associate Teaching Professor. Professional writing, creative writing, multimedia, and writing education.

Keunah Han, PhD (*Temple University*). Associate Teaching Professor. English as a Second Language (ESL)

Cassandra Hirsch, MFA (*Rosemont College*). Associate Teaching Professor. Fiction.

Gabriella Ibieta, PhD (*City University of New York*) *Director, Programs in English*. Associate Professor. Comparative literature; Cuban and Latin American fiction.

Henry Israeli, MFA (*University of Iowa*). Associate Teaching Professor. Founder and editor of Saturnalia Books, a publisher of contemporary poetry.

Kirsten Kaschock, PhD (*University of Georgia*). Associate Teaching Professor. Creative writing (poetry and prose).

Elizabeth Kimball, PhD (*Temple University*). Assistant Professor. College writing, civic engaged learning, multi lingual and trans lingual practice, history and theory of rhetoric, public and community writing, 18th and 19th century U.S. rhetorical history

Miriam Kotzin, PhD (*New York University*). Professor. Founding Editor, *Per Contra*. American literature; genre studies; creative writing; communications.

Roger Kurtz, PhD (*University of Iowa*) *Department Head*. Professor. Postcolonial and world literatures

Stephen Mandell, PhD (*Temple University*). Professor. First-year writing; technical writing; speech; American literature.

Deirdre McMahon, PhD (*University of Iowa*). Teaching Professor. 19th-century British literature and culture: empire, critical race studies and analyses of material culture.

Marianaliet Mendez-Rivera, PhD (*University of Minnesota*). Assistant Teaching Professor. Use of the mass media to secure, maintain and enhance political power; international technical communication—including issues of translation v. localization.

Harriet Levin Millan, MFA (*University of Iowa*) *Director, Certificate in Writing and Publishing*. Associate Teaching Professor. Poetry.

Jill Moses, MFA (*University of Oregon*). Associate Teaching Professor. Dramatic literature; first-year writing.

Christopher T. Nielson, PhD (*Purdue University*). Teaching Professor. Shakespeare; Renaissance drama and literature; dramatic literature; first-year writing.

Karen Nulton, PhD (*Rutgers University*) *Director, Writing Assessment*. Teaching Professor. Writing assessment, writing pedagogy, and writing across the curriculum.

Margene Peterson, MA (*Rhode Island School of Design*). Assistant Teaching Professor. English as a Second Language (ESL); the learning styles and strategies of non-native speakers of English.

Maegan Poland, PhD (*University of Nevada, Las Vegas*). Assistant Teaching Professor. Creative writing; first-year writing

Abioseh Porter, PhD (*University of Alberta, Canada*). Professor. Comparative literature; postcolonial literatures

Donald Riggs, PhD (*University of North Carolina-Chapel Hill*). Teaching Professor. Cinematic monsters; science fiction and fantasy literature and film; Renaissance literature; creative writing; first-year writing.

Donna Rondolone, PhD (*University of Pennsylvania*). Associate Teaching Professor. Medieval literature; Arthurian legend; first-year writing.

Gail Rosen, JD (*Temple University*). Teaching Professor. Literature and law; first-year writing.

Doreen Alvarez Saar, PhD (*SUNY Buffalo*). Professor. Early American literature; Eighteenth-century America; race and gender studies.

Sheila Sandapen, PhD (*Indiana University of Pennsylvania*) *Assistant Director, First Year Writing Program*. Associate Teaching Professor. First-year writing; cultural studies; women's studies; history and film.

Fred A. Siegel, PhD (*New York University*) *Director, First-Year Writing Program*. Teaching Professor. Popular theater; dramatic literature, creative non-fiction; first-year writing.

Scott Stein, MFA (*University of Miami*) *Director, Drexel Publishing Group*. Teaching Professor. Creative writing; first-year writing; Founding Editor, *When Falls the Coliseum: A Journal of American Culture (Or Lack Thereof)*.

Eva Thury, PhD (*University of Pennsylvania*). Associate Professor. Mythology; classical literature; drama; first-year writing; desktop publishing and software documentation.

Kathleen Volk Miller, MA (*Rutgers University*). Teaching Professor. Co-Editor, *Painted Bride Quarterly (PBQ)*; creative writing; first-year writing.

Maria Volynsky, EdD (*Temple University*) *Associate Director, First-Year Writing Program; ESL Coordinator*. Associate Teaching Professor. English as a Second Language (ESL).

Scott Warnock, PhD (*Temple University*) *Associate Dean for Undergraduate Education*. Professor. Rhetoric and composition; medical writing; information technology and literacy.

Robert A. Watts, MA (*Temple University*). Associate Teaching Professor. Creative writing; first-year writing.

Vincent Williams, PhD (*Temple University*). Associate Teaching Professor. First-year writing; the intersection of race, gender, class and urbanism.

Jennifer Yusin, PhD (*Emory University*). Associate Professor. Postcolonial literature; trauma theory; literary theory; psychoanalysis, and memory studies in contemporary literature in English.

## Emeritus Faculty

Valarie Arms, PhD (*Temple University*). Professor Emeritus. Rhetoric and Composition

Richard Astro, PhD (*University of Washington*) *Distinguished Professor*. Provost Emeritus. Twentieth-century American literature; literature and sports.

Raymond Brebach, PhD (*University of Illinois*). Professor Emeritus. Modern British fiction; the novel; textual studies.

## English

*Major: English*

*Degree Awarded: Bachelor of Arts (BA)*

*Calendar Type: Quarter*

*Total Credit Hours: 181.0*

*Co-op Options: Three Co-op (Five years); One Co-op (Four years)*

*Classification of Instructional Programs (CIP) code: 23.1399*

*Standard Occupational Classification (SOC) code: 25-1123*

## Secondary Education Concentration

English majors who select the concentration in Secondary Education benefit from the full range of courses and opportunities that we offer. These include core courses taken by all our majors, offering a strong foundation in textual and rhetorical analysis along with writing skills. Students receive a strong grounding in English to prepare for a career in teaching.

The concentration offers additional courses, including coursework and student teaching through the School of Education, that prepare students to meet the certification requirements for a career as a high school English teacher.

## Degree Requirements

### UNIVERSITY REQUIREMENTS (minimum 64 credits)

CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
UNIV H101	The Drexel Experience	1.0
UNIV H201	Looking Forward: Academics and Careers	1.0
Mathematics courses for a minimum of 6.0 credits		6.0
MATH 171	Introduction to Analysis A	
MATH 172	Introduction to Analysis B	
Science courses for a minimum of 6.0 credits		6.0
ENVS 260	Environmental Science and Society	
PHYS 181	Astronomy	
Social/Behavioral Science courses for a minimum of 13 credits		13.0
HIST 201	United States History to 1815	
or HIST 202	United States History, 1815-1900	
or HIST 203	United States History since 1900	
PSY 101	General Psychology I	
PSY 320 [WI]	Educational Psychology	
SOC 335	Sociology of Education	
Humanities courses (other than ENGL or WRIT) for a minimum of 6 credits		6.0
ARTH 101	History of Art I	
or ARTH 102	History of Art II	
or ARTH 103	History of Art III	

MUSC 130	Introduction to Music	
Diversity Studies courses for a minimum of 6 credits		6.0
EDUC 312	Educational Policy, Law & Advocacy	
EDUC 365	Foundations in Instructing English Language Learners	
International Studies courses for a minimum of 6 credits		6.0
Foreign Language requirement (2 consecutive courses, reaching at least 103)		8.0
<b>MAJOR REQUIREMENTS (30-credit CORE plus 36-credit concentration)</b>		
<b>Core Courses</b>		
ENGL 195	English Freshman Seminar	3.0
ENGL 207 [WI]	African American Literature	3.0
ENGL 315 [WI]	Shakespeare	3.0
EDUC 106	First Year Seminar: A Case of Schools and Cities	1.0
EDUC 107	First Year Seminar: Exploring Pedagogies	1.0
EDUC 108	First Year Seminar: Designing Learning Spaces	1.0
EDUC 205	Sophomore Pedagogy Seminar	1.0
EDUC 305 [WI]	Junior Pedagogy Seminar	1.0
EDUC 405	Senior Pedagogy Seminar	1.0
ENGL 325	Topics in World Literature	3.0
ENGL 355 [WI]	Women and Literature	3.0
WRIT 195	Threshold Concepts in Writing	3.0
WRIT 200	Language Puzzles and Word Games: Issues in Modern Grammar	3.0
WRIT 225 [WI]	Creative Writing	3.0
<b>Education Concentration</b>		<b>36.0</b>
English Education Language & Methods - take all for 15 credits		
INFO 101	Introduction to Computing and Security Technology	
COM 230	Techniques of Speaking	
EDUC 358	English Teaching Methods	
LING 101	Introduction to Linguistics	
WRIT 211	Advanced Composition	
Literature Surveys - Select any 4 for 12 credits		
ENGL 200 [WI]	Classical to Medieval Literature	
ENGL 201	Renaissance to the Enlightenment	
ENGL 202 [WI]	Romanticism to Modernism	
ENGL 203 [WI]	Survey of World Literature	
ENGL 204	Post-Colonial Literature	
ENGL 205 [WI]	American Literature I	
ENGL 206 [WI]	American Literature II	
ENGL 211 [WI]	British Literature I	
ENGL 212	British Literature II	
Advanced Literature Courses - Select all for 9 credits		
ENGL 304	Young Adult Fiction	
ENGL 490	Seminar in English and American Literature	
ENGL 492	Seminar in World Literature	
<b>Additional credits for Education Certification - select all for 51 credits</b>		<b>51.0</b>
ECON 201	Principles of Microeconomics	
EDEX 142	Special Education Foundations: Referral and Assessment	
EDEX 344	Inclusive Practices	
EDEX 368 [WI]	Literacy and Content Skill Development PK-12	
EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	
EDUC 113	Organizational Structure of Secondary Schools	
EDUC 308	Creating a Positive Classroom Climate	
EDUC 322	Evaluation of Instruction	
EDUC 325	Multimedia in Instructional Design	
EDUC 409 [WI]	Student Teaching Seminar I	
EDUC 410 [WI]	Student Teaching	
MATH 173	Introduction to Analysis C	
or MATH 107	Probability and Statistics for Liberal Arts	
NFS 100	Nutrition, Foods, and Health	
or NFS 101	Introduction to Nutrition & Food	
<b>Total Credits</b>		<b>181.0</b>

## Sample Plan of Study

### 4 year, one co-op

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
EDUC 101	3.0 CIVC 101	1.0 EDEX 142	3.0 VACATION	
EDUC 106	1.0 EDUC 107	1.0 EDUC 108	1.0	
ENGL 101 or 111	3.0 EDUC 113	3.0 ENGL 103 or 113	3.0	
ENGL 195	3.0 ENGL 102 or 112	3.0 ENGL 207	3.0	
MATH 171	3.0 MATH 172	3.0 MATH 173	3.0	
UNIV H101	1.0 WRIT 200	3.0 WRIT 195	3.0	
	<b>14</b>	<b>14</b>	<b>16</b>	<b>0</b>

#### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
EDEX 344	3.0 INFO 101	3.0 ARTH 101, 102, or 103	3.0 ECON 201	4.0
EDUC 205	1.0 LING 101	3.0 COOP 101	1.0 EDUC 322	3.0
EDUC 312	3.0 PSY 101	3.0 EDUC 305	1.0 ENGL 315	3.0
EDUC 365	3.0 Literature Survey	3.0 EDEX 368	3.0 HIST 201, 202, or 203	4.0
WRIT 225	3.0 Foreign Language	4.0 MUSC 130	3.0 International Studies	3.0
Literature Survey	3.0	Foreign language	4.0	
	<b>16</b>	<b>16</b>	<b>15</b>	<b>17</b>

#### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE	COOP EXPERIENCE	COM 230	3.0 ENGL 304	3.0
EDUC 358	3.0 Literature Survey	3.0 ENGL 325	3.0 ENVS 260	3.0
		ENGL 490	3.0 PHYS 181	3.0
		PSY 320	3.0 SOC 335	3.0
		UNIV H201	1.0 Literature Survey	3.0
		WRIT 211	3.0	
	<b>3</b>	<b>3</b>	<b>16</b>	<b>15</b>

#### Fourth Year

Fall	Credits Winter	Credits Spring	Credits
EDUC 308	3.0 EDUC 325	3.0 EDUC 405	1.0
EDUC 409	9.0 EDUC 410	9.0 ENGL 355	3.0
		ENGL 492	3.0
		NFS 100	2.0
		International Studies	3.0
	<b>12</b>	<b>12</b>	<b>12</b>

Total Credits 181

### 5 year, 3 co-op

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
EDUC 101	3.0 CIVC 101	1.0 COOP 101	1.0 VACATION	
EDUC 106	1.0 EDUC 107	1.0 EDUC 108	1.0	
ENGL 101 or 111	3.0 EDUC 113	3.0 EDEX 142	3.0	
ENGL 195	3.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
MATH 171	3.0 MATH 172	3.0 ENGL 207	3.0	
UNIV H101	1.0 WRIT 200	3.0 MATH 173	3.0	
		WRIT 195	3.0	
	<b>14</b>	<b>14</b>	<b>17</b>	<b>0</b>

#### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE	COOP EXPERIENCE	ARTH 101, 102, or 103	3.0 ECON 201	4.0
		EDEX 368	3.0 EDUC 322	3.0
		EDUC 305	1.0 ENGL 315	3.0
		MUSC 130	3.0 HIST 201, 202, or 203	4.0
		Foreign Language	4.0 Foreign language	4.0
	<b>0</b>	<b>0</b>	<b>14</b>	<b>18</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE	COOP EXPERIENCE	UNIV H201	1.0 ENGL 304	3.0
EDUC 358	3.0 Literature Survey	3.0 PSY 320	3.0 ENVS 260	3.0
		ENGL 325	3.0 PHYS 181	3.0
		COM 230	3.0 SOC 335	3.0
		WRIT 211	3.0 Literature Survey	3.0
		ENGL 490	3.0	
	3	3	16	15

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE	COOP EXPERIENCE	EDUC 205	1.0 INFO 101	3.0
		EDEX 344	3.0 LING 101	3.0
		EDUC 365	3.0 PSY 101	3.0
		EDUC 312	3.0 Literature Survey	3.0
		Literature Survey	3.0 International Studies	3.0
		WRIT 225	3.0	
	0	0	16	15

**Fifth Year**

Fall	Credits Winter	Credits Spring	Credits
EDUC 308	3.0 EDUC 325	3.0 EDUC 405	1.0
EDUC 409	9.0 EDUC 410	9.0 ENGL 355	3.0
		ENGL 492	3.0
		NFS 100	2.0
		International Studies	3.0
	12	12	12

Total Credits 181

## English Faculty

Jan Armon, PhD (*University of Michigan*). Associate Teaching Professor. Academic functions of personal writing, composition.

Kenneth Bingham, MA (*Temple University*). Teaching Professor. First-year writing; engineering ethics; literature of baseball.

Valerie Booth, PhD (*Emory University*). Associate Teaching Professor.

Paula Marantz Cohen, PhD (*Columbia University*) *Distinguished Professor, Dean of the Pennoni Honors College*. Co-editor, *Journal of Modern Literature*; Host of the Drexel Interview. Nineteenth- and early twentieth-century English and American literature; film studies.

Lisa DiMaio, MEd (*Temple University*). Teaching Professor. English as a second language

Dan Driscoll, MA (*Temple University*) *Associate Director University Writing Program*. Teaching Professor. Associate Director, University Writing Center: Curricular Initiatives. Co-Director, Minor in Writing. First-year writing.

Anne Erickson, PhD (*Purdue University*). Assistant Teaching Professor. Online educational applications; the short story cycle.

Nomi Eve, MFA (*Brown University*) *Director of the Creative Writing MFA Program*. Assistant Teaching Professor.

Robert Finegan, MFA (*University of Pittsburgh*). Associate Teaching Professor. First-year writing; technical and creative writing.

Valerie Fox, PhD (*SUNY at Binghamton*). Teaching Professor. Founding Editor, *Press 1.* Twentieth century drama; modern and contemporary American poetry; first-year writing.

Edward Fristrom, PhD (*State University of New York-Albany*). Associate Teaching Professor. Professional writing, creative writing, multimedia, and writing education.

Keunah Han, PhD (*Temple University*). Associate Teaching Professor. English as a Second Language (ESL)

Cassandra Hirsch, MFA (*Rosemont College*). Associate Teaching Professor. Fiction.

Gabriella Ibieta, PhD (*City University of New York*) *Director, Programs in English*. Associate Professor. Comparative literature; Cuban and Latin American fiction.

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Kirsten Kaschock, PhD (*University of Georgia*). Associate Teaching Professor. Creative writing (poetry and prose).

Elizabeth Kimball, PhD (*Temple University*). Assistant Professor. College writing, civic engaged learning, multi lingual and trans lingual practice, history and theory of rhetoric, public and community writing, 18th and 19th century U.S. rhetorical history

Miriam Kotzin, PhD (*New York University*). Professor. Founding Editor, *Per Contra*. American literature; genre studies; creative writing; communications.

Roger Kurtz, PhD (*University of Iowa*) *Department Head*. Professor. Postcolonial and world literatures

Stephen Mandell, PhD (*Temple University*). Professor. First-year writing; technical writing; speech; American literature.

Deirdre McMahon, PhD (*University of Iowa*). Teaching Professor. 19th-century British literature and culture: empire, critical race studies and analyses of material culture.

Marianaliet Mendez-Rivera, PhD (*University of Minnesota*). Assistant Teaching Professor. Use of the mass media to secure, maintain and enhance political power; international technical communication—including issues of translation v. localization.

Harriet Levin Millan, MFA (*University of Iowa*) *Director, Certificate in Writing and Publishing*. Associate Teaching Professor. Poetry.

Jill Moses, MFA (*University of Oregon*). Associate Teaching Professor. Dramatic literature; first-year writing.

Christopher T. Nielson, PhD (*Purdue University*). Teaching Professor. Shakespeare; Renaissance drama and literature; dramatic literature; first-year writing.

Karen Nulton, PhD (*Rutgers University*) *Director, Writing Assessment*. Teaching Professor. Writing assessment, writing pedagogy, and writing across the curriculum.

Margene Peterson, MA (*Rhode Island School of Design*). Assistant Teaching Professor. English as a Second Language (ESL); the learning styles and strategies of non-native speakers of English.

Maegan Poland, PhD (*University of Nevada, Las Vegas*). Assistant Teaching Professor. Creative writing; first-year writing

Abioseh Porter, PhD (*University of Alberta, Canada*). Professor. Comparative literature; postcolonial literatures

Donald Riggs, PhD (*University of North Carolina-Chapel Hill*). Teaching Professor. Cinematic monsters; science fiction and fantasy literature and film; Renaissance literature; creative writing; first-year writing.

Donna Rondolone, PhD (*University of Pennsylvania*). Associate Teaching Professor. Medieval literature; Arthurian legend; first-year writing.

Gail Rosen, JD (*Temple University*). Teaching Professor. Literature and law; first-year writing.

Doreen Alvarez Saar, PhD (*SUNY Buffalo*). Professor. Early American literature; Eighteenth-century America; race and gender studies.

Sheila Sandapen, PhD (*Indiana University of Pennsylvania*) *Assistant Director, First Year Writing Program*. Associate Teaching Professor. First-year writing; cultural studies; women's studies; history and film.

Fred A. Siegel, PhD (*New York University*) *Director, First-Year Writing Program*. Teaching Professor. Popular theater; dramatic literature, creative non-fiction; first-year writing.

Scott Stein, MFA (*University of Miami*) *Director, Drexel Publishing Group*. Teaching Professor. Creative writing; first-year writing; Founding Editor, *When Falls the Coliseum: A Journal of American Culture (Or Lack Thereof)*.

Eva Thury, PhD (*University of Pennsylvania*). Associate Professor. Mythology; classical literature; drama; first-year writing; desktop publishing and software documentation.

Kathleen Volk Miller, MA (*Rutgers University*). Teaching Professor. Co-Editor, *Painted Bride Quarterly (PBQ)*; creative writing; first-year writing.

Maria Volynsky, EdD (*Temple University*) *Associate Director, First-Year Writing Program; ESL Coordinator*. Associate Teaching Professor. English as a Second Language (ESL).

Scott Warnock, PhD (*Temple University*) *Associate Dean for Undergraduate Education*. Professor. Rhetoric and composition; medical writing; information technology and literacy.

Robert A. Watts, MA (*Temple University*). Associate Teaching Professor. Creative writing; first-year writing.

Vincent Williams, PhD (*Temple University*). Associate Teaching Professor. First-year writing; the intersection of race, gender, class and urbanism.

Jennifer Yusin, PhD (*Emory University*). Associate Professor. Postcolonial literature; trauma theory; literary theory; psychoanalysis, and memory studies in contemporary literature in English.

## Emeritus Faculty

Valarie Arms, PhD (*Temple University*). Professor Emeritus. Rhetoric and Composition

Richard Astro, PhD (*University of Washington*) *Distinguished Professor*. Provost Emeritus. Twentieth-century American literature; literature and sports.

Raymond Brebach, PhD (*University of Illinois*). Professor Emeritus. Modern British fiction; the novel; textual studies.

## English

*Major: English*

*Degree Awarded: Bachelor of Arts (BA)*

*Calendar Type: Quarter*

*Total Credit Hours: 181.0*

*Co-op Options: Three Co-op (Five years); One Co-op (Four years)*

*Classification of Instructional Programs (CIP) code: 23.1399*

*Standard Occupational Classification (SOC) code: 25-1123*

## Writing Concentration

English majors who select the concentration in Writing benefit from the full range of courses and opportunities that we offer. These include core courses taken by all our majors, offering a strong foundation in textual and rhetorical analysis along with writing skills.

The concentration offers additional in-depth coursework in creative and professional writing, backed up by opportunities for hands-on experience in writing, editing, and publishing. Students may take full advantage of the opportunities for growth and experience offered by our Drexel Publishing Group, the Writers Room, and the Drexel Writing Center.

## Degree Requirements

### UNIVERSITY REQUIREMENTS (minimum 63 credits)

CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development	1.0
UNIV H101	The Drexel Experience	1.0
UNIV H201	Looking Forward: Academics and Careers	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
Mathematics elective courses for a minimum of 6.0 credits		6.0
Science elective courses for a minimum of 6.0 credits		6.0
Social/Behavioral Science elective courses for a minimum of 12 credits		12.0
Humanities elective courses (other than ENGL or WRIT) for a minimum of 6 credits		6.0
Diversity Studies elective courses for a minimum of 6 credits		6.0
International Studies elective courses for a minimum of 6 credits		6.0
Foreign Language requirement (2 consecutive courses, reaching at least 103)		8.0

### MAJOR REQUIREMENTS (30-credit CORE plus 36-credit concentration)

#### Core Courses

ENGL 195	English Freshman Seminar	3.0
ENGL 207 [WI]	African American Literature	3.0
ENGL 301	English Major Colloquium (1-credit course, repeat twice for 3 credits total)	3.0
ENGL 315 [WI]	Shakespeare	3.0
ENGL 325	Topics in World Literature	3.0
ENGL 355 [WI]	Women and Literature	3.0
ENGL 495	Senior Project in Literature	3.0
WRIT 195	Threshold Concepts in Writing	3.0
WRIT 200	Language Puzzles and Word Games: Issues in Modern Grammar	3.0
WRIT 225 [WI]	Creative Writing	3.0



**Concentration in Writing****36.0**

Foundations - Select 1 for a minimum of 3 credits

WRIT 210 [WI]	The Peer Reader in Context
or WRIT 211	Advanced Composition

Rhetoric and Technique - Select 1 for a minimum of 3 credits

WRIT 212	Argument and Rhetoric
or WRIT 295	Forms Seminar

Audience Awareness - Select 1 for a minimum of 3 credits

WRIT 312 [WI]	Writing for Target Audiences
or WRIT 315	Writing for Social Change

Writing Practices - Select 7 additional courses for a minimum of 21 credits (at least 5 must be WRIT or ENGL courses)

WRIT 210 [WI]	The Peer Reader in Context
WRIT 211	Advanced Composition
WRIT 212	Argument and Rhetoric
WRIT 215 [WI]	Story Medicine
WRIT 220 [WI]	Creative Nonfiction Writing
WRIT 226	Writing in Public Spaces
WRIT 250	"Mistakes Were Made": Truth, Writing, and Responsibility
WRIT 295	Forms Seminar
WRIT 301 [WI]	Writing Poetry
WRIT 302 [WI]	Writing Fiction
WRIT 303	Writing Humor and Comedy
WRIT 305	Life is Beautiful
WRIT 306	Writing About the Media
WRIT 310	Literary Editing & Publication
WRIT 311	Writing and Reading the Memoir
WRIT 312 [WI]	Writing for Target Audiences
WRIT 315	Writing for Social Change
WRIT T380	Special Topics in Writing
WRIT 400 [WI]	Writing for -- and about -- the Web
WRIT 401	Advanced Poetry Workshop
WRIT 402	Advanced Fiction Workshop
WRIT 405	Internship in Publishing
ENGL 312	Research Project Development
COM 160 [WI]	Introduction to Journalism
COM 270 [WI]	Business Communication
COM 310 [WI]	Technical Communication
COM 375 [WI]	Grant Writing
SCRIP 220	Playwriting I
SCRIP 270 [WI]	Screenwriting I

English Electives - minimum of 6 credits

Choose any additional 2 courses (300+) in WRIT or ENGL for a minimum of 6 credits

**ELECTIVES****52.0-54.0**

Choose 52 credits from any discipline. Consider a second major or minor, or education certification.

**Total Credits****181.0-183.0****Sample Plan of Study****4 year, one co-op****First Year**

<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
ENGL 101 or 111	3.0 CIVC 101	1.0 COOP 101	1.0 VACATION	
ENGL 195	3.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
UNIV H101	1.0 WRIT 200	3.0 ENGL 207	3.0	
Foreign Language Course (1st consecutive course)	4.0 Foreign Language Course (2nd consecutive course, at least 103-level)	4.0 WRIT 195	3.0	
Mathematics elective	3.0 Mathematics elective	3.0 Social/Behavioral Science elective	3.0	

Social/Behavioral Science elective	3.0 Social/Behavioral Science elective	3.0 Science elective	3.0	
<b>17</b>		<b>17</b>		<b>16</b>
<b>Second Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
ENGL 301	1.0 WRIT 212 or 295	3.0 ENGL 301 (2nd of 3)	1.0 ENGL 325	3.0
WRIT 225	3.0 Writing Practice Course (1 of 7)	3.0 ENGL 315	3.0 Writing Practice Course (3 of 7)	3.0
WRIT 210 or 211	3.0 Diversity Studies	3.0 Writing Practice Course (2 of 7)	3.0 Writing Practice Course (4 of 7)	3.0
Science elective	3.0 International Studies elective	3.0 Diversity Studies	3.0 Free Electives	6.0
International Studies elective	3.0 Humanities elective	3.0 Humanities elective	3.0	
Social/Behavioral Science elective	3.0	Free elective	3.0	
<b>16</b>		<b>15</b>		<b>16</b>
<b>Third Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COOP EXPERIENCE	COOP EXPERIENCE	ENGL 301 (3rd of 3)	1.0 Writing Practice Course (6 of 7)	3.0
		WRIT 312 or 315	3.0 Free Electives	12.0
		Writing Practice Course (5 of 7)	3.0	
		Free Electives	6.0	
<b>0</b>		<b>0</b>		<b>13</b>
<b>Fourth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>	
UNIV H201	1.0 ENGL 355	3.0 ENGL 495	3.0	
Writing Practice Course (7 of 7)	3.0 English Elective	3.0 Free Electives	9.0	
English Elective (ENGL or WRIT)	3.0 Free Electives	9.0		
Free Electives	9.0			
<b>16</b>		<b>15</b>		<b>12</b>

Total Credits 183

## 5 year, 3 co-op

### First Year

<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
ENGL 101 or 111	3.0 CIVC 101	1.0 COOP 101	1.0 VACATION	
ENGL 195	3.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
UNIV H101	1.0 WRIT 200	3.0 ENGL 207	3.0	
Foreign Language Course (1st consecutive course)	4.0 Foreign Language Course (2nd consecutive course, at least 103-level)	4.0 WRIT 195	3.0	
Math Elective	3.0 Math Elective	3.0 Social/Behavioral Science	3.0	
Social/Behavioral Sciences Elective	3.0 Social/Behavioral Science Elective	3.0 Science Elective	3.0	
<b>17</b>		<b>17</b>		<b>16</b>

### Second Year

<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COOP EXPERIENCE	COOP EXPERIENCE	ENGL 301 (1st of 3)	1.0 WRIT 212 or 295	3.0
		WRIT 225	3.0 Writing Practice Course (1 of 7)	3.0
		WRIT 210 or 211	3.0 Diversity Studies	3.0
		Science Elective	3.0 International Studies Elective	3.0
		International Studies Elective	3.0 Humanities Elective	3.0

		Social/Behavioral Sciences	3.0	
	0	0	16	15
<b>Third Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COOP EXPERIENCE	COOP EXPERIENCE	ENGL 301 (2nd of 3)	1.0 ENGL 325	3.0
		ENGL 315	3.0 Writing Practice Course (4 of 7)	3.0
		Writing Practice Course (2 of 7)	3.0 Free Electives	9.0
		Writing Practice Course (3 of 7)	3.0	
		Diversity Studies	3.0	
		Humanities Elective	3.0	
	0	0	16	15
<b>Fourth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COOP EXPERIENCE	COOP EXPERIENCE	ENGL 301 (3rd of 3)	1.0 Writing Practice Course (6 of 7)	3.0
		WRIT 312 or 315	3.0 Free Electives	12.0
		ENGL 355	3.0	
		Writing Practice Course (5 of 7)	3.0	
		Free Electives	3.0	
	0	0	13	15
<b>Fifth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>	
UNIV H201	1.0 English Elective	3.0 ENGL 495	3.0	
Writing Practice Course (7 of 7)	3.0 Free Electives	9.0 Free Electives	12.0	
English Elective (ENGL or WRIT)	3.0			
Free Electives	9.0			
	16	12	15	
<b>Total Credits 183</b>				

\* See degree requirements (p.      ).

## English Faculty

Jan Armon, PhD (*University of Michigan*). Associate Teaching Professor. Academic functions of personal writing, composition.

Kenneth Bingham, MA (*Temple University*). Teaching Professor. First-year writing; engineering ethics; literature of baseball.

Valerie Booth, PhD (*Emory University*). Associate Teaching Professor.

Paula Marantz Cohen, PhD (*Columbia University*) *Distinguished Professor, Dean of the Pennoni Honors College*. Co-editor, *Journal of Modern Literature*; Host of the Drexel Interview. Nineteenth- and early twentieth-century English and American literature; film studies.

Lisa DiMaio, MEd (*Temple University*). Teaching Professor. English as a second language

Dan Driscoll, MA (*Temple University*) *Associate Director University Writing Program*. Teaching Professor. Associate Director, University Writing Center: Curricular Initiatives. Co-Director, Minor in Writing. First-year writing.

Anne Erickson, PhD (*Purdue University*). Assistant Teaching Professor. Online educational applications; the short story cycle.

Nomi Eve, MFA (*Brown University*) *Director of the Creative Writing MFA Program*. Assistant Teaching Professor.

Robert Finegan, MFA (*University of Pittsburgh*). Associate Teaching Professor. First-year writing; technical and creative writing.

Valerie Fox, PhD (*SUNY at Binghamton*). Teaching Professor. Founding Editor, *Press 1.* Twentieth century drama; modern and contemporary American poetry; first-year writing.

Edward Fristrom, PhD (*State University of New York-Albany*). Associate Teaching Professor. Professional writing, creative writing, multimedia, and writing education.

Keunah Han, PhD (*Temple University*). Associate Teaching Professor. English as a Second Language (ESL)

Cassandra Hirsch, MFA (*Rosemont College*). Associate Teaching Professor. Fiction.

Gabriella Ibieta, PhD (*City University of New York*) *Director, Programs in English*. Associate Professor. Comparative literature; Cuban and Latin American fiction.

Henry Israeli, MFA (*University of Iowa*). Associate Teaching Professor. Founder and editor of Saturnalia Books, a publisher of contemporary poetry.

Kirsten Kaschock, PhD (*University of Georgia*). Associate Teaching Professor. Creative writing (poetry and prose).

Elizabeth Kimball, PhD (*Temple University*). Assistant Professor. College writing, civic engaged learning, multi lingual and trans lingual practice, history and theory of rhetoric, public and community writing, 18th and 19th century U.S. rhetorical history

Miriam Kotzin, PhD (*New York University*). Professor. Founding Editor, *Per Contra*. American literature; genre studies; creative writing; communications.

Roger Kurtz, PhD (*University of Iowa*) *Department Head*. Professor. Postcolonial and world literatures

Stephen Mandell, PhD (*Temple University*). Professor. First-year writing; technical writing; speech; American literature.

Deirdre McMahon, PhD (*University of Iowa*). Teaching Professor. 19th-century British literature and culture: empire, critical race studies and analyses of material culture.

Marianaliet Mendez-Rivera, PhD (*University of Minnesota*). Assistant Teaching Professor. Use of the mass media to secure, maintain and enhance political power; international technical communication—including issues of translation v. localization.

Harriet Levin Millan, MFA (*University of Iowa*) *Director, Certificate in Writing and Publishing*. Associate Teaching Professor. Poetry.

Jill Moses, MFA (*University of Oregon*). Associate Teaching Professor. Dramatic literature; first-year writing.

Christopher T. Nielson, PhD (*Purdue University*). Teaching Professor. Shakespeare; Renaissance drama and literature; dramatic literature; first-year writing.

Karen Nulton, PhD (*Rutgers University*) *Director, Writing Assessment*. Teaching Professor. Writing assessment, writing pedagogy, and writing across the curriculum.

Margene Peterson, MA (*Rhode Island School of Design*). Assistant Teaching Professor. English as a Second Language (ESL); the learning styles and strategies of non-native speakers of English.

Maegan Poland, PhD (*University of Nevada, Las Vegas*). Assistant Teaching Professor. Creative writing; first-year writing

Abioseh Porter, PhD (*University of Alberta, Canada*). Professor. Comparative literature; postcolonial literatures

Donald Riggs, PhD (*University of North Carolina-Chapel Hill*). Teaching Professor. Cinematic monsters; science fiction and fantasy literature and film; Renaissance literature; creative writing; first-year writing.

Donna Rondolone, PhD (*University of Pennsylvania*). Associate Teaching Professor. Medieval literature; Arthurian legend; first-year writing.

Gail Rosen, JD (*Temple University*). Teaching Professor. Literature and law; first-year writing.

Doreen Alvarez Saar, PhD (*SUNY Buffalo*). Professor. Early American literature; Eighteenth-century America; race and gender studies.

Sheila Sandapen, PhD (*Indiana University of Pennsylvania*) *Assistant Director, First Year Writing Program*. Associate Teaching Professor. First-year writing; cultural studies; women's studies; history and film.

Fred A. Siegel, PhD (*New York University*) *Director, First-Year Writing Program*. Teaching Professor. Popular theater; dramatic literature, creative non-fiction; first-year writing.

Scott Stein, MFA (*University of Miami*) *Director, Drexel Publishing Group*. Teaching Professor. Creative writing; first-year writing; Founding Editor, *When Falls the Coliseum: A Journal of American Culture (Or Lack Thereof)*.

Eva Thury, PhD (*University of Pennsylvania*). Associate Professor. Mythology; classical literature; drama; first-year writing; desktop publishing and software documentation.

Kathleen Volk Miller, MA (*Rutgers University*). Teaching Professor. Co-Editor, *Painted Bride Quarterly (PBQ)*; creative writing; first-year writing.

Maria Volynsky, EdD (*Temple University*) Associate Director, First-Year Writing Program; ESL Coordinator. Associate Teaching Professor. English as a Second Language (ESL).

Scott Warnock, PhD (*Temple University*) Associate Dean for Undergraduate Education. Professor. Rhetoric and composition; medical writing; information technology and literacy.

Robert A. Watts, MA (*Temple University*). Associate Teaching Professor. Creative writing; first-year writing.

Vincent Williams, PhD (*Temple University*). Associate Teaching Professor. First-year writing; the intersection of race, gender, class and urbanism.

Jennifer Yusin, PhD (*Emory University*). Associate Professor. Postcolonial literature; trauma theory; literary theory; psychoanalysis, and memory studies in contemporary literature in English.

## Emeritus Faculty

Valarie Arms, PhD (*Temple University*). Professor Emeritus. Rhetoric and Composition

Richard Astro, PhD (*University of Washington*) Distinguished Professor. Provost Emeritus. Twentieth-century American literature; literature and sports.

Raymond Brebach, PhD (*University of Illinois*). Professor Emeritus. Modern British fiction; the novel; textual studies.

## Environmental Science

Major: Environmental Science

Degree Awarded: Bachelor of Science (BS)

Calendar Type: Quarter

Total Credit Hours: 185.5

Co-op Options: Three Co-op (Five years); One Co-op (Four years); No Co-op (Four years)

Classification of Instructional Programs (CIP) code: 03.0104

Standard Occupational Classification (SOC) code: 19-2041

## About the Program

The Environmental Science program at Drexel University is committed to educating undergraduates for technical careers and graduate study in the diverse areas of environmental science vital to understanding, conservation, and restoration of clean and healthy natural environments in the 21st century. The affiliation between the Academy of Natural Sciences (<https://ansp.org/>) and Drexel University offers students unique opportunities to take a leadership role in ecology, environmental science, and environmental policy, and to grow the scope, capacity, and reputation of the natural sciences at the University. The philosophy of the Biodiversity, Earth & Environmental Science Department is "*Experiential Learning Early and Often.*"

Environmental science is a multidisciplinary field designed to examine environmental problems and find solutions. This field requires understanding of a number of disciplines including biology, physics, and chemistry. Solving some of our environmental problems also requires knowledge of environmental policy, ethics, and scientific data analysis.

The program has an integrated curricular approach designed around student laboratory and field investigations. The goal of this program is to give students not only knowledge about biology, chemistry, and ecology, but also the ability to use the tools and skills of a scientist. The program includes extensive use of computers in the laboratory and students make frequent oral and written presentations based on their laboratory projects.

Field experience electives may include trips to local aquatic and terrestrial habitats, such as streams, lakes, the John Heinz National Wildlife Refuge, New Jersey Pine Barrens, Delaware, Barnegat and Chesapeake Bays, and the Appalachian Mountains. Students are also encouraged to take advantage of study abroad (<http://www.drexel.edu/studyabroad/>) options, including ENVIS field courses. These programs often require early planning, so it is advisable for interested students to speak to their advisor about opportunities in their first year.

Concentrations are available in:

- Ecology & Evolution
- Applied Environmental Science

## Additional Information

For more information about the program, visit the Department of Biodiversity, Earth & Environmental Science's (<http://www.drexel.edu/coas/academics/departments-centers/bees/>) webpage.

Laurie G. Zinberg, M.A.  
Senior Academic Advisor  
College of Arts and Science

Email: lgz23@drexel.edu

Or email bees@drexel.edu.

## Degree Requirements

The program is designed to prepare students for careers in environmental science, environmental assessment, marine science, basic and applied ecology, biodiversity, evolutionary biology, and conservation and paleontology. The requirements for specific concentrations in Biodiversity and Evolution, Earth Science, and Ecology and Conservation, as well as Environmental Science, follow the list of degree requirements.

### Degree Requirements

#### Humanities and Social Science

CIVC 101	Introduction to Civic Engagement	1.0
COM 230	Techniques of Speaking	3.0
COM 310 [WJ]	Technical Communication	3.0
COOP 101	Career Management and Professional Development	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
PHIL 340	Environmental Ethics	3.0
or PHIL 341	Environmental Philosophy	
Humanities/Social Science electives		6.0
UNIV S101	The Drexel Experience	1.0
UNIV S201	Looking Forward: Academics and Careers	1.0

#### Mathematics, Statistics & Computing

21.0

Select one of the following sequences:

##### Calculus sequence

MATH 121	Calculus I
MATH 122	Calculus II
MATH 123	Calculus III

##### Analysis sequence

MATH 101	Introduction to Analysis I
MATH 102	Introduction to Analysis II
MATH 239	Mathematics for the Life Sciences

Additional required math & computing courses:

MATH 410	Scientific Data Analysis I
MATH 411	Scientific Data Analysis II
CS 171	Computer Programming I

#### Physical Sciences

CHEM 101	General Chemistry I	3.5
CHEM 102	General Chemistry II	4.5
CHEM 103	General Chemistry III	4.5
Choose two chemistry electives from:		5.0-7.0
CHEM 241	Organic Chemistry I	
ENVS 302	Environmental Chemistry Laboratory	
ENVS 310	Introduction to Environmental Chemistry	

#### Physics sequence

PHYS 152	Introductory Physics I	4.0
PHYS 153	Introductory Physics II	4.0
PHYS 154	Introductory Physics III	4.0

#### Biological Sciences

BIO 131	Cells and Biomolecules	4.0
BIO 132	Genetics and Evolution	4.0
BIO 133	Physiology and Ecology	4.0
BIO 134	Cells and Biomolecules Lab	1.0
BIO 135	Genetics and Evolution Lab	1.0
BIO 136	Anatomy and Ecology Lab	1.0

#### Geoscience Requirements

GEO 101	Physical Geology	4.0
GEO 103	Introduction to Field Methods in Earth Science	2.0

GEO 201 [WI]	Earth Systems Processes	3.0
<b>Environmental Science Core Requirements</b>		
ENVS 101	Introduction to Environmental Science	5.0
ENVS 102	Natural History, Research and Collections	2.0
ENVS 201	Practical Identification of Plants and Animals	2.0
ENVS 212	Evolution	4.0
ENVS 284	Physiological and Population Ecology	3.0
ENVS 286	Community and Ecosystem Ecology	3.0
ENVS 308	GIS and Environmental Modeling	3.0
ENVS 441 [WI]	Issues in Global Change I: Seminar	2.0
ENVS 442	Issues in Global Change II: Research	2.0
ENVS 443	Issues in Global Change III: Synthesis	2.0
Choose one of the following:		3.0-4.0
ENSS 283	Introduction to Environmental Policy	
ENSS 326	Cities and Sustainability	
ENSS 348	Delaware River Issues and Policy	
PSCI 284	Environmental Politics	
<b>Environmental Science Lab Requirements</b>		
		<b>2.0</b>
BIO 222	Microbiology Laboratory	
BIO 225	Vertebrate Biology and Evolution Laboratory	
BIO 257	Vertebrate Morphology & Physiology Lab	
ENVS 323	Tropical Field Studies	
ENVS 327	Molecular Ecology Laboratory	
ENVS 353	Field Ornithology Lab	
ENVS 382	Field Botany of the New Jersey Pine Barrens	
ENVS 383	Ecology of the New Jersey Pine Barrens	
ENVS 387	Restoration Ecology	
ENVS 388	Marine Field Methods	
ENVS 394	Entomology Laboratory	
<b>Environmental Concentration Requirements</b>		
		<b>14.0-15.0</b>
See list of concentration requirements below.		
<b>Environmental Electives **</b>		
		<b>12.0</b>
BIO 221	Microbiology	
BIO 224	Form, Function & Evolution of Vertebrates	
BIO 256	Vertebrate Morphology and Physiology	
BIO 436	Population Genetics	
GEO 205	Dinosaurs and Their World	
GEO 207	Introduction to Oceanography	
GEO 215	Mineralogy	
GEO 301	Advanced Field Methods in Earth Science	
GEO 306	Environmental Geology	
GEO 309	Geochemistry	
GEO 312	Sedimentology and Stratigraphy	
GEO 320	Invertebrate Paleobiology and Paleoeology	
GEO 322	Vertebrate Paleontology	
GEO 325	Structural Geology	
GEO 342	Geomorphology	
GEO 346	Coastal Geology	
GEO 348	Oceanography	
GEO 350	Volcanology	
GEO 375	Field Camp	
GEO 401	Igneous and Metamorphic Petrology	
GEO 412	Geology of Groundwater	
GEO 418	Geophysics	
GEO 444	Plate Tectonics	
ENSS 244	Sociology of the Environment	
ENSS 283	Introduction to Environmental Policy	
ENSS 285	Introduction to Urban Planning	
ENSS 326	Cities and Sustainability	
ENSS 341	Environmental Movements in America	
ENSS 346	Environmental Justice	
ENSS 348	Delaware River Issues and Policy	

ENVS 247	Native Plants and Sustainability
ENVS 275	Global Climate Change
ENVS 289	Global Warming, Biodiversity and Your Future
ENVS 304	Energy and the Environment: Iceland
ENVS 312	Systematic Biology
ENVS 315	Plant Animal Interactions
ENVS 322	Tropical Ecology
ENVS 326	Molecular Ecology
ENVS 328	Conservation Biology
ENVS 330	Aquatic Ecology
ENVS 333	Wetland Ecology
ENVS 335	Aquatic Insects and Water Quality
ENVS 352	Ornithology
ENVS 354	Ichthyology
ENVS 355	Biogeography
ENVS 362	Urban Ecology
ENVS 364	Animal Behavior
ENVS 372	Environmental Assessment
ENVS 376	Environmental and Ecological Remediation
ENVS 382	Field Botany of the New Jersey Pine Barrens
ENVS 383	Ecology of the New Jersey Pine Barrens
ENVS 385	Systems Ecology
ENVS 387	Restoration Ecology
ENVS 388	Marine Field Methods
ENVS 390	Marine Ecology
ENVS 391	Freshwater and Marine Algae
ENVS 393	Entomology
ENVS 401	Chemistry of the Environment
ENVS 405	Atmospheric Chemistry
ENVS 410	Physiological Ecology
ENVS 415	Advanced Environmental GIS
ENVS 418	Coastal Biogeochemistry
ENVS 438	Biodiversity
ENVS 470	Advanced Topics in Evolution

**Free Electives** **24.0**

**Total Credits** **185.5-189.5**

\* Students not participating in co-op will not take COOP 101; 1.0 credit of Free Elective will be added in place of COOP 101. Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

\*\* Up to two GEO or ENSS courses may count as ENVS electives.

## Environmental Science Concentrations

**Ecology & Evolution Concentration** **14.0-15.0**

Choose 5 from below:

ENVS 202	Tree of Life
ENVS 312	Systematic Biology
ENVS 328	Conservation Biology
ENVS 470	Advanced Topics in Evolution
BIO 244	Genetics I
BIO 436	Population Genetics

**Total Credits** **14.0-15.0**

**Applied Environmental Science Concentration** **14.0-15.0**

Required Courses

ENVS 203	The Watershed Approach
ENVS 275	Global Climate Change
ENVS 372	Environmental Assessment

Choose 2 from below:



ENVS 376	Environmental and Ecological Remediation
ENVS 401	Chemistry of the Environment
GEO 306	Environmental Geology

Total Credits

14.0-15.0

## Notes about Environmental Science opportunities:

- Field experience electives include quantitative environmental measurements in local aquatic and terrestrial habitats, such as streams, lakes, the Delaware Bay, the Poconos, and the New Jersey Pine Barrens (for example, Field Botany: NJ Pine Barrens; Ecology of the Pine Barrens; Marine Field Methods).
- Students are required to consult frequently with their academic advisors for curriculum planning. Many of the graduate courses in environmental science are also open to qualified seniors who wish to become familiar with some of the applications in the field. Prerequisites and descriptions of available graduate courses appear in the graduate catalog.
- The Equatorial Guinea: Bioko Island Study Abroad Program offers a unique opportunity for undergraduates and recent graduates to study tropical biodiversity and its conservation, with an emphasis on field work that takes advantage of Bioko Island's pristine rainforests ranging from sea level to over 10,000 feet in altitude, its seven species of rare monkeys, and its four species of nesting sea turtles. For more information, please visit the Drexel Study Abroad Office (<http://www.drexel.edu/studyabroad/>).

## Sample Plan of Study

The plan of study below is a generic plan, suited for all four concentrations. Contact the program advisor for additional details.

### 4 Year, No co-op

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CHEM 101	3.5 BIO 132	4.0 BIO 133	4.0 VACATION	
ENGL 101 or 111	3.0 BIO 135	1.0 BIO 136	1.0	
ENVS 101	5.0 CHEM 102	4.5 CHEM 103	4.5	
MATH 101 or 121	4.0 CIVC 101	1.0 GEO 103	2.0	
UNIV S101	1.0 ENGL 102 or 112	3.0 MATH 239 or 123	4.0	
	MATH 102 or 122	4.0		
	<b>16.5</b>	<b>17.5</b>	<b>15.5</b>	<b>0</b>

#### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
BIO 131	4.0 CS 171	3.0 ENVS 212	4.0 VACATION	
BIO 134	1.0 ENVS 286	3.0 GEO 101	4.0	
ENGL 103 or 113	3.0 GEO 201	3.0 PHYS 152	4.0	
ENVS 102	2.0 Concentration Course	3.0 PHIL 340 or 341	3.0	
ENVS 201	2.0 Free Elective	4.0 Concentration Course	2.0-3.0	
ENVS 284	3.0			
	<b>15</b>	<b>16</b>	<b>17-18</b>	<b>0</b>

#### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 230	3.0 MATH 410	3.0 MATH 411	3.0 VACATION	
ENVS 308	3.0 PHYS 154	4.0 Concentration Course	3.0	
PHYS 153	4.0 Concentration Course	3.0 ENV CHEM Elective	2.0-3.0	
UNIV S201	1.0 CHEM Elective	3.0-4.0 ENSS Elective	3.0-4.0	
ENVS Elective	3.0 Humanities/Social Science Elective	3.0 Free Elective	3.0	
Free Elective	3.0			
	<b>17</b>	<b>16-17</b>	<b>14-16</b>	<b>0</b>

#### Fourth Year

Fall	Credits Winter	Credits Spring	Credits
COM 310	3.0 ENVS 442	2.0 ENVS 443	2.0
ENVS 441	2.0 Environmental Science (ENVS) Elective	3.0 Environmental Science (ENVS) Electives	6.0
Concentration Course	3.0 Humanities/Social Science Elective	3.0 Free Electives	6.0
Environmental Science (ENVS) Lab Elective	2.0 Free Electives	6.0	

Free Elective	3.0		
	<b>13</b>	<b>14</b>	<b>14</b>

**Total Credits 185.5-189.5**

## 4 Year, 1 co-op

### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CHEM 101	3.5 BIO 132	4.0 BIO 133	4.0 VACATION	
ENGL 101 or 111	3.0 BIO 135	1.0 BIO 136	1.0	
ENVS 101	5.0 CHEM 102	4.5 CHEM 103	4.5	
MATH 101 or 121	4.0 CIVC 101	1.0 COOP 101	1.0	
UNIV S101	1.0 ENGL 102 or 112	3.0 GEO 103	2.0	
	MATH 102 or 122	4.0 MATH 239 or 123	4.0	
	<b>16.5</b>	<b>17.5</b>	<b>16.5</b>	<b>0</b>

### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
BIO 131	4.0 CS 171	3.0 ENVS 212	4.0 COM 230	3.0
BIO 134	1.0 ENVS 286	3.0 GEO 101	4.0 ENVS 308	3.0
ENGL 103 or 113	3.0 GEO 201	3.0 PHYS 152	4.0 PHYS 153	4.0
ENVS 102	2.0 Concentration Course	3.0 PHIL 340 or 341	3.0 UNIV S201	1.0
ENVS 201	2.0 Free Elective	3.0 Concentration Course	2.0-3.0 ENVS Elective	3.0
ENVS 284	3.0		Free Elective	3.0
	<b>15</b>	<b>15</b>	<b>17-18</b>	<b>17</b>

### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
MATH 410	3.0 MATH 411	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
PHYS 154	4.0 Concentration Course	3.0		
Concentration Course	3.0 ENV CHEM Elective	2.0-3.0		
CHEM Elective	3.0-4.0 ENSS Elective	3.0-4.0		
Humanities/Social Science Elective	3.0 Free Elective	3.0		
	<b>16-17</b>	<b>14-16</b>	<b>0</b>	<b>0</b>

### Fourth Year

Fall	Credits Winter	Credits Spring	Credits
COM 310	3.0 ENVS 442	2.0 ENVS 443	2.0
ENVS 441	2.0 Environmental Science (ENVS) Elective	3.0 Environmental Science (ENVS) Electives	6.0
Concentration Course	3.0 Humanities/Social Science Elective	3.0 Free Electives	6.0
Environmental Science (ENVS) Lab Elective	2.0 Free Electives	6.0	
Free Elective	3.0		
	<b>13</b>	<b>14</b>	<b>14</b>

**Total Credits 185.5-189.5**

## 5 Year, 3 Co-ops

### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CHEM 101	3.5 ENGL 102 or 112	3.0 BIO 133	4.0 VACATION	
ENGL 101 or 111	3.0 BIO 132	4.0 BIO 136	1.0	
ENVS 101	5.0 BIO 135	1.0 CHEM 103	4.5	
MATH 101 or 121	4.0 CHEM 102	4.5 COOP 101	1.0	
UNIV S101	1.0 MATH 102 or 122	4.0 GEO 103	2.0	
	CIVC 101	1.0 MATH 239 or 123	4.0	
	<b>16.5</b>	<b>17.5</b>	<b>16.5</b>	<b>0</b>

### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
BIO 131	4.0 CS 171	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
BIO 134	1.0 ENVS 286	3.0		
ENGL 103 or 113	3.0 GEO 201	3.0		
ENVS 102	2.0 Concentration Course	3.0		

ENVS 201	2.0 Free Elective	3.0		
ENVS 284	3.0			
	<b>15</b>	<b>15</b>	<b>0</b>	<b>0</b>
<b>Third Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
ENVS 212	4.0 COM 230	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
GEO 101	4.0 ENVS 308	3.0		
PHIL 340 or 341	3.0 PHYS 153	4.0		
PHYS 152	4.0 UNIV S201	1.0		
Concentration Course	2.0-3.0 ENVS Elective	3.0		
	Free Elective	3.0		
	<b>17-18</b>	<b>17</b>	<b>0</b>	<b>0</b>
<b>Fourth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
MATH 410	3.0 MATH 411	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
PHYS 154	4.0 Concentration Course	3.0		
Concentration Course	3.0 ENV CHEM Elective	2.0-3.0		
CHEM Elective	3.0-4.0 ENSS Elective	3.0-4.0		
Humanities/Social Science Elective	3.0 Free Elective	3.0		
	<b>16-17</b>	<b>14-16</b>	<b>0</b>	<b>0</b>
<b>Fifth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>	
COM 310	3.0 ENVS 442	2.0 ENVS 443	2.0	
ENVS 441	2.0 Environmental Science (ENVS) Elective	3.0 Environmental Science (ENVS) Electives	6.0	
Concentration Course	3.0 Humanities/Social Science Elective	3.0 Free Electives	6.0	
Environmental Science (ENVS) Lab Elective	2.0 Free Electives	6.0		
Free Elective	3.0			
	<b>13</b>	<b>14</b>	<b>14</b>	

Total Credits 185.5-189.5

\* See degree requirements (p. 93).

## Co-op/Career Opportunities

Environmental scientists pursue careers in environmental assessment, environmental health, ecology, conservation, marine science, and atmospheric science.

### Co-op Opportunities

Co-op and research opportunities will be available with the scientists at the Academy of Natural Sciences (<http://www.ansp.org/>). In addition, recent co-op experiences have included:

CHPlanning, Center City Philadelphia  
 Lakes Environmental Assn., Maine  
 US Environmental Protection Agency, Center City Philadelphia  
 Criterion Lab Inc, Philadelphia, PA Suburbs  
 Philadelphia Water Department, Philadelphia  
 Temple University, Philadelphia  
 Fairway Testing Co., NYC  
 University of Alaska, Fairbanks, Alaska  
 Bioko Biodiversity Protection Program, Equatorial Guinea  
 React Environmental Professional Services Group Inc., Philadelphia  
 Air Management Services, Philadelphia  
 Exelon Corporation, Philadelphia

### Graduate Opportunities

Graduates in this major typically work for government environmental agencies, in environmental consulting firms, and in environmental departments of various industries. Additional training at the graduate level is an option for many students.

Visit the Drexel Steinbright Career Development Center (<http://www.drexel.edu/scdc/>) page for more detailed information on co-op and post-graduate opportunities.

## Environmental Science Faculty

Jon Gelhaus, PhD (*University of Kansas*) Curator, Department of Entomology: Academy of Natural Sciences. Professor. Systematic expertise in crane flies (Tipuloidea); phylogenetic reconstruction; historical and ecological biogeography; biodiversity measures and evolution of morphological character systems.

Danielle Kreeger, PhD (*Oregon State University*). Research Associate Professor. Trophic interactions in aquatic ecosystems.

Stefanie Kroll, PhD (*SUNY College of Environmental Science and Forestry*) Watershed Ecology Section Leader, Academy of Natural Sciences. Assistant Research Professor. Aquatic macroinvertebrate ecology, bioindicators of human stressors on aquatic ecosystems, monitoring the effects of watershed conservation, management and restoration.

Marie J. Kurz, PhD (*University of Florida*) Biogeochemistry Section Leader, Academy of Natural Sciences. Assistant Research Professor. Interactions between geochemical, ecological & hydrologic processes in freshwater systems. Availability, transport and cycling of stream solutes; Stream ecosystem structure & function; Groundwater-surface water interactions; Adaptive management & restoration of water resources & aquatic ecosystems.

Tatyana Livshultz, PhD (*Cornell University*) Assistant Curator of Botany. Assistant Professor. Expertise of the milkweed and dogbane family (Apocynaceae); evolution and species diversity of the genus *Dischidia*; differences in floral form and function.

Amanda Lough, PhD (*Washington University in St. Louis*). Assistant Professor. Volcanic seismicity and the relation to magma plumbing systems; glacial seismicity and the seismicity of Antarctica; intraplate seismicity.

Richard McCourt, PhD (*University of Arizona*) Curator of Botany, Academy of Natural Sciences of Drexel University; 2010-2012: Program Director, Division of Graduate Education, National Science Foundation. Professor. Evolution, ecology, systematics of green algae..

Michael O'Connor, MD, PhD (*MD, Johns Hopkins University; PhD, Colorado State*). Professor. Biophysical and physiological ecology, thermoregulation of vertebrates, ecological modeling.

Sean O'Donnell, PhD (*University of Wisconsin-Madison*). Professor. Climate ecology, focusing on geographic variation and species differences in thermal physiology; Behavior and ecology of army ant/bird interactions; Neurobiology, focusing on brain plasticity and brain evolution in social insects.

Marina Potapova, PhD (*Russian Academy of Sciences*) Associate Curator of Diatoms: Academy of Natural Sciences. . Assistant Professor. Taxonomy, ecology, and biogeography of freshwater and coastal diatoms.

Gary Rosenberg, PhD (*Harvard University*) Pilsbry Chair of Malacology. Professor. Magnitude and origin of species-level diversity in the Mollusca. Biodiversity informatics

Jacob Russell, PhD (*University of Arizona*). Professor. Microbiomes and metagenomics; ecology and evolution of symbiosis.

Jocelyn A. Sessa, PhD (*Penn State University*) Assistant Curator of Invertebrate Paleontology: Academy of Natural Sciences. Assistant Professor. Paleocology; paleobiology; extinction recovery dynamics; climate change; isotope geochemistry; fossil and modern mollusks

David J. Velinsky, PhD (*Old Dominion University*) Department Head, Biodiversity, Earth and Environmental Science. Professor. Geochemical cycling of organic and inorganic constituents of sediments and waters; Sedimentary diagenesis of major and minor elements; Isotope biogeochemistry of carbon, nitrogen and sulfur in marine and freshwater systems.

Dane Ward, PhD (*Drexel University*). Assistant Teaching Professor. Urban agriculture and sustainability both in Philadelphia and Cienfuegos, Cuba, as well as insect community structure and population ecology of reptiles and amphibians in the New Jersey Pine Barrens.

Elizabeth B. Watson, PhD (*University of California, Berkeley*). Associate Professor. The implications of global and regional environmental change and unraveling the interacting effects of multiple anthropogenic stressors on coastal ecosystems to promote more informed management, conservation, and restoration.

Jason Weckstein, PhD (*Louisiana State University*) Associate Curator of Ornithology. Associate Professor. Avian phylogenetics, comparative biology and evolutionary history; biodiversity surveys of birds and their parasites and pathogens; coevolutionary history of birds and their parasites.

## Emeritus Faculty

Susan S. Kilham, PhD (*Duke University*). Professor Emeritus. Aquatic ecology: phytoplankton; physiological ecology, especially of diatoms in freshwater and marine systems; large lakes; food webs; biogeochemistry.

John G. Lundberg, PhD (*University of Michigan*). Professor Emeritus. Diversity and diversification of fishes; documenting and interpreting the morphological, molecular, and taxonomic diversity of living and fossil fishes in the interrelated fields of systematic, faunistics and biogeography and paleobiology; exploration and collecting in poorly-known tropical freshwater habitats and regions.

Daniel Otte, PhD (*University of Michigan*) *Senior Curator, Systematics and Evolutionary Biology*. Professor Emeritus. Taxonomy and biogeography of Orthoptera (grasshoppers, crickets, katydids and their relatives).

James R. Spotila, PhD (*University of Arkansas*) *L. D. Betz Chair Professor*. Professor Emeritus. Physiological and biophysical ecology, thermoregulation of aquatic vertebrates, biology of sea turtles.

## Environmental Studies and Sustainability

*Major: Environmental Studies and Sustainability*

*Degree Awarded: Bachelor of Arts (BA)*

*Calendar Type: Quarter*

*Total Credit Hours: 183.0*

*Co-op Options: Three Co-op (Five years); One Co-op (Four years); No Co-op (Four years)*

*Classification of Instructional Programs (CIP) code: 03.0103*

*Standard Occupational Classification (SOC) code: 19-2041*

### About the Program

The BA in Environmental Studies and Sustainability (ENSS) is administered in the Department of Biodiversity, Earth and Environmental Science (BEES). It is a multidisciplinary degree that takes advantage of existing courses in both the Arts and Sciences to educate graduates who will be able to work in government agencies, corporations, and nonprofit organizations who develop, implement, or are affected by environmental policies.

### Objective

The objective of this major is to educate students so that they will be successful in finding solutions to environmental challenges that all societies will face in the 21<sup>st</sup> century. Graduates will be educated with the goal of thinking in terms of cross-cultural ideas and dialogue. In that way they will be encouraged to help people of all cultures understand environmental problems and act in the area of environmental stewardship.

The BA in Environmental Studies and Sustainability will provide graduates with a broad understanding of environmental science, policy development, needs of decision makers, attorneys and engineers, urban and international concerns, and current environmental issues. Important to any future position in fields of environmental policy, planning, and sustainability, the program builds on communication skills, collaboration abilities and team building, a “customer” orientation, creativity and innovative thinking ability, analytical ability, critical thinking and problem solving ability, a work orientation with professionalism and a positive attitude, occupation-specific skill and knowledge through co-op, and leadership ability. Students may opt to specialize in different study tracks including Policy, Government, and Business; Social Awareness and Action, and Scientific Inquiry.

### Drexel Advantage

There is a distinct advantage to a student in undertaking an Environmental Studies and Sustainability degree at Drexel. Drexel University was one of the first universities in the nation to establish an undergraduate environmental science degree in the late 1960s. Since that time, Drexel has expanded to areas of environmental policy and sustainability. Over the long history of the program, Drexel has established an extensive network of co-op employers who value Drexel students, including federal and state governments, consulting firms, research institutions, non-profit organizations, and industry, with work ranging from biological field sampling to developing policy with governmental decision makers, action plans for non-profit organizations, or model environmental strategies with industrial sustainability offices. Drexel students take advantage of the co-op program to both get more extensive experience and get paid while doing so. By graduation, students’ resumes include real-world experiences.

### Degree Requirements

#### General Requirements

CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development	1.0
ENGL 101 or ENGL 111	Composition and Rhetoric I: Inquiry and Exploratory Research English Composition I	3.0
ENGL 102 or ENGL 112	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing English Composition II	3.0
ENGL 103 or ENGL 113	Composition and Rhetoric III: Themes and Genres English Composition III	3.0
MATH 101	Introduction to Analysis I	4.0
MATH 107	Probability and Statistics for Liberal Arts	3.0
UNIV S101	The Drexel Experience	1.0
UNIV H201	Looking Forward: Academics and Careers	1.0

#### Social and Behavioral Sciences

SOC 101	Introduction to Sociology	3.0
or ANTH 101	Introduction to Cultural Diversity	
PSY 101	General Psychology I	3.0
PSCI 110	American Government	4.0
Social Behavior elective		3.0
<b>Physical and Natural Sciences</b>		
BIO 109	Biological Diversity, Ecology & Evolution	3.0
BIO 110	Biological Diversity, Ecology and Evolution Laboratory	1.0
ENVS 101	Introduction to Environmental Science	5.0
ENVS 230	General Ecology	3.0
ENSS 275	Global Climate Change	3.0
or ENVS 289	Global Warming, Biodiversity and Your Future	
GEO 201 [WI]	Earth Systems Processes	3.0
<b>Humanities and Fine Arts</b>		
Humanities & Fine Arts Electives		6.0
COM 317 [WI]	Environmental Communication	3.0
or COM 320	Science Writing	
PHIL 340	Environmental Ethics	3.0
or PHIL 341	Environmental Philosophy	
<b>Diversity Electives</b>		<b>6.0</b>
<b>International Studies</b>		<b>6.0</b>
<b>Foreign Language</b>		<b>8.0</b>
Students must complete at least 8 credits of a foreign language and, at minimum, must complete the 103 level of the target language (or beyond if they place higher).		
<b>ENSS Core Requirements</b>		
ECON 201	Principles of Microeconomics	4.0
ECON 202	Principles of Macroeconomics	4.0
ENSS 120	Introduction to Environmental Studies	3.0
ENSS 244	Sociology of the Environment	4.0
ENSS 283	Introduction to Environmental Policy	3.0
ENSS 285	Introduction to Urban Planning	3.0
ENSS 326	Cities and Sustainability	3.0
ENSS 346	Environmental Justice	4.0
ENVS 260	Environmental Science and Society	3.0
PBHL 101	Public Health 101	3.0
PSCI 284	Environmental Politics	4.0
<b>Modeling and Research</b>		
ENVS 308	GIS and Environmental Modeling	3.0
SOC 241	Research Design: Qualitative Methods	4.0
SOC 242	Research Design: Quantitative Methods	4.0
<b>Major Electives - choose from the list below</b>		<b>21.0</b>
ANTH 310	Societies In Transition: The Impact of Modernization and the Third World	
ANTH 360	Culture and the Environment	
CJS 373	Environmental Crime	
COM 316	Campaigns for Health & Environment	
COM 317 [WI]	Environmental Communication	
COM 318	Film, Celebrity and the Environmental Movement	
COM 320 [WI]	Science Writing	
COM 375 [WI]	Grant Writing	
COM 376	Nonprofit Communication	
ECON 301	Microeconomics	
ECON 334	Public Finance	
ECON 351	Resource and Environmental Economics	
ENSS 348	Delaware River Issues and Policy	
ENVS 286	Community and Ecosystem Ecology	
ENVS 304	Energy and the Environment: Iceland	
ENVS 310	Introduction to Environmental Chemistry	
ENVS 323	Tropical Field Studies	
ENVS 328	Conservation Biology	
ENVS 330	Aquatic Ecology	
ENVS 333	Wetland Ecology	
ENVS 355	Biogeography	
ENVS 362	Urban Ecology	

ENVS 372	Environmental Assessment
ENVS 376	Environmental and Ecological Remediation
ENVS 383	Ecology of the New Jersey Pine Barrens
ENVS 387	Restoration Ecology
ENVS 390	Marine Ecology
ENVS 401	Chemistry of the Environment
ENVS 438	Biodiversity
GEO 111	Natural Disasters
GEO 207	Introduction to Oceanography
GEO 306	Environmental Geology
HIST 302	The Study of Science, Technology, and Environment in History
HIST 320	Disaster in Global History
HIST 321	Themes in Global Environmental History
HIST 322	Empire and Environment
HIST 323	The History of Climate Change
HIST 385	Transnational History of Science, Technology and Environment
PBHL 301	Epidemiology in Public Health
PBHL 303	Overview of Issues in Global Health
PBHL 304	Introduction to Health & Human Rights
PBHL 306	Introduction to Community Health
PBHL 314	Environmental and Occupational Health
PBHL 317	The World's Water
PHEV 145	Weather I: Climate and Global Change
PSCI 305	Social Development: A Global Approach
PSCI 325	Political Theory from Below
PSCI 334	Politics of Environment and Health
PSCI 337	International Environmental Politics
PSCI 369	The Politics of Food
PSY 352	Psychology of Sustainability
SOC 313	Sociology of Global Health
SOC 330	Development and Underdevelopment in the Global South
SOC 340	Globalization
SOC 349	Sociology of Disasters
SOC 355 [WI]	Classical Social Theory
SOC 356 [WI]	Contemporary Social Theory
SOC 364	Computer-Assisted Data Analysis
SOC 444	Social Movements

**Senior Sequence**

ENVS 441 [WI]	Issues in Global Change I: Seminar	2.0
ENVS 442	Issues in Global Change II: Research	2.0
ENVS 443	Issues in Global Change III: Synthesis	2.0
Free Electives		24.0

**Total Credits****183.0**

- \* Students not participating in co-op will not take COOP 101; 1 credit of Free Elective will be added in place of COOP 101.  
Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.  
COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

## Sample Plan of Study

### 4 year, No co-op

**First Year**

<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
ENGL 101 or 111	3.0 BIO 109	3.0 ENGL 103 or 113	3.0 VACATION	
ENSS 120	3.0 BIO 110	1.0 MATH 107	3.0	
ENVS 101	5.0 CIVC 101	1.0 SOC 101 or ANTH 101	3.0	
MATH 101	4.0 ENGL 102 or 112	3.0 Foreign Language	4.0	
UNIV S101	1.0 PSY 101	3.0 Free elective	4.0	

Foreign Language		4.0		
	16	15	17	0
<b>Second Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
ENSS 283	3.0 ENSS 244	4.0 COM 317	3.0 VACATION	
ENVS 260	3.0 ENSS 275 or ENVS 289	3.0 ECON 201	4.0	
PBHL 101	3.0 ENVS 230	3.0 ENSS 285	3.0	
PSCI 110	4.0 ENVS 308	3.0 UNIV H201	1.0	
	Free Elective	3.0 Free Elective	3.0	
	13	16	14	0
<b>Third Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
ECON 202	4.0 PHIL 340 or 341	3.0 ENSS 326	3.0 VACATION	
GEO 201	3.0 SOC 241	4.0 SOC 242	4.0	
PSCI 284	4.0 Major Elective	3.0 Major Electives	6.0	
Major Elective	3.0 Free Elective	3.0 Diversity Elective	3.0	
Humanities/Fine Arts Elective	3.0 Humanities/Fine Arts Elective	3.0		
	17	16	16	0
<b>Fourth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>	
ENSS 346	4.0 ENVS 442	2.0 ENVS 443	2.0	
ENVS 441	2.0 Major Elective	3.0 Major Elective	3.0	
Major Elective	3.0 Diversity Elective	3.0 International Elective	3.0	
SOC/Behavior Elective	3.0 International Elective	3.0 Free Electives	6.0	
Free Elective	3.0 Free Elective	3.0		
	15	14	14	

Total Credits 183

## 4 year, 1 co-op

### First Year

<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
ENGL 101 or 111	3.0 BIO 109	3.0 COOP 101	1.0 VACATION	
ENSS 120	3.0 BIO 110	1.0 ENGL 103 or 113	3.0	
ENVS 101	5.0 CIVC 101	1.0 MATH 107	3.0	
MATH 101	4.0 ENGL 102 or 112	3.0 SOC 101 or ANTH 101	3.0	
UNIV S101	1.0 PSY 101	3.0 Foreign Language	4.0	
	Foreign Language	4.0 Free Elective	3.0	
	16	15	17	0

### Second Year

<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
ENSS 283	3.0 ENSS 244	4.0 COM 317	3.0 ECON 202	4.0
ENVS 260	3.0 ENVS 230	3.0 ECON 201	4.0 GEO 201	3.0
PBHL 101	3.0 ENVS 275 or 289	3.0 ENSS 285	3.0 PSCI 284	4.0
PSCI 110	4.0 ENVS 308	3.0 UNIV H201	1.0 Major Elective	3.0
	Free Elective	3.0 Free Elective	3.0 Humanities/Fine Arts Elective	3.0
	13	16	14	17

### Third Year

<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
PHIL 340 or 341	3.0 ENSS 326	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
SOC 241	4.0 SOC 242	4.0		
Major Elective	3.0 Major Electives	6.0		
Humanities/Fine Arts Elective	3.0 Diversity Elective	3.0		
Free Elective	3.0			
	16	16	0	0

### Fourth Year

<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>
ENSS 346	4.0 ENVS 442	2.0 ENVS 443	2.0
ENVS 441	2.0 Major Elective	3.0 Major Elective	3.0



Major Elective	3.0 Diversity Elective	3.0 International Elective	3.0
SOC/Behavior Elective	3.0 International Elective	3.0 Free Electives	6.0
Free Elective	3.0 Free Elective	3.0	
	<b>15</b>	<b>14</b>	<b>14</b>

**Total Credits 183**

## 5 year, 3 co-op

### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 BIO 109	3.0 COOP 101	1.0 VACATION	
ENSS 120	3.0 BIO 110	1.0 ENGL 103 or 113	3.0	
ENVS 101	5.0 CIVC 101	1.0 MATH 107	3.0	
MATH 101	4.0 ENGL 102 or 112	3.0 SOC 101 or ANTH 101	3.0	
UNIV S101	1.0 PSY 101	3.0 Foreign Language	4.0	
	Foreign Language	4.0 Free elective	3.0	
	<b>16</b>	<b>15</b>	<b>17</b>	<b>0</b>

### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENSS 283	3.0 ENSS 244	4.0 COOP EXPERIENCE	COOP EXPERIENCE	
ENVS 260	3.0 ENSS 275 or ENVS 289	3.0		
PBHL 101	3.0 ENVS 230	3.0		
PSCI 110	4.0 ENVS 308	3.0		
	Free Elective	3.0		
	<b>13</b>	<b>16</b>	<b>0</b>	<b>0</b>

### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 317	3.0 ECON 202	4.0 COOP EXPERIENCE	COOP EXPERIENCE	
ECON 201	4.0 GEO 201	3.0		
ENSS 285	3.0 PSCI 284	4.0		
UNIV H201	1.0 Major Elective	3.0		
Free Elective	3.0 Humanities/Fine Arts Elective	3.0		
	<b>14</b>	<b>17</b>	<b>0</b>	<b>0</b>

### Fourth Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
PHIL 340 or 341	3.0 ENSS 326	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
SOC 241	4.0 SOC 242	4.0		
Major Elective	3.0 Major Electives	6.0		
Humanities/Fine Arts Elective	3.0 Diversity Elective	3.0		
Free Elective	3.0			
	<b>16</b>	<b>16</b>	<b>0</b>	<b>0</b>

### Fifth Year

Fall	Credits Winter	Credits Spring	Credits
ENSS 346	4.0 ENVS 442	2.0 ENVS 443	2.0
ENVS 441	2.0 Major Elective	3.0 Major Elective	3.0
Major Elective	3.0 Diversity Elective	3.0 International Elective	3.0
SOC/Behavior Elective	3.0 International Elective	3.0 Free Electives	6.0
Free Elective	3.0 Free Elective	3.0	
	<b>15</b>	<b>14</b>	<b>14</b>

**Total Credits 183**

## Career Opportunities

The largest job opportunities exist in the areas of environmental communication, sustainability, environmental policy, community action, water quality, parks and outdoor recreation, ecotourism, natural resources and conservation, international environmental policy, renewable energy, and climate change.

This major will educate individuals who seek careers and/or additional academic training in the following fields:

- Sustainability planning and implementation
- Urban, regional, and community planning

- Geographic information systems
- Environmental communications
- Environmental journalism
- Environmental law
- Park management and outdoor recreation
- Environmental consulting
- Environmental policy analysis
- Natural resource management

## Environmental Studies and Sustainability Faculty

Mariangeles Arce H., PhD (*Pontifícia Universidade Católica do Rio Grande do Sul*) *Collections Manager at the Academy of Natural Sciences*. Adjunct Professor. Biodiversity and evolution. Phylogenetics, taxonomy, molecular and morphological studies of Neotropical freshwater fishes. Global warming and conservation efforts.

Richardson Dilworth, PhD (*Johns Hopkins University*) *Director, Center for Public Policy*. Professor. American political development, urban politics, public policy.

Erin R. Graham, PhD (*Ohio State University*). Associate Professor. International institutions, international relations theory, global environmental politics.

Amanda McMillan Lequeiu, PhD (*University of Wisconsin-Madison*). Assistant Professor. Environmental sociology, political economy, place and space, rural-urban interface, qualitative and historical methodologies.

Gwen Ottinger, PhD (*University of California, Berkeley*). Associate Professor. Social studies of science and technology, environmental justice, environmental political theory, citizen science, science and engineering ethics.

Jaclyn Rhoads, PhD (*Drexel University*) *Assistant Executive Director at Pinelands Preservation Alliance*. Lead on environmental policy and lobbying, sustainability planning and development, and watershed restoration and climate resilience.

Alexis Schulman, PhD (*Massachusetts Institute of Technology*) *Director of the Environmental Studies and Sustainability Program*. Assistant Research Professor. Environmental policy and politics; urban planning; sustainability and resilience transitions; local knowledge and community science

Diane Sicotte, PhD (*Arizona State University*). Associate Professor. Sociology of environmental justice; inequalities in the citing of environmental hazards; community-based research in neighborhoods dealing with industrial hazards; sociology of the environment; urban sociology; social inequalities.

Andrew Smith, PhD (*SUNY, Stony Brook*). Associate Professor. Philosophy, social and political philosophy, American philosophy.

Dane Ward, PhD (*Drexel University*). Assistant Teaching Professor. Urban agriculture and sustainability both in Philadelphia and Cienfuegos, Cuba, as well as insect community structure and population ecology of reptiles and amphibians in the New Jersey Pine Barrens.

Elizabeth B. Watson, PhD (*University of California, Berkeley*). Associate Professor. The implications of global and regional environmental change and unraveling the interacting effects of multiple anthropogenic stressors on coastal ecosystems to promote more informed management, conservation, and restoration.

Jason Weckstein, PhD (*Louisiana State University*) *Associate Curator of Ornithology*. Associate Professor. Avian phylogenetics, comparative biology and evolutionary history; biodiversity surveys of birds and their parasites and pathogens; coevolutionary history of birds and their parasites.

## Geoscience

*Major: Geoscience*

*Degree Awarded: Bachelor of Science (BS)*

*Calendar Type: Quarter*

*Total Credit Hours: 182.5*

*Co-op Options: Three Co-op (Five years)*

*Classification of Instructional Programs (CIP) code: 40.0699*

*Standard Occupational Classification (SOC) code: 11-9121*

## About the Program

From energy to climate change to environmental degradation, many of the most pressing societal issues of the coming century will pertain to geoscience. The study of the Earth is central to maintaining clean drinking water, mitigating environmental contamination, providing ores and rare elements necessary for industry, and locating new sources of energy.

The Biodiversity, Earth and Environmental Science (BEES) Department offers a major in geoscience designed to meet the needs of students wishing to pursue graduate school or immediate employment in the geosciences.

The core requirements encompass foundational courses in science, writing, and math, and traditional courses that form the backbone of the geosciences. Building upon these are innovative courses focused on Earth systems processes, key environmental issues, practical field experiences, and advanced geological study.

In addition to nourishing and honing the passions of students studying the Earth, the core curriculum is designed to:

- Instill key technical skills early on as a pathway to high-quality co-op opportunities
- Lay the groundwork for our students to pursue advanced graduate study in the geosciences and other disciplines
- Enable our graduates to translate marketable skills and knowledge into high-quality jobs in industry and government

Geoscience majors will begin their field experiences during the first term of their freshmen year. Most courses include a laboratory section or a hands-on recitation section (“dry lab”), plus at least three field trips to relevant regional geological sites. These courses, combined with the co-op experience and summer geological field camp, provide students real-world experience in the field.

## Additional Information

For more information about this program, visit the Biodiversity, Earth and Environmental Science (BEES) Department website.

### Degree Requirements

#### General Education Requirements

CIVC 101	Introduction to Civic Engagement	1.0
COM 230	Techniques of Speaking	3.0
COM 310 [WJ]	Technical Communication	3.0
COOP 101	Career Management and Professional Development *	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
PHIL 340	Environmental Ethics	3.0
or PHIL 341	Environmental Philosophy	
UNIV S101	The Drexel Experience	1.0
UNIV S201	Looking Forward: Academics and Careers	1.0
Humanities or Social Science electives		6.0
Free electives		24.0

#### Mathematics and Statistics

MATH 121	Calculus I	4.0
MATH 122	Calculus II	4.0
MATH 123	Calculus III	4.0
MATH 410	Scientific Data Analysis I	3.0
MATH 411	Scientific Data Analysis II	3.0

#### Computer Science

CS 150	Computer Science Principles	3.0
CS 171	Computer Programming I	3.0

#### Physical Sciences

CHEM 101	General Chemistry I	3.5
CHEM 102	General Chemistry II	4.5
CHEM 103	General Chemistry III	4.5

Complete one of the following Physics sequences: 12.0

PHYS 101 & PHYS 102 & PHYS 201	Fundamentals of Physics I and Fundamentals of Physics II and Fundamentals of Physics III	
PHYS 152 & PHYS 153 & PHYS 154	Introductory Physics I and Introductory Physics II and Introductory Physics III	

#### Environmental Science

ENVS 101	Introduction to Environmental Science	5.0
ENVS 102	Natural History, Research and Collections	2.0
ENVS 441 [WJ]	Issues in Global Change I: Seminar	2.0

ENVS 442	Issues in Global Change II: Research	2.0
ENVS 443	Issues in Global Change III: Synthesis	2.0
<b>Geoscience Core Courses</b>		
GEO 101	Physical Geology	4.0
GEO 102	History of the Earth	4.0
GEO 103	Introduction to Field Methods in Earth Science	2.0
GEO 201 [WI]	Earth Systems Processes	3.0
GEO 215	Mineralogy	4.0
GEO 301	Advanced Field Methods in Earth Science	3.0
GEO 309	Geochemistry	4.0
GEO 312	Sedimentology and Stratigraphy	3.5
GEO 320	Invertebrate Paleobiology and Paleoecology	3.5
GEO 325	Structural Geology	5.0
GEO 401	Igneous and Metamorphic Petrology	5.0
GEO 375	Field Camp	6.0
<b>GEO Electives</b>		
Select 22.0 credits from the list below:		22.0
BIO 132	Genetics and Evolution	
BIO 133	Physiology and Ecology	
BIO 135	Genetics and Evolution Lab	
BIO 136	Anatomy and Ecology Lab	
BIO 224	Form, Function & Evolution of Vertebrates	
BIO 225	Vertebrate Biology and Evolution Laboratory	
BIO 256	Vertebrate Morphology and Physiology	
BIO 257	Vertebrate Morphology & Physiology Lab	
COM 317 [WI]	Environmental Communication	
ENVS 202	Tree of Life	
ENVS 212	Evolution	
ENVS 254	Invertebrate Morphology and Physiology	
ENVS 255	Invertebrate Morphology and Physiology Lab	
ENVS 275	Global Climate Change	
ENVS 302	Environmental Chemistry Laboratory	
ENVS 308	GIS and Environmental Modeling	
ENVS 310	Introduction to Environmental Chemistry	
ENVS 312	Systematic Biology	
ENVS 355	Biogeography	
ENVS 401	Chemistry of the Environment	
ENVS 405	Atmospheric Chemistry	
ENVS 418	Coastal Biogeochemistry	
ENVS 470	Advanced Topics in Evolution	
HIST 320	Disaster in Global History	
GEO 207	Introduction to Oceanography	
GEO 306	Environmental Geology	
GEO 322	Vertebrate Paleontology	
GEO 342	Geomorphology	
GEO 346	Coastal Geology	
GEO 348	Oceanography	
GEO 350	Volcanology	
GEO 412	Geology of Groundwater	
GEO 418	Geophysics	
GEO 444	Plate Tectonics	
PHEV 145	Weather I: Climate and Global Change	
PHEV 146	Weather II: Analysis and Forecasting	
SOC 349	Sociology of Disasters	

**Total Credits****182.5**

- \* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major. COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

## Sample Plan of Study

The sample plan of study is a general guideline that can be used for each of the three concentrations depending on course selections in certain terms.

### 5 year, 3 co-op

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 CHEM 101	3.5 CHEM 102	4.5 VACATION	
ENVS 101	5.0 CIVC 101	1.0 COOP 101	1.0	
GEO 101	4.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
MATH 121	4.0 GEO 102	4.0 ENVS 102	2.0	
UNIV S101	1.0 MATH 122	4.0 GEO 103	2.0	
		MATH 123	4.0	
	<b>17</b>	<b>15.5</b>	<b>16.5</b>	<b>0</b>

#### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CHEM 103 or 101	4.5 COM 230	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
CS 150	3.0 CS 171	3.0		
PHYS 101 or 152	4.0 GEO 201	3.0		
GEO or Free elective	3.0 PHYS 102 or 153	4.0		
	GEO or Free elective	3.0		
	<b>14.5</b>	<b>16</b>	<b>0</b>	<b>0</b>

#### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
GEO 312	3.5 GEO 215	4.0 COOP EXPERIENCE	COOP EXPERIENCE	
MATH 410	3.0 MATH 411	3.0	GEO 375	3.0
PHYS 201 or 154	4.0 UNIV S201	1.0		
PHIL 340 or 341	3.0 GEO elective	3.0		
	Free elective	3.0		
	<b>13.5</b>	<b>14</b>	<b>0</b>	<b>3</b>

#### Fourth Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 310	3.0 GEO 309	4.0 COOP EXPERIENCE	COOP EXPERIENCE	
GEO 320	3.5 GEO 325	5.0	GEO 375	3.0
GEO 401	5.0 Humanities/Social Science elective	3.0		
Humanities/Social Science elective	3.0 Free elective	3.0		
	<b>14.5</b>	<b>15</b>	<b>0</b>	<b>3</b>

#### Fifth Year

Fall	Credits Winter	Credits Spring	Credits
ENVS 441	2.0 ENVS 442	2.0 ENVS 443	2.0
GEO 301	3.0 GEO electives	4.0 GEO electives	6.0
GEO electives	6.0 Free electives	6.0 Free electives	6.0
Free Elective	3.0		
	<b>14</b>	<b>12</b>	<b>14</b>

Total Credits 182.5

## Co-Op/Career Opportunities

### Co-Op Opportunities

There are over one hundred environmental, geophysical, and geotechnical firms within the greater Philadelphia region. Additionally, there are opportunities with federal, state, and municipal agencies, jobs in central Pennsylvania related to the Marcellus Shale, and research opportunities between Drexel and the Academy of Natural Sciences.

All geoscience majors follow the five-year, three co-op plan of study program. Transfer students may be granted an exception for a two co-op plan of study so that they may remain on schedule. The summer geological field camp will occur during the third co-op cycle. In this third co-op, geoscience students attend field camp and also partake in an abbreviated co-op work experience.

## Career Opportunities

According to the US Bureau of Labor Statistics (BLS), employment for geoscientists through 2020 is expected to grow faster than the average for all occupations. In addition, the geosciences are expected to outpace life, physical, and social sciences in job creation. The employment outlook for geoscientists in Drexel's surrounding area is particularly bright, with a robust environmental consulting industry and exploding demand related to Marcellus Shale drilling.

The geoscience major, with its three concentrations, prepares students who are interested in entering the workforce immediately as well as those who are interested in pursuing related research in graduate schools.

## Facilities and Field Sites

### Facilities

The Geoscience major leverages resources at Drexel University and the Academy of Natural Sciences (<https://ansp.org/>) such as a mineral collection with 9,000 specimens, over a million fossil specimens, Dinosaur Hall, The Patrick Center for Environmental Research, a state-of-the-art fossil preparation lab, notable research programs, and faculty with expertise in geology, paleontology, and related disciplines.

### Summer Geological Field Camp

Summer geological field camp is the quintessential undergraduate experience for geosciences students. It is a long-held tradition in geology departments that students head out West, during the summer before graduation, to apply their knowledge to real-world situations and to acquire field skills that will serve them throughout their careers. This is particularly important for students in eastern schools where the mountains are small and outcrops are scarce. Field camp also provides networking and bonding opportunities for students. Friends made at field camp often become colleagues for life. At the Geological Society of America meeting, reunions are organized by the university *and* by field camp.

The summer geological field camp for Geoscience students will occur during the third co-op cycle.

### Barnegat Bay Coastal Field Station

The BEES field station on Barnegat Bay in Waretown, NJ provides Geoscience students with opportunities to engage in hands-on research in coastal geology, barrier island morphology, oceanography, and sedimentology. The facility includes a lodge, two classrooms/meeting rooms, dining hall, dormitories, and rustic cabins. The field station is located on 194 acres of diverse coastal habitat, including a maritime forest, tidal creek, salt marsh, fresh water pond, brackish impoundment, and bayshore environments. The department's research vessel gives students access to back-bay and near-shore marine environments.

The department holds its introductory field session for incoming freshmen and other events at the field station. The facility may also serve as a base for excursions into the Pine Barrens, a heavily forested area containing a number of interesting deposits related to the last glacial period.

### Red Hill Fossil Site

The Red Hill fossil site in Tioga County, PA, exposes Devonian coastal sedimentary rocks that preserve a rich fossil fauna. Of particular importance is a fossil fish species, studied by Dr. Ted Daeschler, representing a critical transition between fish and tetrapods (land animals). This site offers opportunities for studying vertebrate paleontology, stratigraphy, and sedimentology and provides students with a window into an important moment in the history of life on Earth.

### Inversand Fossil Site: Local Training Ground for Geoscience Majors

The Inversand fossil site is a unique resource for geological education, research, and STEM outreach. The quarry is located in Gloucester County, NJ, only 20 minutes from Drexel's campus, making it possible to conduct field exercises there within a three-hour class period. The geological formations that outcrop in the Inversand Quarry have yielded many new fossil species. The site has significance beyond vertebrate paleontology however, and will provide a local laboratory for classes in geochemistry, geophysics, stratigraphy, sedimentology, hydrogeology, and environmental geology. As such, it will provide a valuable training ground only a short distance from campus for all Drexel Geoscience majors.

## Geoscience Faculty

Ted Daeschler, PhD (*University of Pennsylvania*) *Curator of Vertebrate Zoology; Vice President for Systematic Biology and the Library: Academy of Natural Sciences*. Associate Professor. Fossil vertebrate faunas from the Late Devonian Period in eastern North America; systematic work focusing on freshwater vertebrates; nature of early non-marine ecosystems; fossil collecting and care of museum collections.

Marie J. Kurz, PhD (*University of Florida*) *Biogeochemistry Section Leader, Academy of Natural Sciences*. Assistant Research Professor. Interactions between geochemical, ecological & hydrologic processes in freshwater systems. Availability, transport and cycling of stream solutes; Stream ecosystem structure & function; Groundwater-surface water interactions; Adaptive management & restoration of water resources & aquatic ecosystems.

Amanda Lough, PhD (*Washington University in St. Louis*). Assistant Professor. Volcanic seismicity and the relation to magma plumbing systems; glacial seismicity and the seismicity of Antarctica; intraplate seismicity.

Gary Rosenberg, PhD (*Harvard University*) *Pilsbry Chair of Malacology*. Professor. Magnitude and origin of species-level diversity in the Mollusca. Biodiversity informatics

Jocelyn A. Sessa, PhD (*Penn State University*) *Assistant Curator of Invertebrate Paleontology: Academy of Natural Sciences*. Assistant Professor. Paleocology; paleobiology; extinction recovery dynamics; climate change; isotope geochemistry; fossil and modern mollusks

Loyc Vanderkluysen, PhD (*University of Hawaii*). Associate Professor. Lava flow emplacement; cyclicity of volcanic eruptions, volcanic degassing processes, and large igneous provinces.

David J. Velinsky, PhD (*Old Dominion University*) *Department Head, Biodiversity, Earth and Environmental Science*. Professor. Geochemical cycling of organic and inorganic constituents of sediments and waters; Sedimentary diagenesis of major and minor elements; Isotope biogeochemistry of carbon, nitrogen and sulfur in marine and freshwater systems.

## Global Studies

*Major: Global Studies*

*Degree Awarded: Bachelor of Arts (BA)*

*Calendar Type: Quarter*

*Total Credit Hours: 180.0*

*Co-op Options: Three Co-op (Five years); One Co-op (Four years); No Co-op (Four years)*

*Classification of Instructional Programs (CIP) code: 30.2001*

*Standard Occupational Classification (SOC) code: 19-3094*

## About the Program

Global Studies practices socially-responsible global citizenship through a unique combination of research-oriented and multilingual instruction, professional experience, and meaningful engagement with communities both here in Philadelphia and abroad.

Our students experience Global Studies by:

- Examining the movement of peoples, goods, and cultures across countries and regions
- Studying global issues in concrete socio-economic, cultural, and geographical contexts
- Tackling structural inequalities from a variety of perspectives and disciplines
- Developing intercultural and language skills through unique pedagogical models
- Working with employers and communities in Philadelphia and around the world through Drexel's Co-Op opportunities

## Degree Requirements

### General Requirements

CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development	1.0
ECON 201	Principles of Microeconomics	4.0
ECON 202	Principles of Macroeconomics	4.0
ENGL 101 or ENGL 111	Composition and Rhetoric I: Inquiry and Exploratory Research English Composition I	3.0
ENGL 102 or ENGL 112	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing English Composition II	3.0
ENGL 103 or ENGL 113	Composition and Rhetoric III: Themes and Genres English Composition III	3.0
PSCI 150	International Politics	4.0
UNIV H101	The Drexel Experience	1.0
UNIV H201	Looking Forward: Academics and Careers	1.0
Two mathematics courses		6.0-8.0
Two science courses		6.0-8.0

### Global Studies Core Requirements

GST 101	Becoming Global: Language and Cultural Context	3.0
GST 102	Understanding Global: Markets and Governance	3.0
GST 103	Acting Global: Research Methods in Global Studies	3.0
Four 200+ level GST courses		12.0
GST 400	Senior Project in Global Studies	3.0
Language minor in Spanish, French, or Japanese, or minor in Asian Studies, or Middle East and North Africa Studies **		24.0

Concentration (Select One)

95.0-91.0

**Total Credits****180.0**

\* Students not participating in co-op will take one additional credit of Free Elective instead of COOP 101.

\*\* Students must complete at least 24.0 credits above the 103 language level to earn a language minor.

**Global Media, Arts, and Cultures Concentration****Media, Arts, and Cultures Distribution Requirements**

ANTH 212 [WI]	Topics in World Ethnography	3.0
ANTH 330	Media Anthropology	3.0
ENGL 325	Topics in World Literature	3.0
PHIL 305	Ethics and the Media	3.0
WEST 100	Introduction to Digital Design Tools	3.0

**Select one of the following:****3.0**

ARTH 301	Asian Art and Culture	
ARTH 302	Art of India	
ARTH 303	Art of China	
ARTH 304	Art of Japan	
ARTH 311	Twentieth Century American Art	
ARTH 312	Nineteenth Century Art	
ARTH 313	20th Century Art	
ARTH 314	Contemporary Art	
ARTH 315	African-American Art	
ARTH 316	African Art	
ARTH 317	Modern Art Theory and Criticism	
ARTH 318	Latin American Art	

**Media, Arts, and Cultures Distribution Options****24.0**

Students must complete at least 24.0 distribution credits from the approved list

ANTH 210 [WI]	Worldview: Science, Religion and Magic	
ANTH 250	Anthropology of Immigration	
ANTH 310	Societies In Transition: The Impact of Modernization and the Third World	
ANTH 312	Approaches to Intercultural Behavior	
ANTH 345	Visual Anthropology	
ANTH 355	Digital Culture	
ANTH 375	Digital Ethnography	
ANTH 410	Cultural Theory I	
ARCH 141	Architecture and Society I	
COM 210	Theory and Models of Communication	
COM 342	English Worldwide	
COM 345	Intercultural Communication	
COM 355	Ethnography of Communication	
COM 360	Strategic International Communication	
COM 375 [WI]	Grant Writing	
COM 376	Nonprofit Communication	
COM 385	Media Effects	
CULA 405 [WI]	Culture and Gastronomy I	
ENGL 200 [WI]	Classical to Medieval Literature	
ENGL 201	Renaissance to the Enlightenment	
ENGL 203 [WI]	Survey of World Literature	
ENGL 204	Post-Colonial Literature	
ENGL 300 [WI]	Literature & Science	
ENGL 323	Literature and Other Arts	
ENGL 325	Topics in World Literature	
ENGL 335	Mythology	
ENGL 355 [WI]	Women and Literature	
ENGL 360 [WI]	Literature and Society	
FMST T280	Special Topics in Film Studies	
GST 221	Introduction to Global Capital and Development	
GST 231	Introduction to Identities and Communities	
GST 241	Introduction to Power and Resistance	
GST 251	Introduction to Global Media, Arts, and Cultures	
GST 261	Introduction to Global Health and Sustainability	



GST 321	Advanced Studies in Global Capital and Development	
GST 331	Advanced Studies in Identities and Communities	
GST 341	Advanced Studies in Power and Resistance	
GST 351	Advanced Studies in Global Media, Arts, and Cultures	
GST 361	Advanced Studies in Global Health and Sustainability	
GST T280	Special Topics in Global Studies	
GST T380	Special Topics in Global Studies	
MUSC 130	Introduction to Music	
MUSC 331	World Musics	
NFS 446	Perspectives in World Nutrition	
PHIL 211	Metaphysics: Philosophy of Reality	
PHIL 231	Aesthetics: Philosophy of Art	
PHIL 241	Social & Political Philosophy	
PHIL 335	Global Ethical Issues	
PHIL 391	Philosophy of Religion	
PSCI 120	History of Political Thought	
PSCI 330	Public Opinion & Propaganda	
PSCI 335	Political Communication	
SOC 210	Race, Ethnicity and Social Inequality	
SOC 340	Globalization	
WGST 240	Women and Society in a Global Context	
WRIT 310	Literary Editing & Publication	
<b>Electives</b>		<b>53.0-49.0</b>
<b>Total Credits</b>		<b>95.0-91.0</b>
<b>Global Business, Economics, and Development Concentration</b>		
BLAW 340	International Business Law	4.0
ECON 342	Economic Development	4.0
ENGL 308 [WI]	The Literature of Business	3.0
PHIL 301	Business Ethics	3.0
PSCI 255	International Political Economy	4.0
<b>Select one of the following</b>		<b>4.0</b>
INTB 332	Multinational Corporations	
INTB 334	International Trade	
INTB 336	International Money and Finance	
<b>Global Business, Economics, and Development Distribution Options</b>		<b>24.0</b>
Students must complete at least 24.0 distribution credits from the approved list		
ANTH 310	Societies In Transition: The Impact of Modernization and the Third World	
ANTH 312	Approaches to Intercultural Behavior	
COM 270 [WI]	Business Communication	
COM 345	Intercultural Communication	
COM 360	Strategic International Communication	
COM 362	International Negotiations	
COM 375 [WI]	Grant Writing	
ECON 301	Microeconomics	
ECON 321	Macroeconomics	
ECON 326 [WI]	Economic Ideas	
ECON 331	International Macroeconomics	
ECON 351	Resource and Environmental Economics	
ENGL 325	Topics in World Literature	
ENGL 360 [WI]	Literature and Society	
ENTP 270	Social Entrepreneurship	
ENTP 370	Global Entrepreneurship	
ENTP 390	Energy Entrepreneurship	
FIN 301	Introduction to Finance	
FIN 346	Global Financial Management	
GST 221	Introduction to Global Capital and Development	
GST 231	Introduction to Identities and Communities	
GST 241	Introduction to Power and Resistance	
GST 251	Introduction to Global Media, Arts, and Cultures	
GST 261	Introduction to Global Health and Sustainability	
GST 321	Advanced Studies in Global Capital and Development	

GST 331	Advanced Studies in Identities and Communities
GST 341	Advanced Studies in Power and Resistance
GST 351	Advanced Studies in Global Media, Arts, and Cultures
GST 361	Advanced Studies in Global Health and Sustainability
GST T280	Special Topics in Global Studies
GST T380	Special Topics in Global Studies
HIST 315	History of Capitalism
INTB 332	Multinational Corporations
INTB 334	International Trade
INTB 336	International Money and Finance
INTB 338	Regional Studies in Economic Policies and International Business
MGMT 370	For-Profit Business Consulting
MGMT 371	Nonprofit Business Consulting
MKTG 201	Introduction to Marketing Management
MKTG 322	Advertising & Integrated Marketing Communications
MKTG 351	Marketing for Non-Profit Organizations
MKTG 357	Global Marketing
PSCI 351	The United Nations in World Politics
PSCI 352	Ethics and International Relations
PSCI 357	The European Union in World Politics
SOC 220	Wealth and Power
SOC 330	Development and Underdevelopment in the Global South
SOC 340	Globalization
SOC 355 [WI]	Classical Social Theory
SOC 410	Imagining Multiple Democracies
STAT 201	Introduction to Business Statistics
STAT 202	Business Statistics II
WGST 240	Women and Society in a Global Context

**Electives** **49.0-45.0**

**Total Credits** **95.0-91.0**

**Global Health and Sustainability Concentration Requirements**

ANTH 360	Culture and the Environment	3.0-4.0
or SOC 244	Sociology of the Environment	
PBHL 301	Epidemiology in Public Health	3.0
PBHL 303	Overview of Issues in Global Health	3.0
PSCI 334	Politics of Environment and Health	4.0
or SOC 346	Environmental Justice	

**Choose one of the following English classes** **3.0**

ENGL 300 [WI]	Literature & Science
ENGL 302	Environmental Literature
ENGL 370	Topics in Literature and Medicine

**Choose one of the following Ethics courses** **3.0**

PBHL 309	Public Health Ethics
PHIL 321	Biomedical Ethics
PHIL 340	Environmental Ethics

**Global Health and Sustainability Distribution Options** **24.0**

Students must complete at least 24.0 distribution credits from the approved list

ANTH 210 [WI]	Worldview: Science, Religion and Magic
ANTH 265	Health & Healing Practices in Cross-Cultural Perspective
ANTH 310	Societies In Transition: The Impact of Modernization and the Third World
ANTH 360	Culture and the Environment
BIO 109	Biological Diversity, Ecology & Evolution
BIO 264	Ethnobotany
CJS 373	Environmental Crime
COM 316	Campaigns for Health & Environment
COM 317 [WI]	Environmental Communication
COM 320 [WI]	Science Writing
COM 375 [WI]	Grant Writing
CULA 426	The Kitchen Garden: Summer
CULA 427	The Kitchen Garden: Fall
ECON 301	Microeconomics

ECON 321	Macroeconomics
ECON 351	Resource and Environmental Economics
ENGL 300 [WI]	Literature & Science
ENGL 302	Environmental Literature
ENGL 370	Topics in Literature and Medicine
ENSS 285	Introduction to Urban Planning
ENSS 326	Cities and Sustainability
ENTP 390	Energy Entrepreneurship
ENVS 169	Environmental Science
ENVS 247	Native Plants and Sustainability
ENVS 275	Global Climate Change
ENVS 289	Global Warming, Biodiversity and Your Future
ENVS 328	Conservation Biology
GST 221	Introduction to Global Capital and Development
GST 231	Introduction to Identities and Communities
GST 241	Introduction to Power and Resistance
GST 251	Introduction to Global Media, Arts, and Cultures
GST 261	Introduction to Global Health and Sustainability
GST 321	Advanced Studies in Global Capital and Development
GST 331	Advanced Studies in Identities and Communities
GST 341	Advanced Studies in Power and Resistance
GST 351	Advanced Studies in Global Media, Arts, and Cultures
GST 361	Advanced Studies in Global Health and Sustainability
GST T280	Special Topics in Global Studies
GST T380	Special Topics in Global Studies
HIST 287	History of Science: Ancient to Medieval
HIST 288	History of Science: Medieval to Enlightenment
HIST 289	History of Science: Enlightenment to Modernity
HIST 321	Themes in Global Environmental History
HIST 322	Empire and Environment
HIST 385	Transnational History of Science, Technology and Environment
HSAD 312	Development of World Health Care
HSAD 316	Health Care across Cultures
NFS 345	Foods and Nutrition of World Cultures
NFS 446	Perspectives in World Nutrition
PBHL 302	Introduction to the History of Public Health
PBHL 304	Introduction to Health & Human Rights
PBHL 305	Women and Children: Health & Society
PBHL 306	Introduction to Community Health
PBHL 317	The World's Water
PBHL 320	Exploring the HIV/AIDS Pandemic
PBHL 321	Disease Outbreak Investigations
PBHL 333	Health Inequality
PHIL 321	Biomedical Ethics
PHIL 335	Global Ethical Issues
PHIL 340	Environmental Ethics
PHIL 341	Environmental Philosophy
PHIL 351	Philosophy of Technology
PHIL 361	Philosophy of Science
PSCI 252	Global Governance
PSCI 284	Environmental Politics
PSCI 305	Social Development: A Global Approach
PSCI 334	Politics of Environment and Health
PSCI 351	The United Nations in World Politics
PSCI 352	Ethics and International Relations
PSCI 353	International Human Rights
PSY 352	Psychology of Sustainability
SOC 235	Sociology of Health and Illness
SOC 315	HIV/AIDS and Africa
SOC 330	Development and Underdevelopment in the Global South
SOC 340	Globalization
WGST 240	Women and Society in a Global Context

WGST 275	Women's Health and Human Rights	
<b>Electives</b>		<b>52.0-47.0</b>
<b>Total Credits</b>		<b>95.0-91.0</b>
<b>Global Justice and Human Rights Distribution Requirements</b>		
ANTH 310	Societies In Transition: The Impact of Modernization and the Third World	3.0-4.0
or SOC 330	Development and Underdevelopment in the Global South	
ENGL 360 [WI]	Literature and Society	3.0
PHIL 335	Global Ethical Issues	3.0-4.0
or PSCI 352	Ethics and International Relations	
PSCI 120	History of Political Thought	4.0
or PSCI 229	Theories of Justice	
PSCI 353	International Human Rights	4.0
<b>Select one of the following:</b>		<b>3.0-4.0</b>
PSCI 351	The United Nations in World Politics	
PSCI 357	The European Union in World Politics	
<b>Global Justice and Human Rights Distribution Options</b>		<b>24.0</b>
Students must complete at least 24 distribution credits from the approved list		
AFAS T280	Special Topics in Africana Studies (Course must have a global theme)	
ANTH 250	Anthropology of Immigration	
ANTH 312	Approaches to Intercultural Behavior	
or COM 345	Intercultural Communication	
CJS 260	Justice in Our Community	
CJS 261	Prison, Society and You	
CJS 289	Terrorism	
CJS 320	Comparative Justice Systems	
COM 360	Strategic International Communication	
COM 362	International Negotiations	
COM 375 [WI]	Grant Writing	
CULA 426	The Kitchen Garden: Summer	
or CULA 427	The Kitchen Garden: Fall	
ECON 301	Microeconomics	
ECON 321	Macroeconomics	
ECON 342	Economic Development	
ECON 351	Resource and Environmental Economics	
ENGL 325	Topics in World Literature	
GST 221	Introduction to Global Capital and Development	
GST 231	Introduction to Identities and Communities	
GST 241	Introduction to Power and Resistance	
GST 251	Introduction to Global Media, Arts, and Cultures	
GST 261	Introduction to Global Health and Sustainability	
GST 321	Advanced Studies in Global Capital and Development	
GST 331	Advanced Studies in Identities and Communities	
GST 341	Advanced Studies in Power and Resistance ((Model Organization of American States))	
GST 351	Advanced Studies in Global Media, Arts, and Cultures	
GST 361	Advanced Studies in Global Health and Sustainability	
GST T280	Special Topics in Global Studies	
GST T380	Special Topics in Global Studies	
HIST 385	Transnational History of Science, Technology and Environment	
PHIL 241	Social & Political Philosophy	
PHIL 335	Global Ethical Issues	
PHIL 341	Environmental Philosophy	
PHIL 385	Philosophy of Law	
PHIL 391	Philosophy of Religion	
PBHL 303	Overview of Issues in Global Health	
PBHL 304	Introduction to Health & Human Rights	
PSCI 229	Theories of Justice	
PSCI 240	Comparative Politics II	
PSCI 250	American Foreign Policy	
PSCI 252	Global Governance	
PSCI 255	International Political Economy	
PSCI 260 [WI]	Power in Protest: Social Movements in Comparative Perspective	

PSCI 305	Social Development: A Global Approach
PSCI 325	Political Theory from Below
PSCI 351	The United Nations in World Politics
PSCI 352	Ethics and International Relations
PSCI 357	The European Union in World Politics
PSCI 360	International Law
PSCI 361	The Politics of LGBT Movements and Rights
SOC 210	Race, Ethnicity and Social Inequality
SOC 220	Wealth and Power
SOC 315	HIV/AIDS and Africa
SOC 340	Globalization
SOC 346	Environmental Justice
SOC 355 [WI]	Classical Social Theory
SOC 444	Social Movements
WGST 240	Women and Society in a Global Context
WGST T280	Special Topics in Women's and Gender Studies (Course must have a global theme)
<b>Electives</b>	<b>51.0-44.0</b>
<b>Total Credits</b>	<b>95.0-91.0</b>

## Sample Plan of Study

### Global Media, Arts, and Cultures Concentration

#### 4 year, 1 co-op

##### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 ENGL 102 or 112	3.0 CIVC 101	1.0 VACATION	
GST 101	3.0 GST 102	3.0 COOP 101*	1.0	
MATH 101	4.0 MATH 102	4.0 ENGL 103 or 113	3.0	
UNIV H101	1.0 Language course	4.0 GST 103	3.0	
Language course	4.0	PSCI 150	4.0	
		Language course	4.0	
	<b>15</b>	<b>14</b>	<b>16</b>	<b>0</b>

##### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ECON 201	4.0 ECON 202	4.0 Language course	4.0 Language course	3.0
Language course	4.0 Language course	4.0 GST 200+ level course	3.0 MAC Distribution course	3.0
Free elective	3.0 Science elective	3.0 MAC Distribution course	3.0 MAC Concentration required course	3.0
GST 200+ course	3.0 MAC Distribution course	3.0 MAC Concentration required course	3.0 Science elective	3.0
MAC Concentration requirement	3.0 Free elective	3.0 Free elective	3.0 Free elective	3.0
	<b>17</b>	<b>17</b>	<b>16</b>	<b>15</b>

##### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE**	COOP EXPERIENCE**	Language course	3.0 Language course	3.0
		MAC Distribution course	3.0 MAC Concentration required course	3.0
		GST 200+ level course	3.0 MAC Distribution courses	6.0
		Free electives	6.0 Free elective	3.0
	<b>0</b>	<b>0</b>	<b>15</b>	<b>15</b>

##### Fourth Year

Fall	Credits Winter	Credits Spring	Credits
UNIV H201	1.0 GST 400	3.0 MAC Distribution course	3.0
Language course	3.0 MAC Distribution course	3.0 Free electives	9.0
MAC Concentration required course	3.0 Mac concentration course	3.0	
GST 200+ level course	3.0 Free electives	6.0	

Free elective	3.0		
	<b>13</b>	<b>15</b>	<b>12</b>

**Total Credits 180**

\* COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

\*\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

### 5 year, 3 co-ops

**First Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 ENGL 102 or 112	3.0 CIVC 101	1.0 VACATION	
GST 101	3.0 GST 102	3.0 COOP 101*	1.0	
MATH 101	4.0 MATH 102	4.0 ENGL 103	3.0	
UNIV H101	1.0 Language course	4.0 GST 103	3.0	
Language course	4.0	PSCI 150	4.0	
		Language course	4.0	
	<b>15</b>	<b>14</b>	<b>16</b>	<b>0</b>

**Second Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE**	COOP EXPERIENCE**	ECON 201	4.0 ECON 202	4.0
		Language course	4.0 Language course	4.0
		Free elective	3.0 Science elective	3.0
		GST 200+ course	3.0 MAC Distribution course	3.0
		MAC concentration requirement	3.0 Free elective	3.0
	<b>0</b>	<b>0</b>	<b>17</b>	<b>17</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE**	COOP EXPERIENCE**	Language course	4.0 Language course	3.0
		GST 200+ level course	3.0 MAC Distribution course	3.0
		MAC Distribution course	3.0 MAC concentration required course	3.0
		MAC concentration required course	3.0 Science elective	3.0
		Free elective	3.0 Free elective	3.0
	<b>0</b>	<b>0</b>	<b>16</b>	<b>15</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE**	COOP EXPERIENCE**	Language course	3.0 Language course	3.0
		MAC Distribution course	3.0 MAC Concentration required course	3.0
		GST 200+ level course	3.0 MAC Distribution courses	6.0
		Free electives	6.0 Free elective	3.0
	<b>0</b>	<b>0</b>	<b>15</b>	<b>15</b>

**Fifth Year**

Fall	Credits Winter	Credits Spring	Credits
UNIV H201	1.0 GST 400	3.0 MAC Distribution course	3.0
Language course	3.0 MAC Distribution course	3.0 Free electives	9.0
MAC Concentration required course	3.0 MAC Concentration required course	3.0	
GST 200+ level course	3.0 Free electives	6.0	
Free elective	3.0		
	<b>13</b>	<b>15</b>	<b>12</b>

**Total Credits 180**

\* COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

\*\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

## 4 year, no co-op

First Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 ENGL 102 or 112	3.0 CIVC 101	1.0 VACATION	
GST 101	3.0 GST 102	3.0 ECON 201	4.0	
MATH 101	4.0 MATH 102	4.0 ENGL 103 or 113	3.0	
UNIV H101	1.0 Language course	4.0 PSCI 150	4.0	
Language course	4.0	Language course	4.0	
	<b>15</b>	<b>14</b>	<b>16</b>	<b>0</b>
Second Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ECON 202	4.0 Language course	4.0 Language course	4.0 VACATION	
Language course	4.0 Science elective	3.0 GST 200+	3.0	
GST 200+	3.0 MAC Distribution Course	3.0 MAC Concentration Requirement	3.0	
MAC Concentration Requirement	4.0 Free Electives	6.0 MAC Distribution course	3.0	
		Free elective	3.0	
	<b>15</b>	<b>16</b>	<b>16</b>	<b>0</b>
Third Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
Language course	3.0 Language course	3.0 Language Course	3.0 VACATION	
MAC Concentration Requirement	3.0 MAC Distribution Course	3.0 GST 200+	3.0	
MAC Distribution Course	3.0 MAC Concentration Requirement	3.0 MAC Distribution Course	3.0	
Free Electives	6.0 Science elective	3.0 Free Electives	6.0	
	Free Elective	3.0		
	<b>15</b>	<b>15</b>	<b>15</b>	<b>0</b>
Fourth Year				
Fall	Credits Winter	Credits Spring	Credits	Credits
Language Course	3.0 GST 400	3.0 MAC Distribution Course	3.0	
GST 200+	3.0 MAC Concentration Requirement	3.0 MAC Concentration Requirement	3.0	
MAC Distribution Course	3.0 MAC Distribution Course	3.0 Free Electives	6.0	
UNIV H201	1.0 Free Electives	6.0		
Free Electives	6.0			
	<b>16</b>	<b>15</b>	<b>12</b>	

Total Credits 180

## Global Business, Economics and Development Concentration

### 4 year, 1 co-op

First Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 ENGL 102 or 112	3.0 CIVC 101	1.0 VACATION	
GST 101	3.0 GST 102	3.0 COOP 101*	1.0	
MATH 101	4.0 MATH 102	4.0 ENGL 103 or 113	3.0	
UNIV H101	1.0 Language course	4.0 GST 103	3.0	
Language course	4.0	PSCI 150	4.0	
		Language course	4.0	
	<b>15</b>	<b>14</b>	<b>16</b>	<b>0</b>
Second Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ECON 201	4.0 ECON 202	4.0 Language course	4.0 Language course	3.0
Language course	4.0 BED concentration required course	3.0 Free elective	3.0 BED Distribution course	3.0

BED Distribution course	3.0 Language course	4.0 BED concentration required course	4.0 BED concentration required course	4.0
200+ level GST course	3.0 Free elective	3.0 GST 200+ level course	3.0 Free elective	3.0
Free elective	3.0 Science	3.0	Science elective	3.0
	<b>17</b>	<b>17</b>	<b>14</b>	<b>16</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE**	COOP EXPERIENCE**	Language course	3.0 Language course	3.0
		BED Concentration required course	4.0 BED Distribution courses	6.0
		BED Distribution course	3.0 BED Concentration required course	3.0
		GST 200+ level course	3.0 Free elective	3.0
		Free elective	3.0	
	<b>0</b>	<b>0</b>	<b>16</b>	<b>15</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits	Credits
UNIV H201	1.0 GST 400	3.0 BED Distribution course	3.0	
Language course	3.0 BED Distribution course	3.0 Free electives	9.0	
BED Concentration required course	3.0 Free electives	6.0		
BED Distribution option	3.0			
GST 200+ level course	3.0			
Free elective	3.0			
	<b>16</b>	<b>12</b>	<b>12</b>	

**Total Credits 180**

\* COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

\*\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

## 5 year, 3 co-ops

**First Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 ENGL 102 or 112	3.0 CIVC 101	1.0 VACATION	
GST 101	3.0 GST 102	3.0 COOP 101*	1.0	
MATH 101	4.0 MATH 102	4.0 ENGL 103 or 113	3.0	
UNIV H101	1.0 Language course	4.0 GST 103	3.0	
Language course	4.0	PSCI 150	4.0	
		Language course	4.0	
	<b>15</b>	<b>14</b>	<b>16</b>	<b>0</b>

**Second Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE**	COOP EXPERIENCE**	ECON 201	4.0 ECON 202	4.0
		Language course	4.0 BED Concentration required course	3.0
		BED Distribution course	3.0 Language course	4.0
		200+ level GST course	3.0 Free elective	3.0
		Free elective	3.0 Science	3.0
	<b>0</b>	<b>0</b>	<b>17</b>	<b>17</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE**	COOP EXPERIENCE**	Language course	4.0 Language course	3.0
		BED Concentration required course	4.0 BED Distribution course	3.0
		GST 200+ level course	3.0 BED Concentration required course	4.0
		Free elective	3.0 Science elective	3.0
			Free elective	3.0
	<b>0</b>	<b>0</b>	<b>14</b>	<b>16</b>



**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE**	COOP EXPERIENCE**	Language course	3.0 Language course	3.0
		BED Concentration required course	4.0 BED Distribution courses	6.0
		GST 200+ level course	3.0 BED Concentration required course	3.0
		BED Distribution course	3.0 Free elective	3.0
		Free elective	3.0	
	<b>0</b>	<b>0</b>	<b>16</b>	<b>15</b>

**Fifth Year**

Fall	Credits Winter	Credits Spring	Credits
UNIV H201	1.0 GST 400	3.0 BED Distribution course	3.0
Language course	3.0 BED Distribution course	3.0 Free elective	9.0
BED Concentration required course	3.0 Free electives	6.0	
BED Distribution option	3.0		
GST 200+ level course	3.0		
Free elective	3.0		
	<b>16</b>	<b>12</b>	<b>12</b>

**Total Credits 180**

\* COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

\*\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

**4 year, no co-op****First Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 ENGL 102 or 112	3.0 CIVC 101	1.0 VACATION	
GST 101	3.0 GST 102	3.0 ECON 201	4.0	
MATH 101	4.0 MATH 102	4.0 ENGL 103 or 113	3.0	
UNIV H101	1.0 Language course	4.0 PSCI 150	4.0	
Language course	4.0	Language course	4.0	
	<b>15</b>	<b>14</b>	<b>16</b>	<b>0</b>

**Second Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ECON 202	4.0 Language course	4.0 Language course	4.0 VACATION	
Language course	4.0 Science elective	3.0 GST 200+	3.0	
GST 200+	3.0 BED Distribution Course	3.0 BED Concentration Requirement	3.0	
BED Concentration Requirement	4.0 Free Electives	6.0 BED Distribution Course	3.0	
		Free Elective	3.0	
	<b>15</b>	<b>16</b>	<b>16</b>	<b>0</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
Language course	3.0 Language course	3.0 Language Course	3.0 VACATION	
BED Concentration Requirement	3.0 BED Distribution Course	3.0 GST 200+	3.0	
BED Distribution Course	3.0 BED Concentration Requirement	3.0 BED Distribution Course	3.0	
Free Electives	6.0 Science elective	3.0 Free Electives	6.0	
	Free Elective	3.0		
	<b>15</b>	<b>15</b>	<b>15</b>	<b>0</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits
UNIV H201	1.0 GST 400	3.0 BED Distribution Course	3.0
Language course	3.0 BED Concentration Requirement	3.0 BED Concentration Requirement	3.0
GST 200+	3.0 BED Distribution Course	3.0 Free Electives	6.0

BED Distribution Course	3.0 Free Electives	6.0	
Free Electives	6.0		
	<b>16</b>	<b>15</b>	<b>12</b>

Total Credits 180

## Global Health & Sustainability Concentration

### 4 year, 1 co-op

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 ENGL 102 or 112	3.0 CIVC 101	1.0 VACATION	
GST 101	3.0 GST 102	3.0 COOP 101*	1.0	
MATH 101	4.0 MATH 102	4.0 ENGL 103 or 113	3.0	
UNIV H101	1.0 Language course	4.0 GST 103	3.0	
Language course	4.0	PSCI 150	4.0	
		Language course	4.0	
	<b>15</b>	<b>14</b>	<b>16</b>	<b>0</b>

#### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ECON 201	4.0 ECON 202	4.0 GHS Distribution option	3.0 GHS Distribution option	3.0
Language course	4.0 GHS Distribution option	3.0 GST 200+ level course	3.0 GHS Concentration required course	3.0
GHS Distribution Option	3.0 Language course	4.0 GHS Concentration required course	3.0 Language course	3.0
GHS Concentration required course	3.0 Science elective	3.0 Language course	4.0 Science elective	3.0
200+ level GST course	3.0 GHS Concentration required course	3.0 Free elective	3.0 Free elective	3.0
	<b>17</b>	<b>17</b>	<b>16</b>	<b>15</b>

#### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE**	COOP EXPERIENCE**	0.0 Language course	3.0 GHS Distribution option	3.0
		GST 200+ level course	3.0 Language course	3.0
		Free electives	6.0 Free Electives	6.0
		GHS Distribution option	3.0 GHS Concentration required course	3.0
	<b>0</b>	<b>0</b>	<b>15</b>	<b>15</b>

#### Fourth Year

Fall	Credits Winter	Credits Spring	Credits
UNIV H201	1.0 GST 400	3.0 GHS Distribution option	3.0
GHS Concentration required course	3.0 GHS Distribution option	3.0 Free electives	9.0
200+ level GST course	3.0 Free elective	6.0	
GHS Distribution option	3.0		
Language course	3.0		
Free elective	3.0		
	<b>16</b>	<b>12</b>	<b>12</b>

Total Credits 180

\* COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

\*\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

### 5 year, 3 co-ops

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 ENGL 102 or 112	3.0 CIVC 101	1.0 VACATION	
GST 101	3.0 GST 102	3.0 COOP 101*	1.0	
MATH 101	4.0 MATH 102	4.0 ENGL 103 or 113	3.0	
UNIV H101	1.0 Language course	4.0 GST 103	3.0	
Language course	4.0	PSCI 150	4.0	

		Language course	4.0	
	15	14	16	0
<b>Second Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COOP EXPERIENCE**	COOP EXPERIENCE**	ECON 201	4.0 ECON 202	4.0
		Language course	4.0 GHS Distribution option	3.0
		GHS Distribution option	3.0 Language course	4.0
		GHS Concentration required course	3.0 Science elective	3.0
		200+ level GST course	3.0 GHS Concentration required course	3.0
	0	0	17	17
<b>Third Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COOP EXPERIENCE**	COOP EXPERIENCE**	GHS Distribution option	3.0 GHS Distribution option	3.0
		GHS Concentration required course	3.0 GHS Concentration required course	3.0
		GST 200+ level course	3.0 Language course	3.0
		Language course	4.0 Science elective	3.0
		Free elective	3.0 Free elective	3.0
	0	0	16	15
<b>Fourth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COOP EXPERIENCE**	COOP EXPERIENCE**	Language course	3.0 GHS Distribution option	3.0
		GST 200+ level course	3.0 Language course	3.0
		Free electives	6.0 Free electives	6.0
		GHS Distribution option	3.0 GHS Concentration required course	3.0
	0	0	15	15
<b>Fifth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>	
UNIV H201	1.0 GST 400	3.0 GHS Distribution option	3.0	
GHS Concentration required course	3.0 GHS Distribution option	3.0 Free electives	9.0	
200+ level GST course	3.0 Free elective	6.0		
GHS Distribution option	3.0			
Language course	3.0			
Free elective	3.0			
	16	12	12	

**Total Credits 180**

\* COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

\*\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

## 4 year, no co-op

<b>First Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
ENGL 101 or 111	3.0 ENGL 102 or 112	3.0 CIVC 101	1.0 VACATION	
GST 101	3.0 GST 102	3.0 ECON 201	4.0	
MATH 101	4.0 MATH 102	4.0 ENGL 103 or 113	3.0	
UNIV H101	1.0 Language course	4.0 PSCI 150	4.0	
Language course	4.0	Language course	4.0	
	15	14	16	0
<b>Second Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
ECON 202	4.0 Language course	4.0 Language course	4.0 VACATION	
Language course	4.0 Science elective	3.0 GST 200+	3.0	
GST 200+	3.0 GHS Distribution Course	3.0 GHS Concentration Requirement	3.0	

GHS Concentration Requirement	4.0 Free Electives	6.0 GHS Distribution Course	3.0	
		Free Elective	3.0	
	<b>15</b>	<b>16</b>	<b>16</b>	<b>0</b>
<b>Third Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
Language course	3.0 Language course	3.0 Language course	3.0 VACATION	
GHS Concentration Requirement	3.0 GHS Distribution Course	3.0 GST 200+	3.0	
GHS Distribution Course	3.0 GHS Concentration Requirement	3.0 GHS Distribution Course	3.0	
Free Electives	6.0 Free Elective	3.0 Free Electives	6.0	
	Science elective	3.0		
	<b>15</b>	<b>15</b>	<b>15</b>	<b>0</b>
<b>Fourth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>	
UNIV H201	1.0 GST 400	3.0 GHS Distribution Course	3.0	
Language Course	3.0 GHS Concentration Requirement	3.0 GHS Concentration Requirement	3.0	
GST 200+	3.0 GHS Distribution Course	3.0 Free Electives	6.0	
GHS Distribution Course	3.0 Free Electives	6.0		
Free Electives	6.0			
	<b>16</b>	<b>15</b>	<b>12</b>	

Total Credits 180

## Global Justice and Human Rights Concentration

### 4 year, 1 co-op

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 ENGL 102 or 112	3.0 CIVC 101	1.0 VACATION	
GST 101	3.0 GST 102	3.0 COOP 101*	1.0	
MATH 101	4.0 MATH 102	4.0 ENGL 103 or 113	3.0	
UNIV H101	1.0 Language course	4.0 GST 103	3.0	
Language course	4.0	PSCI 150	4.0	
		Language course	4.0	
	<b>15</b>	<b>14</b>	<b>16</b>	<b>0</b>

#### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ECON 201	4.0 ECON 202	4.0 Language course	4.0 Language course	3.0
Language course	4.0 Language course	4.0 GST 200+ level course	3.0 JHR Distribution course	3.0
JHR concentration required course	3.0 Science elective	3.0 Free elective	3.0 JHR concentration required course	4.0
200+ level GST course	3.0 JHR concentration required course	3.0 JHR concentration required course	3.0 Science elective	3.0
	JHR Distribution course	4.0 JHR Distribuion course	3.0 Free elective	3.0
	<b>14</b>	<b>18</b>	<b>16</b>	<b>16</b>

#### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE**	COOP EXPERIENCE**	Language course	3.0 Language course	3.0
		JHR Distribution course	3.0 JHR Distribution course	3.0
		GST 200+ level course	3.0 JHR concentration required course	4.0
		Free electives	6.0 Free elective	6.0
	<b>0</b>	<b>0</b>	<b>15</b>	<b>16</b>

#### Fourth Year

Fall	Credits Winter	Credits Spring	Credits
UNIV H201	1.0 GST 400	3.0 JHR Distribution course	3.0
GST 200+ level course	3.0 JHR Distribution course	3.0 Free electives	9.0
Language course	3.0 Free electives	6.0	

JHR Distribution course	3.0		
JHR concentration required course	3.0		
Free elective	3.0		
	<b>16</b>	<b>12</b>	<b>12</b>

**Total Credits 180**

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\*\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

## 5 year, 3 co-ops

### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 ENGL 102 or 112	3.0 CIVC 101	1.0 VACATION	
GST 101	3.0 GST 102	3.0 COOP 101*	1.0	
MATH 101	4.0 MATH 102	4.0 ENGL 103 or 113	3.0	
UNIV H101	1.0 Language course	4.0 GST 103	3.0	
Language course	4.0	PSCI 150	4.0	
		Language course	4.0	
	<b>15</b>	<b>14</b>	<b>16</b>	<b>0</b>

### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE**	COOP EXPERIENCE**	ECON 201	4.0 ECON 202	4.0
		Language course	4.0 Language course	4.0
		JHR concentration required course	3.0 Science elective	3.0
		GST 200+ level course	3.0 JHR concentration required course	3.0
			JHR Distribution course	4.0
	<b>0</b>	<b>0</b>	<b>14</b>	<b>18</b>

### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE**	COOP EXPERIENCE**	Language course	4.0 Language course	3.0
		GST 200+ level course	3.0 JHR Distribution course	3.0
		Free elective	3.0 JHR concentration required course	4.0
		JHR concentration required course	3.0 Free elective	3.0
		JHR Distribution course	3.0 Science elective	3.0
	<b>0</b>	<b>0</b>	<b>16</b>	<b>16</b>

### Fourth Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE**	COOP EXPERIENCE**	Language course	3.0 Language course	3.0
		JHR Distribution course	3.0 JHR Distribution course	3.0
		GST 200+ level course	3.0 JHR concentration required course	4.0
		Free electives	6.0 Free electives	6.0
	<b>0</b>	<b>0</b>	<b>15</b>	<b>16</b>

### Fifth Year

Fall	Credits Winter	Credits Spring	Credits
UNIV H201	1.0 GST 400	3.0 JHR Distribution course	3.0
GST 200+ level course	3.0 JHR Distribution course	3.0 Free electives	9.0
Language course	3.0 Free electives	6.0	
JHR Distribution course	3.0		
JHR concentration required course	3.0		
Free elective	3.0		
	<b>16</b>	<b>12</b>	<b>12</b>

**Total Credits 180**

\* COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

\*\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

## 4 year, no co-op

### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 ENGL 102 or 112	3.0 CIVC 101	1.0 VACATION	
GST 101	3.0 GST 102	3.0 ECON 201	4.0	
MATH 101	4.0 MATH 102	4.0 ENGL 103 or 113	3.0	
UNIV H101	1.0 Language Course	4.0 PSCI 150	4.0	
Language course	4.0	Language course	4.0	
	<b>15</b>	<b>14</b>	<b>16</b>	<b>0</b>

### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ECON 202	4.0 Language course	4.0 Language course	4.0 VACATION	
Language course	4.0 Science elective	3.0 GST 200+	3.0	
GST 200+	3.0 JHR Distribution Course	3.0 JHR Concentration Requirement	3.0	
JHR Concentration Requirement	4.0 Free Electives	6.0 JHR Distribution Course	3.0	
		Free Elective	3.0	
	<b>15</b>	<b>16</b>	<b>16</b>	<b>0</b>

### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
Language course	3.0 Language course	3.0 Language Course	3.0 VACATION	
JHR Concentration Requirement	3.0 JHR Distribution Course	3.0 GST 200+	3.0	
JHR Distribution Course	3.0 JHR Concentration Requirement	3.0 JHR Distribution Course	3.0	
Free Electives	6.0 Science Elective	3.0 Free Electives	6.0	
	Free Elective	3.0		
	<b>15</b>	<b>15</b>	<b>15</b>	<b>0</b>

### Fourth Year

Fall	Credits Winter	Credits Spring	Credits
UNIV H201	1.0 GST 400	3.0 JHR Distribution Course	3.0
Language course	3.0 JHR Concentration Requirement	3.0 JHR Concentration Requirement	3.0
GST 200+	3.0 JHR Distribution Course	3.0 Free Electives	6.0
JHR Distribution Course	3.0 Free Electives	6.0	
Free Electives	6.0		
	<b>16</b>	<b>15</b>	<b>12</b>

Total Credits 180

## Global Studies Faculty

Octavio Borges-Delgado, PhD (*Michigan State University*). Assistant Teaching Professor. Caribbean Literature and cultures, Latino/a studies, migration studies, Latin American diaspora, Critical race theory, Gender and sexuality in a global context.

Rebecca Clothey, PhD (*University of Pittsburgh*) Associate Department Head. Associate Professor. Comparative and international education, education of ethnic and linguistic minorities, sociology of education.

Steve Vásquez Dolph, PhD (*University of Pennsylvania*). Assistant Teaching Professor. Early modern cultural production; ecology and representation; history and sociology of science; historical bibliography; politics and poetics of translation

Brenda Dyer, MA (*University of Pennsylvania*). Associate Teaching Professor. Language acquisition pedagogy, teaching writing, seventeenth and eighteenth century French literature, women writers, translation.

Natalie N. Hiratsuka Marley, MA (*University of Hawai'i*). Assistant Teaching Professor. Japanese Linguistics with an emphasis on pedagogy and topics concerning second language acquisition and teaching

Parfait Kouacou, PhD (*City University of New York*). Assistant Teaching Professor. Francophone African Literature and Cinema, Human Rights in Literary Studies, Childhood in Literature, Postcolonial Studies, Oral Literature.

Hiroimi Koyama, MA (*Okayama University, Japan*). Instructor.

Brent Luvaas, PhD (*UCLA*). Associate Professor. DIY and independent media production; transnational consumer culture; popular music; new media and mediated subjectivities; youth culture in the US and Indonesia.

Celeste Dolores Mann, MA (*University of Iowa*). Assistant Teaching Professor. Second Language Acquisition, Language Pedagogy, Colonial Latin American Literature and Early Modern Spanish Literature

Monserrat Bores Martínez, MA (*University of Western Ontario, Canada*). Assistant Teaching Professor. Second Language Acquisition Language Pedagogy Colonial Latin American Literature Early Modern Spanish Literature

Nada Matta, PhD (*New York University*). Assistant Professor. Political Economy, Social Movements, Middle East Studies, Gender Studies, Revolutions, Inequality.

Maria delacruz Matus-Mendoza, PhD (*Temple University*) *Language Program Coordinator*. Associate Professor. Spanish Linguistic variation in the US; the relationship between language variation and mobility (social and geographical) among the Mexican communities in Mexico and in the United States; second language acquisition; language variation in media.

Usha Menon, PhD (*University of Chicago*). Professor. Self, identity & personhood, emotional functioning, Hindu morality, gender relations in Hindu society, adult development, popular Hinduism, post-colonial feminism, Hindu religious nationalism and Islamic radicalism.

Amel Mili, PhD (*Rutgers University*). Assistant Teaching Professor. The intersection between religion and law Gender politics Constitutional transition Language education

Rogelio Minana, PhD (*Penn State*) *Department Head, Global Studies and Modern Languages*. Professor. The role of classic cultural icons, particularly Don Quixote, in 21st century political and social justice discourse; the interplay between the traditional humanities, youth organizations, and digital storytelling.

Joel E. Oestreich, PhD (*Brown University*) *Director of the Global Studies major*. Professor. International organizations, international finance, development, and human rights.

Sunmi Oh, MA (*Daegu Catholic University, S. Korea*).

Ni Ou, MA (*University of Pennsylvania*). Assistant Teaching Professor.

Simone Schlichting-Artur, EdD (*University of Pennsylvania*) *Senior Assistant Dean of Global Initiatives*. Teaching Professor. International business communication (Germany and the U.S.), public health policy and languages, German post-war history through film and literature, development of writing assessment tools for German minor.

## Emeritus Faculty

Barbara Hornum, PhD (*Bryn Mawr College*) *Director of Center for Academic Excellence (DCAE)*. Associate Professor Emeritus. Comparative gerontology, planned communities, continuing care communities, retirement, faculty development.

Julie Mostov, PhD (*New York University*). Professor Emeritus. Modern political thought, democratic theory, nationalism, gender studies, South Eastern Europe and the Balkans.

## History

*Major: History*

*Degree Awarded: Bachelor of Arts (BA)*

*Calendar Type: Quarter*

*Total Credit Hours: 181.0*

*Co-op Options: Three Co-op (Five years); One Co-op (Four years); No Co-op (Four years)*

*Classification of Instructional Programs (CIP) code: 54.0101*

*Standard Occupational Classification (SOC) code: 19-3093*

## About the Program

The history program reflects the strengths of Drexel University, including specialization in transnational history and in the history of science, technology and the environment. A series of required courses in history build skills in research and interpretation of the past while elective courses within and outside the history program allow students to shape their curriculum to meet their needs and interests. Our history graduates go to graduate school in history, to professional schools in law, medicine, and business, and to work in business, government agencies, and non-profit organizations.

We apply Drexel's experiential, research-intensive approach to the discipline of history. Using the extensive historical resources of Philadelphia, the region, and the digital world, students develop a profound understanding of history and the ways it is made. We also encourage students to enrich their education through co-op, study abroad, and summer research projects working alongside department faculty.

## Degree Offered

The **Bachelor of Arts (BA)** provides a course of study that includes foreign language courses and a broad grounding in the liberal arts, with flexibility for students to choose courses to fulfill humanities, social science, math, and science requirements that will contribute to their overall educational and career plans.

The Minor in History (p. 306) allows students in other majors to explore the historical background of their discipline, to better understand the origins of the contemporary world, and to build the knowledge and skills needed to understand the development of human societies over time and to understand historical episodes into their proper contexts. The minor in History is highly flexible and allows students to choose those History courses which appeal to them and which will contribute to their broader education. To complete the minor, students must take a total of six History courses (24.0 credits), five of which must be at the 200-level or above.

The Minor in War and Society (p. 320) is an interdisciplinary minor offered by history in which students examine the history and politics of warfare, the military, and related institutions. In the Minor in the History of Capitalism (p. 306), students explore capitalism and the emergence of the modern world economy from a global, historical perspective.

## Additional Information

For more information about this program, please visit the Department of History (<http://drexel.edu/history/>) website or contact:

Jonathan Seitz, PhD  
Assistant Department Head  
Teaching Professor of History  
jwseitz@drexel.edu

## Degree Requirements (BA)

### General Education Requirements

ENGL 101 or ENGL 111	Composition and Rhetoric I: Inquiry and Exploratory Research English Composition I	3.0
ENGL 102 or ENGL 112	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing English Composition II	3.0
ENGL 103 or ENGL 113	Composition and Rhetoric III: Themes and Genres English Composition III	3.0
UNIV H101	The Drexel Experience	1.0
COOP 101	Career Management and Professional Development	1.0
CIVC 101	Introduction to Civic Engagement	1.0
UNIV H201	Looking Forward: Academics and Careers	1.0
Math courses		6.0-8.0
Science courses *		6.0-8.0

### Foundation Requirements

Diversity electives		6.0
Two Consecutive Foreign Language courses (must complete level 201)		7.0-8.0
Humanities/Fine Arts electives		12.0
Social Science electives		12.0
International Studies electives		6.0

### Core History Requirements

HIST 101	Introductory Seminar in History I **	
HIST 102	Introductory Seminar in History II **	
HIST 296	Research Methods in History I **	
HIST 301	The Study of History **	
HIST 396	Research Methods in History II **	
HIST 490 [WI]	Senior Seminar I **	
HIST 491 [WI]	Senior Seminar II **	
Any 1 Advanced History Seminar (Topics will vary)		
HIST 380	Advanced History Seminar	
History Distribution Courses***		20.0
Any 2 non-U.S. History courses		
Any 1 U.S. History Course		
Any 1 History courses covering pre-1700 history (May not be HIST 201)		



Any 1 History of Science, Technology, and Environment course		
History Concentration courses or any 7 History courses (at least four must be 200-level and above)		28.0
Free electives †		33.0
<b>Total Credits</b>		<b>181.0-186.0</b>

- \* Any Biology (BIO), Chemistry (CHEM), Nutrition (NFS), Physics (PHYS), Geoscience (GEO), Environmental Science (ENVS), or Physics-Environmental Science (PHEV).
- \*\* These courses must be taken in sequence.
- \*\*\* Only 200-level and above HIST courses will fulfill this this requirement.
- † Thirty-three (33.0) credits is the minimum allowed. Variations in concentration requirements and actual elective choices may result in earning more free elective credits.

## Optional History Concentrations

Students may select one of the two following concentrations in the History BA, or they may elect not to undertake a concentration. The courses in the required history distribution list may count toward the 28.0 credits in a concentration; the courses in the required core sequence may not count toward the 28.0 credits in the concentration.

### History of Science, Technology, and Environment Concentration

HIST 302	The Study of Science, Technology, and Environment in History	4.0
Select 1 Environmental History course from the following list:		4.0
HIST 320	Disaster in Global History	
HIST 321	Themes in Global Environmental History	
HIST T280	Special Topics in History (with approval when appropriate topic offered)	
HIST T380	Special Topics in History (with approval when appropriate topic offered)	
Select 1 Transnational Histories of Science and Technology course from the following list:		4.0
HIST 290	Technology and the World Community	
HIST 385	Transnational History of Science, Technology and Environment	
HIST T280	Special Topics in History (with approval when appropriate topic offered)	
HIST T380	Special Topics in History (with approval when appropriate topic offered)	
Select 1 History of Medicine and Disabilities course from the following list:		4.0
HIST 340	History of Bodies in Science, Technology, and Medicine	
HIST 341	Disabilities in History	
HIST T280	Special Topics in History (with approval when appropriate topic offered)	
HIST T380	Special Topics in History (with approval when appropriate topic offered)	
Concentration Electives (select three from the following list)		12.0
HIST 278	Medicine Before Germs	
HIST 279	History of Modern Medicine	
HIST 283	Technology and Identity	
HIST 285	Technology in Historical Perspective	
HIST 287	History of Science: Ancient to Medieval	
HIST 288	History of Science: Medieval to Enlightenment	
HIST 289	History of Science: Enlightenment to Modernity	
HIST 290	Technology and the World Community	
HIST 291	Global History of Engineering	
HIST 292	Technology in American Life	
HIST 320	Disaster in Global History	
HIST 321	Themes in Global Environmental History	
HIST 322	Empire and Environment	
HIST 340	History of Bodies in Science, Technology, and Medicine	
HIST 341	Disabilities in History	
HIST 365	Science and State Power: Colonialism	
HIST T280	Special Topics in History (with approval when appropriate topic offered)	
HIST T380	Special Topics in History (with approval when appropriate topic offered)	
<b>Total Credits</b>		<b>28.0</b>

### Global History Concentration

HIST 303	The Study of Global History	4.0
Global Engagement Course †		4.0
One Foreign Language Course ††		3.0-4.0
Concentration Electives (select any four from the following list) †††		16.0

HIST 235	The Great War, 1914-1918
HIST 236	World War II
HIST 250	European Revolutionary Movements and Ideology, 1815-1914
HIST 251	Fascism
HIST 254	Russian History Before 1900
HIST 255	Twentieth Century Russia & the USSR
HIST 256	Germany & the World of Hitler
HIST 257	The Reformation Age
HIST 261	Making of Modern South Asia
HIST 263	The World and China
HIST 264	East Asia in Modern Times
HIST 267	Twentieth Century World I
HIST 268	Twentieth Century World II
HIST 270 [WI]	Introduction to Latin American History
HIST 271	History of Mexico
HIST 274	Conquest of Mexico
HIST 290	Technology and the World Community
HIST 291	Global History of Engineering
HIST 315	History of Capitalism
HIST 320	Disaster in Global History
HIST 321	Themes in Global Environmental History
HIST 322	Empire and Environment
HIST 355	Venice and the Mediterranean from the Middle Ages to Napoleon
HIST 365	Science and State Power: Colonialism
HIST 385	Transnational History of Science, Technology and Environment
HIST T280	Special Topics in History (with approval when appropriate topic offered)
HIST T380	Special Topics in History (with approval when appropriate topic offered)

**Total Credits****27.0-28.0**

- † Courses which may fulfill the global engagement requirement include designated travel-integrated courses, study abroad courses (with approval), Global Classroom courses in history, or independent study courses (with approval.)
- †† In addition to the required CoAS Foundation Requirements foreign language courses (two courses, including completion of a language through 201) in one language, students in the global history concentration must take at least one courses in a second foreign language.
- ††† At least two courses must be 300-level and above.

## Sample Plan of Study (BA)

### History BA - No concentration

#### 4 year, no co-op

##### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 CIVC 101	1.0 ENGL 103 or 113	3.0 VACATION	
HIST 101	4.0 ENGL 102 or 112	3.0 US History course	4.0	
UNIV H101	1.0 HIST 102	4.0 Mathematics course	3.0-4.0	
Foreign Language course (103-level or above)	4.0 Foreign Language course (201-level or above)	3.0-4.0 Free electives	4.0	
Non-US History course	4.0 Mathematics course	3.0-4.0		
	<b>16</b>	<b>14-16</b>	<b>14-15</b>	<b>0</b>

##### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
HIST 296	4.0 History of Science, Technology and Environment course	4.0 Non-U.S. History course	4.0 VACATION	
Science elective ***	3.0-4.0 Humanities/fine arts elective	3.0 Humanities/fine arts elective	3.0	
History course covering pre-1700 history **	4.0 Social and behavioral science elective	3.0 Social and behavioral science elective	3.0	
Free electives	3.0-4.0 Science elective*** Free elective	3.0-4.0 Free electives 3.0-4.0	6.0	
	<b>14-16</b>	<b>16-18</b>	<b>16</b>	<b>0</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
History electives <sup>†</sup>	8.0 HIST 301	4.0 HIST 396	4.0 VACATION	
International Studies elective	3.0 UNIV H201	1.0 HIST 380	4.0	
Diversity elective	3.0 History elective <sup>†</sup>	4.0 History elective <sup>†</sup>	4.0	
Free elective	3.0-4.0 Social and Behavioral Science elective	3.0 Humanities/Fine Arts elective	3.0	
	International Studies elective	3.0 Free elective	3.0-4.0	
	<b>17-18</b>	<b>15</b>	<b>18-19</b>	<b>0</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits
HIST 490	4.0 HIST 491	4.0 History elective <sup>†</sup>	4.0
History elective <sup>†</sup>	4.0 History elective <sup>†</sup>	4.0 Free electives	9.0-10.0
Social and Behavioral Science elective	3.0 Humanities/Fine Arts elective	3.0	
Free elective	3.0-4.0 Free elective	3.0-4.0	
	<b>14-15</b>	<b>14-15</b>	<b>13-14</b>

Total Credits 181-193

**History BA - no concentration****4 year, 1 co-op****First Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 CIVC 101	1.0 COOP 101	1.0 VACATION	
HIST 101	4.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
UNIV H101	1.0 HIST 102	4.0 US History course <sup>*</sup>	4.0	
Foreign Language course (103-level or above)	4.0 Foreign Language course (201-level or above)	3.0-4.0 Mathematics course	3.0-4.0	
Non-US History course <sup>*</sup>	4.0 Mathematics course	3.0-4.0 Free elective	3.0-4.0	
	<b>16</b>	<b>14-16</b>	<b>14-16</b>	<b>0</b>

**Second Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
HIST 296	4.0 History of Science, Technology and Environment course <sup>*</sup>	4.0 Non-US History course <sup>*</sup>	4.0 History electives <sup>†</sup>	8.0
Science elective <sup>***</sup>	3.0-4.0 Humanities/Fine Arts elective	3.0 Humanities/Fine Arts elective	3.0 International Studies elective	3.0
History course covering pre-1700 history <sup>**</sup>	4.0 Social and Behavioral Science elective	3.0 Social and Behavioral Science elective	3.0 Diversity elective	3.0
Free elective	3.0-4.0 Science elective <sup>***</sup>	3.0-4.0 Free electives	6.0 Free elective	3.0-4.0
	Free elective	3.0-4.0		
	<b>14-16</b>	<b>16-18</b>	<b>16</b>	<b>17-18</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
HIST 301	4.0 HIST 380	4.0 COOP EXPERIENCE	COOP EXPERIENCE	
UNIV H201	1.0 HIST 396	4.0		
History elective <sup>†</sup>	4.0 History elective <sup>†</sup>	4.0		
Social and Behavioral Science elective	3.0 Humanities/Fine Arts elective	3.0		
International Studies elective	3.0 Free elective	3.0-4.0		
	<b>15</b>	<b>18-19</b>	<b>0</b>	<b>0</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits
HIST 490	4.0 HIST 491	4.0 History elective <sup>†</sup>	4.0
History elective <sup>†</sup>	4.0 History elective <sup>†</sup>	4.0 Free electives	9.0-10.0
Social and Behavioral Science elective	3.0 Humanities/Fine Arts elective	3.0	

Free elective	3.0-4.0 Free elective	3.0-4.0	
	<b>14-15</b>	<b>14-15</b>	<b>13-14</b>

Total Credits 181-194

## History BA - no concentration

### 5 year, 3 co-ops

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 CIVC 101	1.0 COOP 101	1.0 VACATION	
HIST 101	4.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
UNIV H101	1.0 HIST 102	4.0 US History course *	4.0	
Foreign Language course (103-level or higher)	4.0 Foreign Language course (201-level or higher)	3.0-4.0 Mathematics course	3.0-4.0	
Non-US History course *	4.0 Mathematics course	3.0-4.0 Free elective	3.0-4.0	
	<b>16</b>	<b>14-16</b>	<b>14-16</b>	<b>0</b>

#### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
HIST 296	4.0 History of Science, Technology, and Environment course *	4.0 COOP EXPERIENCE	COOP EXPERIENCE	
Science elective ***	3.0-4.0 Humanities/Fine Arts elective	3.0		
History course covering pre-1700 history **	4.0 Social and Behavioral Science elective	3.0		
Free elective	3.0-4.0 Science elective ***	3.0-4.0		
	Free elective	3.0-4.0		
	<b>14-16</b>	<b>16-18</b>	<b>0</b>	<b>0</b>

#### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
Non-US History course *	4.0 History electives †	8.0 COOP EXPERIENCE	COOP EXPERIENCE	
Humanities/Fine Arts elective	3.0 International Studies elective	3.0		
Social and Behavioral Science elective	3.0 Diversity elective	3.0		
Free electives	6.0 Free elective	3.0-4.0		
	<b>16</b>	<b>17-18</b>	<b>0</b>	<b>0</b>

#### Fourth Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
HIST 201	4.0 HIST 380	4.0 COOP EXPERIENCE	COOP EXPERIENCE	
UNIV H201	1.0 HIST 396	4.0		
History elective †	4.0 History elective †	4.0		
Social and Behavioral Science elective	3.0 Humanities/Fine Arts elective	3.0		
International Studies elective	3.0 Free elective	3.0-4.0		
	<b>15</b>	<b>18-19</b>	<b>0</b>	<b>0</b>

#### Fifth Year

Fall	Credits Winter	Credits Spring	Credits
HIST 490	4.0 HIST 491	4.0 History elective †	4.0
History elective †	4.0 History elective †	4.0 Free electives	9.0-11.0
Social and Behavioral Sciences elective	3.0 Humanities/Fine Arts elective	3.0	
Free elective	3.0-4.0 Free elective	3.0-4.0	
	<b>14-15</b>	<b>14-15</b>	<b>13-15</b>

Total Credits 181-195

\* Must be 200-level or above.

\*\* Must be 200-level or above. May not be HIST 201.

\*\*\* See degree requirements (p. ).

† At least four core courses must be 200-level or above.

## History BA - Science, Technology, and Environment Concentration

### 4 year, no co-op

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
HIST 101	4.0 CIVC 101	1.0 ENGL 103 or 113	3.0 VACATION	
ENGL 101 or 111	3.0 HIST 102	4.0 US History course*	4.0	
UNIV H101	1.0 ENGL 102 or 112	3.0 Mathematics course	3.0-4.0	
Non-US History course*	4.0 Foreign Language course (201-level or higher)	3.0-4.0 Free electives	6.0-7.0	
Foreign Language course (103-level or higher)	4.0 Mathematics course	3.0-4.0		
	<b>16</b>	<b>14-16</b>	<b>16-18</b>	<b>0</b>

#### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
HIST 296	4.0 HIST 385	4.0 Non-US History course*	4.0 VACATION	
Concentration elective	4.0 Concentration elective	4.0 History course covering pre-1700 history**	4.0	
Diversity elective	3.0 Diversity elective	3.0 Science elective***	3.0-4.0	
Free electives	6.0-7.0 Social or Behavioral Science elective	3.0 Social or Behavioral Sciences elective	3.0	
	Free elective	3.0-4.0		
	<b>17-18</b>	<b>17-18</b>	<b>14-15</b>	<b>0</b>

#### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
History of Science, Technology, and Environment course*	4.0 HIST 301	4.0 HIST 302	4.0 VACATION	
Science elective***	3.0-4.0 HIST 380	4.0 HIST 396	4.0	
Social or Behavioral Science elective	3.0 UNIV H201	1.0 Humanities/Fine Arts elective	3.0	
International Studies elective	3.0 Social or Behavioral Science elective	3.0 Free elective	3.0-4.0	
Free elective	3.0-4.0 International Studies elective	3.0		
	<b>16-18</b>	<b>15</b>	<b>14-15</b>	<b>0</b>

#### Fourth Year

Fall	Credits Winter	Credits Spring	Credits
HIST 490	4.0 HIST 491	4.0 Concentration elective	4.0
History of Medicine and Disabilities course	4.0 Environmental History course	4.0 Humanities/Fine Arts elective	3.0
Humanities/Fine Arts elective	3.0 Humanities/Fine Arts elective	3.0 Free electives	7.0-9.0
Free elective	3.0-4.0 Free elective	3.0-4.0	
	<b>14-15</b>	<b>14-15</b>	<b>14-16</b>

Total Credits 181-195

### 4 year, 1 co-op

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 CIVC 101	1.0 COOP 101	1.0 VACATION	
HIST 101	4.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
UNIV H101	1.0 HIST 102	4.0 US History course*	4.0	
Non-US History course*	4.0 Foreign Language course (201-level or higher)	3.0-4.0 Mathematics course	3.0-4.0	
Foreign Language course (103-level or higher)	4.0 Mathematics course	3.0-4.0 Free electives	6.0-7.0	
	<b>16</b>	<b>14-16</b>	<b>17-19</b>	<b>0</b>

**Second Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
HIST 296	4.0 HIST 385	4.0 Non-US History course *	4.0 History of Science, Technology, and Environment course *	4.0
Concentration elective	4.0 Concentration elective	4.0 History course covering pre-1700 history **	4.0 Science elective ***	3.0-4.0
Diversity elective	3.0 Diversity elective	3.0 Science elective ***	3.0-4.0 Social or Behavioral Science elective	3.0
Free electives	6.0-7.0 Social or Behavioral Science elective	3.0 Social or Behavioral Sciences elective	3.0 International Studies elective	3.0
	Free elective	3.0-4.0	Free elective	3.0-4.0
	<b>17-18</b>	<b>17-18</b>	<b>14-15</b>	<b>16-18</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
HIST 301	4.0 HIST 302	4.0 COOP EXPERIENCE	COOP EXPERIENCE	
HIST 380	4.0 HIST 396	4.0		
UNIV H201	1.0 Humanities/Fine Arts elective	3.0		
Social or Behavioral Science elective	3.0 Free elective	3.0-4.0		
International Studies elective	3.0			
	<b>15</b>	<b>14-15</b>	<b>0</b>	<b>0</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits
HIST 490	4.0 HIST 491	4.0 Concentration elective	4.0
History of Medicine and Disabilities course	4.0 Environmental History course	4.0 Humanities/Fine Arts elective	3.0
Humanities/Fine Arts elective	3.0 Humanities/Fine Arts elective	3.0 Free electives	7.0-9.0
Free elective	3.0-4.0 Free elective	3.0-4.0	
	<b>14-15</b>	<b>14-15</b>	<b>14-16</b>

**Total Credits 182-196****5 year, 3 co-ops****First Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 CIVC 101	1.0 COOP 101	1.0 VACATION	
HIST 101	4.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
UNIV H101	1.0 HIST 102	4.0 US History course *	4.0	
Non-US History course *	4.0 Foreign Language course (201-level or higher)	3.0-4.0 Mathematics course	3.0-4.0	
Foreign Language course (103-level or higher)	4.0 Mathematics course	3.0-4.0 Free elective	6.0-7.0	
	<b>16</b>	<b>14-16</b>	<b>17-19</b>	<b>0</b>

**Second Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
HIST 296	4.0 HIST 385	4.0 COOP EXPERIENCE	COOP EXPERIENCE	
Concentration elective	4.0 Concentration elective	4.0		
Diversity elective	3.0 Diversity elective	3.0		
Free electives	6.0-7.0 Social or Behavioral Science elective	3.0		
	Free elective	3.0-4.0		
	<b>17-18</b>	<b>17-18</b>	<b>0</b>	<b>0</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
Non-US History course *	4.0 History of Science, Technology, and Environment course *	4.0 COOP EXPERIENCE	COOP EXPERIENCE	
History course covering pre-1700 history **	4.0 Science elective ***	3.0-4.0		

Science elective ***	3.0-4.0 Social or Behavioral Science elective	3.0		
Social or Behavioral Sciences elective	3.0 International Studies elective	3.0		
	Free elective	3.0-4.0		
<b>14-15</b>		<b>16-18</b>	<b>0</b>	<b>0</b>
<b>Fourth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
HIST 301	4.0 HIST 302	4.0 COOP EXPERIENCE	COOP EXPERIENCE	
HIST 380	4.0 HIST 396	4.0		
UNIV H201	1.0 Humanities/Fine Arts elective	3.0		
Social or Behavioral Science elective	3.0 Free elective	3.0-4.0		
International Studies elective	3.0			
<b>15</b>		<b>14-15</b>	<b>0</b>	<b>0</b>
<b>Fifth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>	
HIST 490	4.0 HIST 491	4.0 Concentration elective	4.0	
History of Medicine and Disabilities course	4.0 Environmental History course	4.0 Humanities/Fine Arts elective	3.0	
Humanities/Fine Arts elective	3.0 Humanities/Fine Arts elective	3.0 Free electives	7.0-9.0	
Free elective	3.0-4.0 Free elective	3.0-4.0		
<b>14-15</b>		<b>14-15</b>	<b>14-16</b>	

Total Credits 182-196

\* Must be 200-level or above.

\*\* Must be 200-level or above. May not be HIST 201.

\*\*\* See degree requirements (p. ).

## History BA - Global History Concentration

### 4 year, no co-op

<b>First Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
ENGL 101 or 111	3.0 CIVC 101	1.0 ENGL 103 or 113	3.0 VACATION	
HIST 101	4.0 ENGL 102 or 112	3.0 US History course	4.0	
UNIV H101	1.0 HIST 102	4.0 Mathematics course	3.0-4.0	
Foreign Language course (103-level or above)	4.0 Foreign Language course (201-level or above)	3.0-4.0 Free electives	6.0-7.0	
Non-US History course *	4.0 Mathematics course	3.0-4.0		
<b>16</b>		<b>14-16</b>	<b>16-18</b>	<b>0</b>
<b>Second Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
HIST 296	4.0 Concentration elective **	4.0 History of Science, Technology, and Environment course	4.0 VACATION	
Concentration elective **	4.0 Foreign Language Concentration requirement	4.0 History course covering pre-1700 history ***	4.0	
Diversity elective	3.0 Diversity elective	3.0 Global Engagement course †	4.0	
Free electives	6.0-7.0 Social or Behavioral Science elective	3.0 Science elective †	3.0-4.0	
<b>17-18</b>		<b>14</b>	<b>15-16</b>	<b>0</b>
<b>Third Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
Non-US History course *	4.0 HIST 301	4.0 HIST 303	4.0 VACATION	
Science elective †	3.0-4.0 HIST 380	4.0 HIST 396	4.0	
Social or Behavioral Science elective	3.0 UNIV H201	1.0 Social or Behavioral Science elective	3.0	

International Studies elective	3.0 Social or Behavioral Science elective	3.0 Humanities/Fine Arts elective	3.0
Free elective	3.0-4.0 International Studies elective	3.0 Free elective	3.0-4.0
<b>16-18</b>		<b>15</b>	<b>17-18</b>
<b>Fourth Year</b>			
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>
HIST 490	4.0 HIST 491	4.0 Concentration elective **	4.0
Concentration elective **	4.0 Humanities/Fine Arts elective	3.0 Humanities/Fine Arts elective	3.0
Humanities/Fine Arts elective	3.0 Free electives	6.0-8.0 Free electives	6.0-8.0
Free elective	3.0-4.0		
<b>14-15</b>		<b>13-15</b>	<b>13-15</b>

**Total Credits 180-194**

## 4 year, one co-op

<b>First Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
ENGL 101 or 111	3.0 CIVC 101	1.0 COOP 101	1.0 VACATION	
HIST 101	4.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
UNIV H101	1.0 HIST 102	4.0 US History course *	4.0	
Foreign language course (103-level or above)	4.0 Foreign language course (201-level or above)	3.0-4.0 Mathematics course	3.0-4.0	
Non-US History course *	4.0 Mathematics course	3.0-4.0 Free electives	6.0-7.0	
<b>16</b>		<b>14-16</b>	<b>17-19</b>	<b>0</b>

<b>Second Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
HIST 296	4.0 Concentration elective **	4.0 History of Science, Technology, and Environment course *	4.0 Non-US History course *	4.0
Concentration elective **	4.0 Foreign Language concentration requirement	4.0 History course covering pre-1700 history **	4.0 Science elective †	3.0-4.0
Diversity elective	3.0 Diversity elective	3.0 Global Engagement course †	4.0 Social or Behavioral Science elective	3.0
Free electives	6.0-7.0 Social or Behavioral Science elective	3.0 Science elective †	3.0-4.0 International studies elective	3.0
			Free elective	3.0-4.0
<b>17-18</b>		<b>14</b>	<b>15-16</b>	<b>16-18</b>

<b>Third Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
HIST 301	4.0 HIST 303	4.0 COOP EXPERIENCE	COOP EXPERIENCE	
HIST 380	4.0 HIST 396	4.0		
UNIV H201	1.0 Social or Behavioral Science elective	3.0		
Social or Behavioral Science elective	3.0 Humanities/Fine Arts elective	3.0		
International Studies elective	3.0 Free elective	3.0-4.0		
<b>15</b>		<b>17-18</b>	<b>0</b>	<b>0</b>

<b>Fourth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>	
HIST 490	4.0 HIST 491	4.0 Concentration elective **	4.0	
Concentration elective **	4.0 Humanities/Fine Arts elective	3.0 Humanities/Fine Arts elective	3.0	
Humanities/Fine Arts elective	3.0 Free electives	6.0-8.0 Free electives	6.0-8.0	
Free elective	3.0-4.0			
<b>14-15</b>		<b>13-15</b>	<b>13-15</b>	

**Total Credits 181-195**



## 5 year, three co-ops

### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 CIVC 101	1.0 COOP 101	1.0 VACATION	
HIST 101	4.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
UNIV H101	1.0 HIST 102	4.0 US History course*	4.0	
Foreign Language course (103-level or above)	4.0 Foreign Language course (201-level or above)	3.0-4.0 Mathematics course	3.0-4.0	
Non-US History course*	4.0 Mathematics course	3.0-4.0 Free elective	6.0-7.0	
	<b>16</b>	<b>14-16</b>	<b>17-19</b>	<b>0</b>

### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
HIST 296	4.0 Concentration elective**	4.0 COOP EXPERIENCE	COOP EXPERIENCE	
Concentration elective**	4.0 Foreign Language Concentration requirement	4.0		
Diversity elective	3.0 Diversity elective	3.0		
Free electives	6.0-7.0 Social or Behavioral Science elective	3.0		
	<b>17-18</b>	<b>14</b>	<b>0</b>	<b>0</b>

### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
History of Science, Technology, and Environment course*	4.0 Non-US History course*	4.0 COOP EXPERIENCE	COOP EXPERIENCE	
History course covering pre-1700 history***	4.0 Science elective†	3.0-4.0		
Global Engagement course†	4.0 Social or Behavioral Science elective	3.0		
Science elective†	3.0-4.0 International Studies elective	3.0		
	Free elective	3.0-4.0		
	<b>15-16</b>	<b>16-18</b>	<b>0</b>	<b>0</b>

### Fourth Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
HIST 301	4.0 HIST 303	4.0 COOP EXPERIENCE	COOP EXPERIENCE	
HIST 380	4.0 HIST 396	4.0		
UNIV H201	1.0 Social or Behavioral Science elective	3.0		
Social or Behavioral Science elective	3.0 Humanities/Fine Arts elective	3.0		
International Studies elective	3.0 Free elective	3.0-4.0		
	<b>15</b>	<b>17-18</b>	<b>0</b>	<b>0</b>

### Fifth Year

Fall	Credits Winter	Credits Spring	Credits
HIST 490	4.0 HIST 491	4.0 Concentration elective**	4.0
Concentration elective**	4.0 Humanities/Fine Arts elective	3.0 Humanities/Fine Arts elective	3.0
Humanities/Fine Arts elective	3.0 Free electives	6.0-8.0 Free electives	6.0-8.0
Free elective	3.0-4.0		
	<b>14-15</b>	<b>13-15</b>	<b>13-15</b>

**Total Credits 181-195**

\* Must be 200-level or above.

\*\* Two must be 200-level or above.

\*\*\* Must be 200-level or above. May not be HIST 201.

† See degree requirements (p. ).

## Co-Op/Career Opportunities

### Co-Op Experiences

History majors have a wide variety of co-op experiences from which to choose. Business and public utilities offer many possibilities, and local, state, and federal governments; museums and archives; and law firms present many additional interesting co-op placements. Pre-law students, for example, are especially eager to see the inside of a law office, whether the co-op job they receive is clerical or a more challenging paralegal assignment. These practical experiences in the “real” world can reinforce the lessons of the classroom, sharpen skills, and establish important contacts. Sample co-op positions include:

- Law clerk/paralegal, Joe Davidson, Attorney-at-Law, Philadelphia
- Research analyst, Legislative Office for Research Liaison, Harrisburg, PA
- Legislative intern, Corporate Public Affairs Division, Philadelphia Electric Company
- Assistant lobbyist, Government Relations Office, Drexel University
- Education intern, Philadelphia Museum of Art
- Researcher, Philadelphia Chamber of Commerce
- Assistant, Office of the Governor, Harrisburg, PA

### Career Opportunities

The flexible programs allow students to shape a curriculum that meets their needs, whether they are preparing for the business world, graduate school in history or political science, an MBA or other business program, or law school.

### History Faculty

Lloyd Ackert, PhD (*Johns Hopkins University*). Teaching Professor. History of science and technology; ecology; Russian science.

Debjani Bhattacharyya, PhD (*Emory University*). Associate Professor. Urban history, South Asian history, environmental history, legal history, transnational history, post-colonial theory, subaltern studies, history of modern economic thought and feminist history.

Yeonsil Kang, PhD (*Korea Advanced Institute of Science and Technology*). Visiting Assistant Professor. Science and technology studies, history of technology, environmental history.

Alison Kenner, PhD (*Rensselaer Polytechnic Institute*). Associate Professor. Science, technology, and health; environmental health problems; cities and place; feminist theory; medical anthropology; digital humanities

Scott G. Knowles, PhD (*Johns Hopkins University*) *Department Head, History*. Professor. Urban history, Philadelphia history, history of technology, history of disasters, modern history.

Jonson Miller, PhD (*Virginia Tech*). Teaching Professor. Science and technology, American history, military history.

Toni Pitock, PhD (*University of Delaware*) *Co-director, Judaic Studies Program*. Assistant Teaching Professor. Atlantic World, Jewish Migration and Diaspora, Economic Culture, Trade Networks, Colonial American History

Nic John Ramos, PhD (*University of Southern California*). Assistant Professor. African American History, history of Medicine, History of Psychiatry, urban History, 20th Century US History, History of Racial Capitalism, History of Sexuality

Rosalind Remer, PhD (*University of California, Las Angeles*) *Vice Provost & Executive Director, Lenfest Center for Cultural Partnerships; Affiliated Faculty Member*. History of the Book, Early American economic and business history, Public History, Museum planning, Non-profit Management

Tiago Saraiva, PhD (*Universidad Autónoma de Madrid*). Associate Professor. History of science and technology; transnational history; environmental history

Jonathan Seitz, PhD (*University of Wisconsin*) *Assistant Department Head, History*. Teaching Professor. History of religion, science, medicine, witchcraft, early modern Europe, Italy.

Amy Slaton, PhD (*University of Pennsylvania*). Professor. History of science and technology; history of standards and metrology; intersectionality, race, labor.

Kathryn Steen, PhD (*University of Delaware*). Associate Professor. History of technology, history of industry and business, and comparative history.

Donald F. Stevens, PhD (*University of Chicago*). Professor. Modern Latin American history.

Michael Yudell, MPH, PhD (*Columbia University*) *Chair, Department of Community Health*. Associate Professor. Department of Community Health and Prevention. Public health ethics; history of public health; race and racism; autism.

## Emeritus Faculty

Eric Dorn Brose, PhD (*Ohio State University*). Professor Emeritus. German and European history.

Robert Zaller, PhD (*Washington University*). Professor Emeritus. English history and early modern European history.

## Mathematics

*Major: Mathematics*

*Degree Awarded: Bachelor of Arts (BA) or Bachelor of Science (BS)*

*Calendar Type: Quarter*

*Total Credit Hours: 181.0*

*Co-op Options: Three Co-op (Five years); One Co-op (Four years); No Co-op (Four years)*

*Classification of Instructional Programs (CIP) code: 27.0101*

*Standard Occupational Classification (SOC) code: 15-2021*

## About the Program

The mathematics major at Drexel provides a supportive learning environment in which students obtain a firm grounding in the core areas of mathematics and apply this knowledge to problems encountered in a technological society. The Department of Mathematics (<http://drexel.edu/coas/academics/departments-centers/mathematics/>) offers students the option of either a BA or a BS degree.

The Mathematics Department takes pride in offering a balanced and flexible curriculum. Three very different kinds of skills are emphasized in the mathematics major:

### Abstract Reasoning

All students majoring in mathematics take courses that emphasize abstract reasoning. Students read and write proofs, and graduate well prepared to enter a PhD program in mathematics.

### Computing

All students majoring in mathematics take a series of computing courses. This emphasis on computing is one of the distinctive features of the mathematics program at Drexel, and provides students with a competitive advantage in the job market.

### Mathematical Modeling

All students majoring in mathematics take multidisciplinary courses that focus on the interplay between mathematics and an area of application. Students often use electives to focus on an area of personal interest. The Department of Mathematics encourages students to minor in a subject where mathematics is applied. The Department provides an advisor to assist students in selecting electives and planning career paths.

## Degree Requirements (BA)

### General Education Requirements

CIVC 101	Introduction to Civic Engagement	1.0
COM 230	Techniques of Speaking	3.0
COOP 101	Career Management and Professional Development *	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
UNIV S101	The Drexel Experience	1.0
UNIV S201	Looking Forward: Academics and Careers	1.0

### Computer Science sequence:

CS 150	Computer Science Principles	
or CS 164	Introduction to Computer Science	
CS 171	Computer Programming I	
CS 172	Computer Programming II	

Humanities and fine arts electives	6.0
International studies electives	6.0
Science electives	6.0
Social and behavioral sciences electives	6.0
Studies in diversity electives	6.0

<b>Free Electives *</b>		<b>66.0</b>
<b>Core Mathematics Requirements</b>		
MATH 121	Calculus I **	4.0
MATH 122	Calculus II	4.0
MATH 123	Calculus III	4.0
MATH 200	Multivariate Calculus	4.0
MATH 201	Linear Algebra	4.0
MATH 210	Differential Equations	4.0
MATH 220 [WJ]	Introduction to Mathematical Reasoning	3.0
MATH 331 or MATH 401	Abstract Algebra I Elements of Modern Analysis I	3.0-4.0
<b>Math Major Electives ***</b>		<b>30.0</b>
Select a minimum of 30 credits from the following:		
MATH 205	Survey of Geometry	
MATH 221	Discrete Mathematics	
MATH 222 [WJ]	Combinatorics	
MATH 235	Math Competition Problem Solving Seminar	
MATH 238	History of Mathematics	
MATH 250	Mathematics of Investment and Credit	
MATH 285	Differential Equations II	
MATH 300	Numerical Analysis I	
MATH 301	Numerical Analysis II	
MATH 305	Introduction to Optimization Theory	
MATH 311	Probability and Statistics I	
MATH 312	Probability and Statistics II	
MATH 313	Probability and Statistics III	
MATH 316	Mathematical Applications of Symbolic Software	
MATH 318 [WJ]	Mathematical Applications of Statistical Software	
MATH 319	Techniques of Data Analysis	
MATH 320	Actuarial Mathematics	
MATH 321	Vector Calculus	
MATH 322	Complex Variables	
MATH 323	Partial Differential Equations	
MATH 332	Abstract Algebra II	
MATH 387	Linear Algebra II	
MATH 401 or MATH 331	Elements of Modern Analysis I Abstract Algebra I	
MATH 402	Elements of Modern Analysis II	
MATH 422	Introduction to Topology	
MATH 449	Mathematical Finance	
MATH 450	Introduction to Graph Theory	
MATH 475	Cryptography	
MATH 483	Introduction to Monte Carlo Methods	
MATH 489	Tensor Calculus	
<b>Total Credits</b>		<b>181.0-182.0</b>

\* Students not participating in co-op, will take one additional credit of Free Elective instead of COOP 101.

\*\* Math majors must pass MATH 121 with a grade of B or higher.

\*\*\* If a student takes both of MATH 331 and MATH 401, then one of these can count as a Mathematics Elective. Up to 3 mathematics-related courses from other departments may be substituted for Mathematics Electives with departmental permission. MATH special topics courses may be substituted for Mathematics Electives with departmental permission.

### Categories of Electives

- *Humanities and arts electives*

Designated courses in art, art history, communication studies, foreign languages (300-level or above), history, literature, music, philosophy, religion, and theatre arts.

- *International electives*

Designated courses in anthropology, art history, history, literature, music, politics and sociology. Courses with an international focus may be used to fulfill requirements in other categories as well.

- *Science electives*  
Students select two courses from chemistry, biology or physics. Both courses may be in the same subject or they may be in different subject areas.
- *Social and behavioral sciences electives*  
Designated courses in anthropology, economics, criminology & justice studies, international relations, history, politics, psychology and sociology.
- *Studies in diversity electives*  
Designated courses in Africana studies, anthropology, communication, English, history, Judaic studies, linguistics, music, sociology and women's & gender studies.

## Degree Requirements (BS)

### General Education Requirements

CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development	1.0
COM 230	Techniques of Speaking	3.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
UNIV S101	The Drexel Experience	1.0
UNIV S201	Looking Forward: Academics and Careers	1.0
<b>Computer Science sequence:</b>		<b>9.0</b>
CS 150	Computer Science Principles	
or CS 164	Introduction to Computer Science	
CS 171	Computer Programming I	
CS 172	Computer Programming II	
Any Biology (BIO) course		3.0-4.0
Any Chemistry (CHEM) course		3.0-4.0
Any Physics (PHYS) or Physics-Environmental Science (PHEV) course		3.0-4.0
Humanities electives		6.0
Social sciences electives		15.0
International studies or studies in diversity electives		6.0
Free electives		40.0

### Mathematics Requirements

MATH 121	Calculus I **	4.0
MATH 122	Calculus II	4.0
MATH 123	Calculus III	4.0
MATH 200	Multivariate Calculus	4.0
MATH 201	Linear Algebra	4.0
MATH 210	Differential Equations	4.0
MATH 220 [W]	Introduction to Mathematical Reasoning	3.0
MATH 331	Abstract Algebra I	4.0
MATH 332	Abstract Algebra II	3.0
MATH 401	Elements of Modern Analysis I	3.0
MATH 402	Elements of Modern Analysis II	3.0

### Math Major Electives \*\*\*

**40.0**

Select a minimum of 40.0 credits from the following:

MATH 222 [W]	Combinatorics	
MATH 235	Math Competition Problem Solving Seminar	
MATH 250	Mathematics of Investment and Credit	
MATH 285	Differential Equations II	
MATH 300	Numerical Analysis I	
MATH 301	Numerical Analysis II	
MATH 305	Introduction to Optimization Theory	
MATH 311	Probability and Statistics I	
MATH 312	Probability and Statistics II	
MATH 313	Probability and Statistics III	
MATH 316	Mathematical Applications of Symbolic Software	

MATH 318 [WI]	Mathematical Applications of Statistical Software
MATH 319	Techniques of Data Analysis
MATH 320	Actuarial Mathematics
MATH 321	Vector Calculus
MATH 322	Complex Variables
MATH 323	Partial Differential Equations
MATH 387	Linear Algebra II
MATH 422	Introduction to Topology
MATH 449	Mathematical Finance
MATH 450	Introduction to Graph Theory
MATH 475	Cryptography
MATH 483	Introduction to Monte Carlo Methods
MATH 489	Tensor Calculus

**Total Credits****181.0-184.0**

- \* Students not participating in co-op will take one additional credit of Free Elective instead of COOP 101. Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major. COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.
- \*\* Math majors must pass MATH 121 with a grade of B or higher.
- \*\*\* MATH special topics courses may be substituted for Math Major Electives with departmental permission. MATH 100, MATH 101, MATH 102, MATH 110, MATH 119, MATH 180, MATH 171, MATH 172, MATH 173, and MATH 239 do not count towards the degree unless approved by the department.

## Sample Plan of Study (BA)

### 4 year, no co-op

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CS 150 or 164	3.0 CIVC 101	1.0 CS 172	3.0 VACATION	
ENGL 101 or 111	3.0 CS 171	3.0 ENGL 103 or 113	3.0	
MATH 121*	4.0 ENGL 102 or 112	3.0 MATH 123	4.0	
UNIV S101	1.0 MATH 122	4.0 MATH 220	3.0	
Science elective	3.0-4.0 Science elective	3.0-4.0 Social and Behavioral Science elective	3.0	
	<b>14-15</b>	<b>14-15</b>	<b>16</b>	<b>0</b>

#### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 230	3.0 Mathematics (MATH) courses**	6.0 MATH 210	4.0 VACATION	
MATH 200	4.0 Humanities/Fine Arts elective	3.0 Mathematics (MATH) course	3.0	
MATH 201	4.0 Free electives	6.0 Social and Behavioral Science elective	3.0	
Diversity Studies elective	3.0	Humanities/Fine Arts elective	3.0	
International Studies elective	3.0	Free elective	3.0	
	<b>17</b>	<b>15</b>	<b>16</b>	<b>0</b>

#### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
Mathematics (MATH) course**	3.0 MATH 401 or 331	3.0-4.0 UNIV S201	1.0 VACATION	
Diversity Studies elective	3.0 Mathematics (MATH) course**	3.0 Mathematics (MATH) course**	4.0	
Free electives	9.0 International Studies elective	3.0 Free electives	10.0	
	Free electives	6.0		
	<b>15</b>	<b>15-16</b>	<b>15</b>	<b>0</b>

**Fourth Year**

<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>
Mathematics (MATH) course**	4.0 Mathematics (MATH) course	3.0 Mathematics (MATH) course**	4.0
Free electives	12.0 Free electives	11.0 Free electives	10.0
	<b>16</b>	<b>14</b>	<b>14</b>

**Total Credits 181-184**

\* Math majors must pass MATH 121 with a grade of B or higher.

\*\* If a student takes both of MATH 331 and MATH 401, then one of these can count as a Mathematics Elective. Up to 3 mathematics-related courses from other departments may be substituted for Mathematics Electives with departmental permission. MATH special topics courses may be substituted for Mathematics Electives with departmental permission.

**4 year, 1 co-op****First Year**

<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
CS 150 or 164	3.0 CIVC 101	1.0 COOP 101**	1.0 VACATION	
ENGL 101 or 111	3.0 CS 171	3.0 CS 172	3.0	
MATH 121*	4.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
UNIV S101	1.0 MATH 122	4.0 MATH 123	4.0	
Science elective	3.0-4.0 Science elective	3.0-4.0 MATH 220	3.0	
		Social and Behavioral Science elective	3.0	
	<b>14-15</b>	<b>14-15</b>	<b>17</b>	<b>0</b>

**Second Year**

<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COM 230	3.0 Mathematics (MATH) courses***	6.0 MATH 210	4.0 Mathematics (MATH) course***	3.0
MATH 200	4.0 Humanities/Fine Arts elective	3.0 Mathematics (MATH) course***	3.0 Diversity Studies elective	3.0
MATH 201	4.0 Fine Arts elective	6.0 Social and Behavioral Science elective	3.0 Free elective	9.0
Diversity Studies elective	3.0	Humanities/Fine Arts elective	3.0	
International Studies elective	3.0	Free elective	3.0	
	<b>17</b>	<b>15</b>	<b>16</b>	<b>15</b>

**Third Year**

<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
MATH 401 or 331	3.0-4.0 UNIV S201	1.0 COOP EXPERIENCE	COOP EXPERIENCE	
Mathematics (MATH) course***	3.0 Mathematics (MATH) course***	4.0		
International Studies elective	3.0 Free electives	9.0		
Free electives	6.0			
	<b>15-16</b>	<b>14</b>	<b>0</b>	<b>0</b>

**Fourth Year**

<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>
Mathematics (MATH) course***	4.0 Mathematics (MATH) course***	3.0 Mathematics (MATH) course***	4.0
Free electives	12.0 Free electives	11.0 Free electives	10.0
	<b>16</b>	<b>14</b>	<b>14</b>

**Total Credits 181-184**

\* Math majors must pass MATH 121 with a grade of B or higher.

\*\* COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

\*\*\* If a student takes both of MATH 331 and MATH 401, then one of these can count as a Mathematics Elective. Up to 3 mathematics-related courses from other departments may be substituted for Mathematics Electives with departmental permission. MATH special topics courses may be substituted for Mathematics Electives with departmental permission.

## 5-year, 3 co-op

### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CS 150 or 164	3.0 CIVC 101	1.0 COOP 101**	1.0 VACATION	
ENGL 101 or 111	3.0 CS 171	3.0 CS 172	3.0	
MATH 121*	4.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
UNIV S101	1.0 MATH 122	4.0 MATH 123	4.0	
Science elective	3.0-4.0 Science elective	3.0-4.0 MATH 220	3.0	
		Social and Behavioral Science elective	3.0	
	<b>14-15</b>	<b>14-15</b>	<b>17</b>	<b>0</b>

### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 230	3.0 Mathematics (MATH) courses***	6.0 COOP EXPERIENCE	COOP EXPERIENCE	
MATH 200	4.0 Humanities/Fine Arts elective	3.0		
MATH 201	4.0 Free electives	6.0		
Diversity Studies elective	3.0			
International Studies elective	3.0			
	<b>17</b>	<b>15</b>	<b>0</b>	<b>0</b>

### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
MATH 210	4.0 Mathematics (MATH) course***	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
Mathematics (MATH) course***	3.0 Diversities Studies elective	3.0		
Social and Behavioral Science elective	3.0 Free electives	9.0		
Humanities/Fine Arts elective	3.0			
Free elective	3.0			
	<b>16</b>	<b>15</b>	<b>0</b>	<b>0</b>

### Fourth Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
MATH 401 or 331	3.0 UNIV S201	1.0 COOP EXPERIENCE	COOP EXPERIENCE	
Mathematics (MATH) course***	3.0 Mathematics (MATH) courses***	4.0		
International Studies elective	3.0 Free electives	9.0		
Free electives	6.0			
	<b>15</b>	<b>14</b>	<b>0</b>	<b>0</b>

### Fifth Year

Fall	Credits Winter	Credits Spring	Credits
Mathematics (MATH) course***	4.0 Mathematics (MATH) course**	3.0 Mathematics (MATH) course***	4.0
Free electives	12.0 Free electives	11.0 Free electives	10.0
	<b>16</b>	<b>14</b>	<b>14</b>

**Total Credits 181-183**

\* Math majors must pass MATH 121 with a grade of B or higher.

\*\* COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

\*\*\* If a student takes both of MATH 331 and MATH 401, then one of these can count as a Mathematics Elective. Up to 3 mathematics-related courses from other departments may be substituted for Mathematics Electives with departmental permission. MATH special topics courses may be substituted for Mathematics Electives with departmental permission.



## Sample Plan of Study (BS)

### 4 year, no coop

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CS 150 or 164	3.0 CIVC 101	1.0 CS 172	3.0 VACATION	
ENGL 101 or 111	3.0 CS 171	3.0 ENGL 103 or 113	3.0	
MATH 121	4.0 ENGL 102 or 112	3.0 MATH 123	4.0	
UNIV S101	1.0 MATH 122	4.0 MATH 200	4.0	
Any Biology (BIO) course	3.0 Any Chemistry (CHEM) course	3.0 Any Physics (PHYS) or or Physics - Environmental Science (PHEV) course	3.0-4.0	
	<b>14</b>	<b>14</b>	<b>17-18</b>	<b>0</b>

#### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 230	3.0 MATH 210	4.0 MATH 331	4.0 VACATION	
MATH 201	4.0 International Studies or Studies in Diversity elective	3.0 Humanities elective	3.0	
MATH 220	3.0 Mathematics (MATH) elective **	3.0 Mathematics (MATH) elective ***	4.0	
Social Sciences electives	6.0 Social Science elective	3.0 Social Science elective	3.0	
	<b>16</b>	<b>13</b>	<b>14</b>	<b>0</b>

#### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
MATH 332	3.0 MATH 401	3.0 MATH 402	3.0 VACATION	
Free elective	3.0 Free electives	6.0 UNIV S201	1.0	
Humanities elective	3.0 Mathematics (MATH) elective ***	3.0 Free electives	6.0	
International Studies or Studies in Diversity elective	3.0 Social Science elective	3.0 Mathematics (MATH) electives ***	7.0	
Mathematics (MATH) elective ***	4.0			
	<b>16</b>	<b>15</b>	<b>17</b>	<b>0</b>

#### Fourth Year

Fall	Credits Winter	Credits Spring	Credits
Free electives	7.0-8.0 Free electives	8.0 Free electives	9.0-10.0
Mathematics (MATH) electives ***	8.0 Mathematics (MATH) electives ***	7.0 Mathematics (MATH) electives ***	6.0
	<b>15-16</b>	<b>15</b>	<b>15-16</b>

#### Total Credits 181-184

\* Students not participating in co-op will take one additional credit of Free Elective instead of COOP 101.

\*\* Math majors must pass MATH 121 with a grade of B or higher.

\*\*\* If a student takes both MATH 331 and MATH 401, then one of these can count as a Mathematics Elective. Up to 3 mathematics-related courses from other departments may be substituted for Mathematics Electives with departmental permission. MATH special topics courses may be substituted for Mathematics Electives with departmental permission.

MATH 100, MATH 101, MATH 102, MATH 110, MATH 119, MATH 180, MATH 171, MATH 172, MATH 173, and MATH 239 do not count towards the degree unless approved by the department

### 4 year, 1 coop

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CS 150 or 164	3.0 CIVC 101	1.0 CS 172	3.0 VACATION	
ENGL 101 or 111	3.0 COOP 101 **	1.0 ENGL 103 or 113	3.0	
MATH 121	4.0 CS 171	3.0 MATH 123	4.0	
UNIV S101	1.0 ENGL 102 or 112	3.0 MATH 200	4.0	
Any Biology (BIO) course	3.0 MATH 122	4.0 Any Physics (PHYS) or Physics - Environmental Science (PHEV) course	3.0-4.0	

	Any Chemistry (CHEM) course	3.0		
	<b>14</b>	<b>15</b>	<b>17-18</b>	<b>0</b>
<b>Second Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COM 230	3.0 MATH 210	4.0 MATH 331	4.0 MATH 332	3.0
MATH 201	4.0 International Studies or Studies in Diversity elective	3.0 Humanities elective	3.0 Free elective	3.0
MATH 220	3.0 Mathematics (MATH) elective***	3.0 Mathematics (MATH) elective***	4.0 Humanities elective	3.0
Social Sciences electives	6.0 Social Science elective	3.0 Social Science elective	3.0 International Studies or Studies in Diversity elective	3.0
			Mathematics (MATH) elective***	4.0
	<b>16</b>	<b>13</b>	<b>14</b>	<b>16</b>
<b>Third Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
MATH 401	3.0 MATH 402	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
Free electives	6.0 UNIV S201	1.0		
Mathematics (MATH) elective***	3.0 Free electives	6.0		
Social Science elective	3.0 Mathematics (MATH) electives***	7.0		
	<b>15</b>	<b>17</b>	<b>0</b>	<b>0</b>
<b>Fourth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>	
Free electives	6.0-7.0 Free electives	8.0 Free electives	9.0	
Mathematics (MATH) electives***	8.0 Mathematics (MATH) electives***	7.0 Mathematics (MATH) electives***	6.0	
	<b>14-15</b>	<b>15</b>	<b>15</b>	

**Total Credits 181-183**

\* Math majors must pass MATH 121 with a grade of B or higher.

\*\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

\*\*\* If a student takes both MATH 331 and MATH 401, then one of these can count as a Mathematics Elective. Up to 3 mathematics-related courses from other departments may be substituted for Mathematics Electives with departmental permission. MATH special topics courses may be substituted for Mathematics Electives with departmental permission.

MATH 100, MATH 101, MATH 102, MATH 110, MATH 119, MATH 180, MATH 171, MATH 172, MATH 173, and MATH 239 do not count towards the degree unless approved by the department

**5 year, 3 coop**

<b>First Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
CS 150 or 164	3.0 CIVC 101	1.0 CS 172	3.0 VACATION	
ENGL 101 or 111	3.0 COOP 101**	1.0 ENGL 103 or 113	3.0	
MATH 121*	4.0 CS 171	3.0 MATH 123	4.0	
UNIV S101	1.0 ENGL 102 or 112	3.0 MATH 200	4.0	
Any Biology (BIO) course	3.0 MATH 122	4.0 Any Physics (PHYS) or Physics - Environmental Science (PHEV) course	3.0-4.0	
	Any Chemistry (CHEM) course	3.0		
	<b>14</b>	<b>15</b>	<b>17-18</b>	<b>0</b>
<b>Second Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COM 230	3.0 MATH 210	4.0 COOP EXPERIENCE	COOP EXPERIENCE	

MATH 201	4.0 International Studies or Studies in Diversity elective	3.0		
MATH 220	3.0 Mathematics (MATH) elective***	3.0		
Social Science electives	6.0 Social Science elective	3.0		
	<b>16</b>	<b>13</b>	<b>0</b>	<b>0</b>
<b>Third Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
MATH 331	4.0 MATH 332	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
Humanities elective	3.0 Free elective	3.0		
Mathematics (MATH) elective**	4.0 Humanities elective	3.0		
Social Science elective	3.0 International Studies or Studies in Diversity elective	3.0		
	Mathematics (MATH) elective***	4.0		
	<b>14</b>	<b>16</b>	<b>0</b>	<b>0</b>
<b>Fourth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
MATH 401	3.0 MATH 402	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
Free electives	6.0 UNIV S201	1.0		
Mathematics (MATH) electives***	3.0 Free electives	6.0		
Social Science elective	3.0 Mathematics (MATH) electives***	7.0		
	<b>15</b>	<b>17</b>	<b>0</b>	<b>0</b>
<b>Fifth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>	
Free electives	6.0-7.0 Free electives	8.0 Free electives	9.0	
Mathematics (MATH) electives***	8.0 Mathematics (MATH) electives***	7.0 Mathematics (MATH) electives***	6.0	
	<b>14-15</b>	<b>15</b>	<b>15</b>	

**Total Credits 181-183**

\* Math majors must pass MATH 121 with a grade of B or higher.

\*\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major. COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

\*\*\* If a student takes both MATH 331 and MATH 401 then one of these can count as a Mathematics Elective. Up to 3 mathematics-related courses from other departments may be substituted for Mathematics Electives with departmental permission. MATH special topics courses may be substituted for Mathematics Electives with departmental permission. MATH 100, MATH 101, MATH 102, MATH 110, MATH 119, MATH 180, MATH 171, MATH 172, MATH 173, and MATH 239 do not count towards the degree unless approved by the department

## Co-op/Career Opportunities

Mathematicians are employed in a variety of capacities in business, industry, and government. Students can combine courses in economics or finance and mathematics to prepare for careers in the actuarial field, banks, stock exchanges, or finance departments of large corporations or other financial institutions. Students interested in science careers may focus on probability and statistics in order to work for industries like pharmaceutical manufacturers. Many others combine math studies with computer science courses to prepare for careers in information systems or engineering. Teacher certification is also a career option available through a joint program in mathematics and teacher education. Visit the Drexel Steinbright Career Development Center (<http://www.drexel.edu/scdc/>) for more detailed information on co-op and post-graduate opportunities.

## Dual Degree Bachelor's Programs

Since applied mathematics plays an important role in many different disciplines, mathematics majors often choose to pursue specialization in a second field of study. Students may choose a dual major that involves completing the requirements of two separate majors or they can opt for a minor, which involves completing the major in one field and a smaller set of courses in another.

Dual majors are common in mathematics/computer science and mathematics/physics. Students interested in a dual major should consult with their advisor or contact the assistant department head. Dual majors in other fields are also possible, but early planning and discussions with advisors is essential.

## Mathematics Faculty

David M. Ambrose, PhD (*Duke University*) Associate Department Head, Mathematics. Professor. Applied analysis and computing for systems of nonlinear partial differential equations, especially free-surface problems in fluid dynamics.

Jason Aran, MS (*Drexel University*). Associate Teaching Professor.

Jonah D. Blasiak, PhD (*University of California at Berkeley*). Associate Professor. Algebraic combinatorics, representation theory, and complexity theory.

Yasmine Boolakee-Pant, MS (*University of Freiburg*). Instructor.

Robert P. Boyer, PhD (*University of Pennsylvania*). Professor. Functional analysis, C\*-algebras and the theory of group.

Fernando Carreon, PhD (*University of Texas at Austin*). Teaching Professor.

Patrick Clarke, PhD (*University of Miami*). Associate Professor. Homological mirror symmetry, Landau-Ginzburg models, algebraic geometry, symplectic geometry.

Daryl Falco, MS (*Drexel University*). Associate Teaching Professor. Discrete mathematics and automata theory.

Raymond Favocci, MS (*Drexel University*). Associate Teaching Professor.

Darij Grinberg, PhD (*Massachusetts Institute of Technology*). Assistant Professor. Algebraic Combinatorics, Noncommutative Algebra, Symmetric Functions, Hopf Algebras, Enumerative Combinatorics, Invariant Theory

Pavel Grinfeld, PhD (*Massachusetts Institute of Technology*). Associate Professor. Intersection of physics, engineering, applied mathematics and computational science.

Anatolii Grinshpan, PhD (*University of California at Berkeley*). Associate Teaching Professor. Function theory and operator theory, harmonic analysis, matrix theory.

Yixin Guo, PhD (*University of Pittsburgh*). Associate Professor. Biomathematics, dynamical systems, ordinary and partial differential equations and math education.

R. Andrew Hicks, PhD (*University of Pennsylvania*). Professor. Geometry; optics; computer vision.

Pawel Hitczenko, PhD (*Warsaw University*). Professor. Probability theory and its applications to analysis, combinatorics, wavelets, and the analysis of algorithms.

Jeffrey LaComb, PhD (*Duke University*). Assistant Teaching Professor. Rare Event Simulation, Dynamical Systems, Numerical Analysis and Mathematical Biology

Georgi S. Medvedev, PhD (*Boston University*). Professor. Ordinary and partial differential equations, mathematical neuroscience.

Cecilia Mondaini, PhD (*Federal University of Rio de Janeiro*). Assistant Professor. Analysis of Partial Differential Equations, Fluid Dynamics, Stochastic Processes

Shari Moskow, PhD (*Rutgers University*) Department Head. Professor. Partial differential equations and numerical analysis, including homogenization theory, numerical methods for problems with rough coefficients, and inverse problems.

Oksana P. Odintsova, PhD (*Omsk State University*). Teaching Professor. Math education; geometrical modeling.

Dimitrios Papadopoulos, MS (*Drexel University*). Assistant Teaching Professor.

Joel Pereira, PhD (*University of North Carolina*). Assistant Teaching Professor. Commutative Algebra

Ronald K. Perline, PhD (*University of California at Berkeley*) Undergraduate Adviser. Associate Professor. Applied mathematics, numerical analysis, symbolic computation, differential geometry, mathematical physics.

Marci A. Perlstadt, PhD (*University of California at Berkeley*). Associate Professor. Applied mathematics, computed tomography, numerical analysis of function reconstruction, signal processing, combinatorics.

Adam C. Rickert, MS (*Drexel University*). Associate Teaching Professor.

Eric Schmutz, PhD (*University of Pennsylvania*). Professor. Probabilistic combinatorics, asymptotic enumeration.

Li Sheng, PhD (*Rutgers University*). Associate Professor. Discrete optimization, combinatorics, operations research, graph theory and its application in molecular biology, social sciences and communication networks, biostatistics.

Gideon Simpson, PhD (*Columbia University*). Associate Professor. Partial differential equations, scientific computing and applied mathematics.

Xiaoming Song, PhD (*University of Kansas*). Associate Professor. Stochastic Calculus, Large Deviation Theory, Theoretical Statistics, Data Network Modeling and Numerical Analysis.

Jeanne M. Steuber, MS (*Boston University*). Associate Teaching Professor.

Kenneth P. Swartz, PhD (*Harvard University*). Assistant Teaching Professor. Applied statistics, data analysis, calculus, discrete mathematics, biostatistics.

K. Shwetketu Virbhadra, PhD (*Physical Research Laboratory*). Instructor.

Richard D. White, MS (*Penn State University*). Assistant Teaching Professor.

Hugo J. Woerdeman, PhD (*Vrije Universiteit, Amsterdam*). Professor. Matrix and operator theory, systems theory, signal and image processing, and harmonic analysis.

J. Douglas Wright, PhD (*Boston University*) Associate Department Head. Professor. Partial differential equations, specifically nonlinear waves and their interactions.

Dennis G. Yang, PhD (*Cornell University*). Associate Teaching Professor. Dynamical systems, neurodynamics.

Thomas (Pok-Yin) Yu, PhD (*Stanford University*). Professor. Multiscale mathematics, wavelets, applied harmonic analysis, subdivision algorithms, nonlinear analysis, applied differential geometry and data analysis.

Matthew Ziemke, PhD (*University of South Carolina*). Assistant Teaching Professor. Functional Analysis, Operator Algebras, Semigroups, Mathematical Physics

## Emeritus Faculty

Howard Anton, PhD (*Polytechnic Institute of Brooklyn*). Professor Emeritus.

Loren N. Argabright, PhD (*University of Washington*). Professor Emeritus. Functional analysis, wavelets, abstract harmonic analysis, the theory of group representations.

Robert C. Busby, PhD (*University of Pennsylvania*). Professor Emeritus. Functional analysis, C\*-algebras and group representations, computer science.

Ewaugh Finney Fields, EdD (*Temple University*) Dean Emeritus. Professor Emeritus. Mathematics education, curriculum and instruction, minority engineering education.

William M.Y. Goh, PhD (*Ohio State University*). Associate Professor Emeritus. Number theory, approximation theory and special functions, combinatorics, asymptotic analysis.

Patricia Henry Russell, MS (*Drexel University*). Teaching Professor Emerita.

Bernard Kolman, PhD (*University of Pennsylvania*). Professor Emeritus. Lie algebras; theory, applications, and computational techniques; operations research.

Charles J. Mode, PhD (*University of California at Davis*). Professor Emeritus. Probability and statistics, biostatistics, epidemiology, mathematical demography, data analysis, computer-intensive methods.

Chris Rorres, PhD (*Courant Institute, New York University*). Professor Emeritus. Applied mathematics, scattering theory, mathematical modeling in biological sciences, solar-collection systems.

Justin R. Smith, PhD (*Courant Institute, New York University*). Professor Emeritus. Homotopy theory, operad theory, quantum mechanics, quantum computing.

Jet Wimp, PhD (*University of Edinburgh*). Professor Emeritus. Applied mathematics, special factors, approximation theory, numerical techniques, asymptotic analysis.

## Philosophy

Major: Philosophy

*Degree Awarded: Bachelor of Arts (BA)*

*Calendar Type: Quarter*

*Total Credit Hours: 180.0*

*Co-op Options: Three Co-op (Five years); One Co-op (Four years); No Co-op (Four years)*

*Classification of Instructional Programs (CIP) code: 38.0101*

*Standard Occupational Classification (SOC) code: 25-1126*

## About the Program

A great philosopher once said, "Philosophers have just interpreted the world—but the point is to *change* it." At Drexel, we believe ideas do affect and change the world—ideas about what matters, what "success" means and how to accomplish it, and what is to be learned from our experiences and activity. The most important reason to do philosophy is that we all *can* change the world and ourselves by living "the examined life" and being more reflective, thoughtful, and critical in our lives in concrete ways. Our classes seek to engage students in the active development of their reflective, creative, rational, logical, and linguistic abilities in thoughtful concern for some of the most important and fundamental questions and problems of life and of the world.

It is widely recognized that philosophical activity encourages and facilitates independent thinking more than almost any other academic study. But many do not realize that philosophy is also a very practical subject to study because it helps one develop skills like reasoning, writing, reading, thinking, speaking, listening, and dialogue that are essential to success in the widest range of great and sometimes even meaningful careers. Philosophy isn't only a great way to think really carefully about what "success" might mean for you—it is also a way to work on the skills that are likely to help you accomplish "success" as you understand it.

The Drexel Philosophy major is an excellent preparation for success in any field of endeavor that values thoughtful reflection, logical thinking, and clear communication about real issues and concerns. It is particularly valuable as a preparation for careers in education and law, in graduate study in philosophy, or in fields related to philosophy like critical media studies, public policy, or science, technology, and society (STS).

Drexel Philosophy majors take a mixture of historical and topical courses in the major fields of philosophical inquiry. These include ethics, metaphysics (philosophy of reality), epistemology (philosophy of knowledge), aesthetics (philosophy of art), social and political philosophy, philosophy of science, and logic. Our elective classes cover a wide range of subjects including technology, medicine, law, religion, science, the environment, and more. Our upper-level seminar classes are discussion-driven, reading- and writing-intensive classes usually limited to 12-16 students.

Prior to the end of sophomore year, students may choose to focus their philosophical studies in one of three areas of concentration. These are:

- Ethical Theory and Practice
- Philosophy and Law
- Philosophy, Technology, and Science

Students may also remain in the Philosophy concentration, which gives them the widest range of options from which to select their courses.

Prior to the end of junior year, students may opt to work on a 9.0 credit senior thesis. This is a yearlong, faculty-mentored independent research and writing project on a topic developed by the student working with a chosen faculty member, culminating in a defense before the program's faculty and students. This project consists of three one-on-one tutorials directed by a faculty member of the student's choosing.

The philosophy BA includes approximately 50.0 credits of free electives, which makes it possible for many students to double major. Our program also offers a minor in Philosophy (24.0 credits) and certificate programs in Ethical Theory and Practice; Philosophy, Arts, and Humanities; and Philosophy, Science, and Technology (18.0 credits each).

## Additional Information

For more information about Drexel Philosophy classes and programs, please visit the Department of English & Philosophy website or stop by to see our director anytime. The Department of English & Philosophy is located in MacAlister Hall, Room 5044. The director can be contacted at:

Dr. Peter Amato  
 Director of Programs in Philosophy  
 Department of English & Philosophy  
 MacAlister 5030  
 215-895-1353  
 peterama@drexel.edu

## Degree Requirements

### College of Arts and Sciences Requirements

CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0

or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
PHIL 105	Critical Reasoning	3.0
UNIV H101	The Drexel Experience	1.0
UNIV H201	Looking Forward: Academics and Careers	1.0
Two Arts & Humanities Electives		6.0
Two International Studies Electives		6.0
Two Math Electives		6.0
Two Natural Science Electives		6.0
Three Social and Behavioral Sciences Electives		9.0
Two Studies in Diversity Electives		6.0
<b>Language Requirement *</b>		<b>8.0</b>
<b>Major Requirements - All Concentrations</b>		
COM 230	Techniques of Speaking	3.0
LING 101	Introduction to Linguistics	3.0
PHIL 101	Introduction to Western Philosophy	3.0
PHIL 211	Metaphysics: Philosophy of Reality	3.0
PHIL 212	Ancient Philosophy	3.0
PHIL 214	Modern Philosophy	3.0
PHIL 215	Contemporary Philosophy	3.0
PHIL 221	Epistemology: Philosophy of Knowledge	3.0
PHIL 251	Ethics	3.0
PHIL 421 [WI]	Seminar in Ancient Philosophy	3.0
or PHIL 481	Seminar in a Philosophical School	
PHIL 431 [WI]	Seminar in Modern Philosophy	3.0
or PHIL 485	Seminar in a Major Philosopher	
PHIL 461 [WI]	Seminar in Contemporary Philosophy	3.0
or PHIL 481	Seminar in a Philosophical School	
WRIT 211	Advanced Composition	3.0
<b>Applied Ethics Elective</b>		
Select one of the following:		3.0
PHIL 301	Business Ethics	
PHIL 305	Ethics and the Media	
PHIL 311	Ethics and Information Technology	
PHIL 315	Engineering Ethics	
PHIL 317	Ethics and Design Professions	
PHIL 321	Biomedical Ethics	
PHIL 323	Organizational Ethics	
PHIL 325	Ethics in Sports Management	
PHIL 330	Criminal Justice Ethics	
PHIL 335	Global Ethical Issues	
PHIL 340	Environmental Ethics	
<b>Thesis or Non-Thesis Option</b>		<b>9.0</b>
Thesis Option:		
PHIL 497 [WI]	Senior Essay I: Research & Thesis Development	
PHIL 498 [WI]	Senior Essay II: Argument Construction	
PHIL 499 [WI]	Senior Essay III: Defense	
Non-Thesis Option:		
PHIL 481 [WI]	Seminar in a Philosophical School	
PHIL 485 [WI]	Seminar in a Major Philosopher	
Select one of the following:		
PHIL 341	Environmental Philosophy	
PHIL 351	Philosophy of Technology	
PHIL 355	Philosophy of Medicine	
PHIL 361	Philosophy of Science	
PHIL 381 [WI]	Philosophy in Literature	
PHIL 385	Philosophy of Law	
PHIL 391	Philosophy of Religion	
<b>Electives</b>		

Free Electives		45.0
<b>Concentration Option</b>		<b>21.0</b>
General Philosophy Concentration:		
PHIL 111	Symbolic Logic I	
PHIL 231	Aesthetics: Philosophy of Art	
or PHIL 218	Philosophy of Mathematics	
PHIL 481 [WI]	Seminar in a Philosophical School	
PHIL 485 [WI]	Seminar in a Major Philosopher	
Select one of the following courses:		
PHIL 121	Symbolic Logic II	
PHIL 301	Business Ethics	
PHIL 305	Ethics and the Media	
PHIL 311	Ethics and Information Technology	
PHIL 315	Engineering Ethics	
PHIL 317	Ethics and Design Professions	
PHIL 321	Biomedical Ethics	
PHIL 323	Organizational Ethics	
PHIL 325	Ethics in Sports Management	
PHIL 330	Criminal Justice Ethics	
PHIL 335	Global Ethical Issues	
PHIL 340	Environmental Ethics	
Select two of the following courses:		
PHIL 341	Environmental Philosophy	
PHIL 351	Philosophy of Technology	
PHIL 355	Philosophy of Medicine	
PHIL 361	Philosophy of Science	
PHIL 381 [WI]	Philosophy in Literature	
PHIL 385	Philosophy of Law	
PHIL 391	Philosophy of Religion	
Philosophy & Law Concentration:		
PHIL 111	Symbolic Logic I	
PHIL 121	Symbolic Logic II	
PHIL 241	Social & Political Philosophy	
PHIL 385	Philosophy of Law	
PHIL 391	Philosophy of Religion	
PHIL 481 [WI]	Seminar in a Philosophical School	
or PHIL 485	Seminar in a Major Philosopher	
Select one of the following courses:		
PHIL 301	Business Ethics	
PHIL 305	Ethics and the Media	
PHIL 311	Ethics and Information Technology	
PHIL 315	Engineering Ethics	
PHIL 317	Ethics and Design Professions	
PHIL 321	Biomedical Ethics	
PHIL 323	Organizational Ethics	
PHIL 325	Ethics in Sports Management	
PHIL 330	Criminal Justice Ethics	
PHIL 335	Global Ethical Issues	
PHIL 340	Environmental Ethics	
Ethical Theory & Practice Concentration:		
PHIL 102	Introduction to Eastern Philosophy	
PHIL 231	Aesthetics: Philosophy of Art	
or PHIL 241	Social & Political Philosophy	
PHIL 385	Philosophy of Law	
PHIL 391	Philosophy of Religion	
PHIL 481 [WI]	Seminar in a Philosophical School	
PHIL 485 [WI]	Seminar in a Major Philosopher	
Select one of the following courses:		
PHIL 301	Business Ethics	
PHIL 305	Ethics and the Media	
PHIL 311	Ethics and Information Technology	
PHIL 315	Engineering Ethics	



PHIL 317	Ethics and Design Professions
PHIL 321	Biomedical Ethics
PHIL 323	Organizational Ethics
PHIL 325	Ethics in Sports Management
PHIL 330	Criminal Justice Ethics
PHIL 335	Global Ethical Issues
PHIL 340	Environmental Ethics

## Philosophy, Technology &amp; Science Concentration:

PHIL 111	Symbolic Logic I
PHIL 121	Symbolic Logic II
PHIL 218	Philosophy of Mathematics
or PHIL 231	Aesthetics: Philosophy of Art
PHIL 351	Philosophy of Technology
PHIL 361	Philosophy of Science
PHIL 481 [WI]	Seminar in a Philosophical School
PHIL 485 [WI]	Seminar in a Major Philosopher

**Total Credits****180.0**

\* Students are required to take a minimum of two consecutive courses in a foreign language and must complete at least through the 103 level. Reaching at least the 201 level is recommended for students considering graduate school in Philosophy.

## Sample Plan of Study

**NOTE:** The plan of study below is one way to complete the General Concentration in Philosophy. Students should consult with their academic advisor in choosing the concentration that best suits their interests, goals, and career plans.

## Four Year, No Co-op

### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 CIVC 101	1.0 ENGL 103 or 113	3.0 VACATION	
PHIL 101	3.0 ENGL 102 or 112	3.0 PHIL 251	3.0	
PHIL 105	3.0 PHIL 111	3.0 Diversity elective	3.0	
UNIV H101	1.0 Math elective	3.0 Natural Science elective	3.0	
Language elective *	4.0 Language elective *	4.0 Social Science elective	3.0	
Math elective	3.0 Social Science elective	3.0		
	<b>17</b>	<b>17</b>	<b>15</b>	<b>0</b>

### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
PHIL 212 or 211	3.0 LING 101	3.0 COM 230	3.0 VACATION	
Arts & Humanities elective	3.0 PHIL 214 or 221	3.0 PHIL 121	3.0	
Diversity elective	3.0 PHIL 481	3.0 PHIL 215	3.0	
Free elective	3.0 Arts & Humanities elective	3.0 PHIL 485	3.0	
Natural Science elective	3.0 Free elective	3.0 Social Science elective	3.0	
	<b>15</b>	<b>15</b>	<b>15</b>	<b>0</b>

### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
PHIL 221 or 214	3.0 PHIL 221 or 214	3.0 International Studies elective	3.0 VACATION	
PHIL 231 or 218	3.0 PHIL 431 or 485	3.0 Applied Ethics elective	3.0	
PHIL 421 or 481	3.0 International Studies elective	3.0 Free electives	9.0	
UNIV H201	1.0 Free electives	6.0		
WRIT 211	3.0			
Free elective	3.0			
	<b>16</b>	<b>15</b>	<b>15</b>	<b>0</b>

### Fourth Year

Fall	Credits Winter	Credits Spring	Credits
PHIL 497 (Or Philosophy elective PHIL 341 - PHIL 395)	3.0 PHIL 498 or 485	3.0 PHIL 461 or 481	3.0

Philosophy elective PHIL 341 - PHIL 391	3.0 Philosophy elective PHIL 341 - PHIL 391	3.0 PHIL 499 or 481	3.0
Free electives	7.0 Free electives	9.0 Free electives	6.0
	<b>13</b>	<b>15</b>	<b>12</b>

**Total Credits 180**

\* Students must complete two consecutive courses in a foreign language and must reach the 103 level.

## Four Year, One Co-op

### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 CIVC 101	1.0 COOP 101**	1.0 VACATION	
PHIL 101	3.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
PHIL 105	3.0 PHIL 111 or 102	3.0 PHIL 251	3.0	
UNIV H101	1.0 Math elective	3.0 Diversity elective	3.0	
Language elective	4.0 Language elective*	4.0 Natural Science elective	3.0	
Math elective	3.0 Social Science elective	3.0 Social Science elective	3.0	
	<b>17</b>	<b>17</b>	<b>16</b>	<b>0</b>

### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
PHIL 212 or 211	3.0 LING 101	3.0 COM 230	3.0 PHIL 211 or 212	3.0
Arts & Humanities elective	3.0 PHIL 214 or 221	3.0 PHIL 121	3.0 PHIL 231 or 218	3.0
Diversity elective	3.0 PHIL 481	3.0 PHIL 215	3.0 PHIL 421 or 481	3.0
Free elective	3.0 Arts & Humanities elective	3.0 PHIL 485	3.0 UNIV H201	1.0
Natural Science elective	3.0 Free elective	3.0 Social Science elective	3.0 WRIT 211	3.0
			Free elective	3.0
	<b>15</b>	<b>15</b>	<b>15</b>	<b>16</b>

### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
PHIL 221	3.0 International Studies elective	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
PHIL 431	3.0 Applied Ethics elective	3.0		
International Studies elective	3.0 Free electives	9.0		
Free electives	6.0			
	<b>15</b>	<b>15</b>	<b>0</b>	<b>0</b>

### Fourth Year

Fall	Credits Winter	Credits Spring	Credits
PHIL 497 (Or Philosophy elective PHIL 341 - PHIL 395)	3.0 PHIL 498 or 485	3.0 PHIL 461 or 481	3.0
Philosophy elective PHIL 341 - PHIL 391	3.0 Philosophy elective PHIL 341 - PHIL 391	3.0 PHIL 499 or 481	3.0
Free electives	6.0 Free electives	9.0 Free electives	6.0
	<b>12</b>	<b>15</b>	<b>12</b>

**Total Credits 180**

\* Students must complete two consecutive courses in a foreign language and must reach the 103 level.

\*\* COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

## Five year, 3 Co-ops

### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 CIVC 101	1.0 COOP 101**	1.0 VACATION	
PHIL 101	3.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
PHIL 105	3.0 PHIL 111 or 102	3.0 PHIL 251	3.0	
UNIV 101	1.0 Math elective	3.0 Diversity electie	3.0	

Language elective <sup>*</sup>	4.0 Language elective <sup>*</sup>	4.0 Natural Science elective	3.0	
Math elective	3.0 Social Science elective	3.0 Social Science elective	3.0	
	<b>17</b>	<b>17</b>	<b>16</b>	<b>0</b>
<b>Second Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
PHIL 212	3.0 LING 101	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
Arts & Humanities elective	3.0 PHIL 214 or 221	3.0		
Diversity elective	3.0 PHIL 481	3.0		
Natural Science elective	3.0 Arts & Humanities elective	3.0		
Free elective	3.0 Free elective	3.0		
	<b>15</b>	<b>15</b>	<b>0</b>	<b>0</b>
<b>Third Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COM 230	3.0 PHIL 211 or 212	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
PHIL 121	3.0 PHIL 231 or 218	3.0		
PHIL 215	3.0 PHIL 421 or 481	3.0		
PHIL 485	3.0 UNIV H201	1.0		
Social Science elective	3.0 WRIT 211	3.0		
	Free elective	3.0		
	<b>15</b>	<b>16</b>	<b>0</b>	<b>0</b>
<b>Fourth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
PHIL 221 or 214	3.0 International Studies elective	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
PHIL 431 or 485	3.0 Applied Ethics	3.0		
International Studies elective	3.0 Free electives	9.0		
Free electives	6.0			
	<b>15</b>	<b>15</b>	<b>0</b>	<b>0</b>
<b>Fifth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>	
PHIL 497 (Or Philosophy elective PHIL 341 - PHIL 395)	3.0 PHIL 498 or 485	3.0 PHIL 461 or 481	3.0	
Philosophy elective (PHIL 341 - PHIL 391)	3.0 Philosophy elective PHIL 341 - PHIL 391	3.0 PHIL 499 or 481	3.0	
Free electives	6.0 Free electives	9.0 Free electives	6.0	
	<b>12</b>	<b>15</b>	<b>12</b>	

**Total Credits 180**

## Co-op/Career Opportunities

### Opportunities

No major prepares students for success in as wide a variety of careers as philosophy. Because philosophical work helps students develop superior reasoning, communication, and analytical skills, a philosophy major can be an ideal choice for pre-med or pre-law students. It is also particularly valuable as a preparation for graduate study in philosophy and fields related to it, such as critical media studies, public policy, education, and science, technology, and society (STS). The Drexel Philosophy major is an excellent preparation for success in any field of endeavor that values thoughtful reflection, logical thinking, and clear communication. Philosophy majors graduate into a wide range of successful careers in business, industry, law, government, education, and service organizations and agencies, as well as many fields of graduate study and research.

In just its first five years, the Drexel Philosophy BA program graduated students into careers including teaching, the law, public policy, and academic research.

### Co-op Experiences

Philosophy students at Drexel are encouraged to seek out interesting co-op opportunities related to the skills and interests they are developing through their philosophical studies and potential career options they would like to explore. These can be as broad as the difference between an ethics-related co-op that has the student shadowing an ethicist working for a hospital's board of institutional review, to a student who is interested in aesthetics and politics working with the Philadelphia Mural Arts Program in liaison with community groups. Students in philosophy who are pre-law frequently pursue law-related co-ops and co-ops at public and private agencies and organizations that employ lawyers and law students. Students in philosophy who are thinking about careers in academia have the full gamut of writing, editing, and publishing co-ops available to them, as well as research-related co-ops

they can develop by working with professors. While academically oriented co-ops and co-ops in the humanities generally pay less than those in the sciences, business, law, and engineering—if they pay at all—they are still enormously valuable as a way for students to develop a sense of what various careers might actually be like and how they work.

## Additional Information

For detailed information on co-op and career opportunities, visit the Drexel Steinbright Career Development Center webpage. For further information about co-op and career prospects related to Philosophy, contact the Drexel Philosophy program director:

Dr. Peter Amato  
 Director of Programs in Philosophy  
 Department of English & Philosophy  
 MacAlister 5030  
 215-895-1353  
 peterama@drexel.edu

## Philosophy Faculty

Stacey Ake, PhD (*Pennsylvania State University*). Teaching Professor. Ethics, semiotics, existentialism

Peter Amato, PhD (*Fordham University*) *Director, Philosophy*. Teaching Professor. Ethics, Marxism, Continental philosophy.

Jacques N. Catudal, PhD (*Temple University*). Associate Professor. Ancient philosophy, epistemology, aesthetics.

Nathan Hanna, PhD (*Syracuse University*). Associate Professor. Ethics, philosophy of law, philosophy of punishment

Adam Knowles, PhD (*The New School for Social Research*). Associate Teaching Professor. Continental philosophy, phenomenology, Heidegger

Carol Mele, PhD (*University of Pennsylvania*). Associate Teaching Professor. Ethical Theory, social and political philosophy, Rawls.

Flavia Padovani, PhD (*University of Geneva*). Associate Professor. History and philosophy of science, epistemology, logic.

Marilyn Piety, PhD (*McGill University*). Professor. History of philosophy, philosophy of religion, Kierkegaard.

Andrew Smith, PhD (*SUNY, Stony Brook*). Associate Professor. Philosophy, social and political philosophy, American philosophy.

## Philosophy, Politics and Economics

*Major: Philosophy, Politics and Economics*

*Degree Awarded: Bachelor of Arts (BA)*

*Calendar Type: Quarter*

*Total Credit Hours: 190.0*

*Co-op Options: Three Co-op (Five years); One Co-op (Four years); No Co-op (Four years)*

*Classification of Instructional Programs (CIP) code: 45.1004*

*Standard Occupational Classification (SOC) code: 25-1065*

## About the Program

Drexel University's BA degree Philosophy, Politics & Economics, or PPE as it is often called, exemplifies Drexel's commitment to comprehensive education at the intersection of thought and practice. A joint endeavor of the School of Economics, the Department of Politics, and the Department of English & Philosophy, the BA in PPE provides a multidisciplinary foundation for professionals and researchers who want to address the complex, interconnected challenges of contemporary life. It prepares students for a wide variety of excellent careers that require thoughtful analysis and engaged leadership including, but not limited to, public service, government, international and domestic business, law, community organizing, publishing, journalism, education, academic research, and more.

PPE began in the early 20th century at Oxford University in the United Kingdom in an effort to ensure that scholars were ready to apply their learning in practical, governmental, and business contexts to become leaders and change agents. Historically, political science and economics descend from what had been called "political economy." PPE acknowledges what is often lost in the separation and specialization of these fields—the political wisdom that understands economic imperatives and the economic intelligence that recognizes the limits of political initiative. The philosophical dimension of PPE represents the vital reflective and critical aspects that are essential to bringing political and economic insights into conversation for understanding and leadership. PPE is devoted to the idea that great learning should inspire and empower students to have an impact on the world.

Students in the Drexel BA in PPE begin with the interdisciplinary class PPE 101 *Introduction to Philosophy, Politics and Economics*, which presents the field through a discussion of how the aims and methods of the three constitutive disciplines work together and discussion of the political, economic, and philosophical dimensions of specific topics and themes. The Philosophy classes in the major are mainly focused on issues in ethics, logic, philosophy of law, and social and political philosophy. The Politics classes cover a variety of subjects and constitute a solid foundation in political science covering

topics that include comparative politics, history of political thought, qualitative or quantitative research methods, theories of justice, American foreign policy, social protest movements in comparative perspective, and more. The Economics classes are designed to give the student a foundation for profound analysis and insight. These include microeconomics, macroeconomics, economic ideas, public finance, and electives chosen from courses which include Game Theory and Applications, Economics of Small Business, Labor Economics, Comparative Economic Systems, Resource and Environmental Economics, and more.

PPE majors also take several classes in Sociology, choosing from courses like Race, Ethnicity and Social Inequality, Wealth and Power, Gender and Society, Development and Underdevelopment in the Global South, Environmental Justice, and more. In the interactive seminar capstone course PPE 450, students work with an instructor as they formulate, evaluate, and criticize public policy proposals, research, and/or theoretical perspectives on political and economic issues using the research tools, arguments, and methods drawn from the three fields. PPE majors at Drexel have access to the widest range of co-op positions related to public service, government, international and domestic business, law, community organizing, education, publishing, journalism, academic research, and many more areas.

## Additional Information

For more information about the Drexel Philosophy, Politics and Economics program, please visit the Department of English & Philosophy website or stop by to see one of our co-directors anytime. The Department of English & Philosophy is located in MacAlister Hall, Room 5044. The co-directors of the Drexel Philosophy, Politics and Economics program can be contacted at:

Dr. Peter Amato, Department of English and Philosophy, College of Arts & Sciences, pa34@drexel.edu

Dr. Amelia Hoover Green, Department of Politics, College of Arts & Sciences, aah92@drexel.edu

Dr. Roger McCain, School of Economics, LeBow College of Business, mccainra@drexel.edu

## Admission Requirements

The interdisciplinary Philosophy, Politics and Economics (PPE) program exemplifies Drexel's commitment to comprehensive education at the intersection of thought and practice. A joint endeavor of the School of Economics, the Department of Politics, and the Department of English and Philosophy, the BA in PPE provides a multidisciplinary foundation for professionals who will address the complex, interconnected challenges of contemporary life. It prepares students for careers that require careful analysis, clear foresight, and thoughtful leadership: government, politics, law, public policy, public service, and business. Our program starts from the idea that the economy is fundamentally political, politics are fundamentally economic, and both are shaped by centuries of philosophical inquiry. We build on a foundation of rigorous philosophical thought, political and economic theory, and applied research skills.

## Degree Requirements

### College of Arts and Sciences Requirements:

CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development *	1.0
ENGL 101 or ENGL 111	Composition and Rhetoric I: Inquiry and Exploratory Research English Composition I	3.0
ENGL 102 or ENGL 112	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing English Composition II	3.0
ENGL 103 or ENGL 113	Composition and Rhetoric III: Themes and Genres English Composition III	3.0
PHIL 105	Critical Reasoning	3.0
UNIV H101	The Drexel Experience	1.0
UNIV H201	Looking Forward: Academics and Careers	1.0
Two Studies in Diversity classes		6.0
Two International Studies classes		6.0
Two Natural Science classes		6.0
A Mathematics sequence of at least two classes in either Analysis or Calculus **		8.0
Two Social and Behavioral Science classes		6.0
Two Arts & Humanities classes ***		6.0
Two classes in one Foreign Language completing level 103 †		8.0
Free Electives		25.0

### Major Requirements:

PPE 101	Introduction to Philosophy, Politics and Economics	3.0
PHIL 101	Introduction to Western Philosophy	3.0
PSCI 110 or PSCI 140 or PSCI 150	American Government Comparative Politics I International Politics	4.0
PHIL 111	Symbolic Logic I	3.0

PSCI 120	History of Political Thought	4.0
One of these Political Science Methods classes:		4.0
PSCI 231	Qualitative and Mixed-Methods Research in Political Science	
PSCI 232	Quantitative Research Methods in Political Science	
ECON 201	Principles of Microeconomics	4.0
ECON 202	Principles of Macroeconomics	4.0
ECON 326 [WI]	Economic Ideas	4.0
PHIL 121	Symbolic Logic II	3.0
PHIL 241	Social & Political Philosophy	3.0
PHIL 251	Ethics	3.0
Two of these Political Science Area classes:		8.0
PSCI 210	American Political Development	
PSCI 229	Theories of Justice	
PSCI 250	American Foreign Policy	
PSCI 252	Global Governance	
PSCI 260 [WI]	Power in Protest: Social Movements in Comparative Perspective	
Two of these Sociology Elective classes:		8.0
SOC 210	Race, Ethnicity and Social Inequality	
SOC 220	Wealth and Power	
SOC 230	Gender and Society	
SOC 330	Development and Underdevelopment in the Global South	
SOC 346	Environmental Justice	
Three of these Economics / International Business Elective classes: ††		12.0
ECON 203 [WI]	Survey of Economic Policy	
Up to three ECON classes numbered 250 and higher		
INTB 334	International Trade	
INTB 336	International Money and Finance	
ECON 334	Public Finance	4.0
SOC 355 [WI]	Classical Social Theory	4.0
SOC 356 [WI]	Contemporary Social Theory	4.0
PHIL 385	Philosophy of Law	3.0
Any two Political Science 300 and/or 400-level classes		8.0
Any two Philosophy 400-level classes		6.0
PPE 450	Senior Seminar in Philosophy, Politics and Economics	4.0
<b>Total Credits</b>		<b>190.0</b>

\* Students not taking co-op, will take one extra credit of Free elective.

\*\* For Analysis, take either MATH 101 and MATH 102, or MATH 172 and MATH 173 and any necessary prerequisites, For Calculus, take either MATH 116 and MATH 117 or MATH 121 and any necessary prerequisites.

\*\*\* Recommended electives: HIST 222, HIST 315, or HIST 316.

† The 103 level class requires 102 and 101 (all 4 credits each) unless one tests out of 101 or 102. A student who tests out of 102 must take 103 and 201.

†† Recommended electives: ECON 301 and ECON 321.

## Sample Plan of Study

### 4 year, no co-op

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 CIVC 101	1.0 ENGL 103 or 113	3.0 VACATION	
PPE 101	3.0 ENGL 102 or 112	3.0 PHIL 105	3.0	
UNIV H101	1.0 PSCI 120	4.0 Diversity Studies course	3.0	
Foreign Language course	4.0 Foreign Language course	4.0 Natural Science course	3.0	
Math Analysis or Calculus	4.0 Math Analysis or Calculus	4.0 Arts & Humanities elective	3.0	
	<b>15</b>	<b>16</b>	<b>15</b>	<b>0</b>

#### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ECON 201	4.0 ECON 202	4.0 ECON 326	4.0 VACATION	
PHIL 101	3.0 PHIL 121	3.0 PHIL 241	3.0	

PHIL 111	3.0 PSCI 110	4.0 PSCI 231 or 232	4.0	
Natural Science course	3.0 Social & Behavioral Science course	3.0 Diversity Studies course	3.0	
Arts & Humanities elective	3.0 Free elective	3.0 Free elective	4.0	
	<b>16</b>	<b>17</b>	<b>18</b>	<b>0</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
SOC 210	4.0 PHIL 251	3.0 ECON 334	4.0 VACATION	
UNIV H201	1.0 SOC 230	4.0 PSCI 210	4.0	
Social & Behavioral Science course	3.0 International Studies course	3.0 International Studies course	3.0	
Free electives	9.0 Free electives	6.0 Free electives	4.0	
	<b>17</b>	<b>16</b>	<b>15</b>	<b>0</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits
ECON 361	4.0 ECON 301	4.0 PPE 450	4.0
PSCI 252	4.0 PHIL 385	3.0 ECON 250-level or higher elective	4.0
SOC 355	4.0 SOC 356	4.0 PHIL 400-level elective	3.0
PHIL 400-level elective	3.0 PSCI 300-level or higher elective	4.0 PSCI 300-level or higher elective	4.0
	<b>15</b>	<b>15</b>	<b>15</b>

Total Credits 190

**4 year, 1 co-op****First Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 CIVC 101	1.0 ENGL 103 or 113	3.0 VACATION	
PPE 101	3.0 ENGL 102 or 112	3.0 PHIL 105	3.0	
UNIV H101	1.0 PSCI 120	4.0 Diversity Studies course	3.0	
Foreign Language course	4.0 Foreign Language course	4.0 Natural Science course	3.0	
Math Analysis or Calculus	4.0 Math Analysis or Calculus	4.0 Arts & Humanities elective	3.0	
	<b>15</b>	<b>16</b>	<b>15</b>	<b>0</b>

**Second Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ECON 201	4.0 ECON 202	4.0 COOP 101	1.0 SOC 210	4.0
PHIL 101	3.0 PHIL 121	3.0 ECON 326	4.0 UNIV H201	1.0
PHIL 111	3.0 PSCI 110	4.0 PHIL 241	3.0 Social & Behavioral Science course	3.0
Natural Science course	3.0 Social & Behavioral Science course	3.0 PSCI 231 or 232	4.0 Free electives	9.0
Arts & Humanities elective	3.0 Free elective	3.0 Diversity Studies course	3.0	
		Free elective	3.0	
	<b>16</b>	<b>17</b>	<b>18</b>	<b>17</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
PHIL 251	3.0 ECON 334	4.0 COOP EXPERIENCE	COOP EXPERIENCE	
SOC 230	4.0 PSCI 210	4.0		
International Studies course	3.0 International Studies course	3.0		
Free electives	6.0 Free electives	4.0		
	<b>16</b>	<b>15</b>	<b>0</b>	<b>0</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits
ECON 361	4.0 ECON 301	4.0 PPE 450	4.0
PSCI 252	4.0 PHIL 385	3.0 ECON 250-level or higher elective	4.0
SOC 355	4.0 SOC 356	4.0 PHIL 400-level elective	3.0

PHIL 400-level elective	3.0 PSCI 300-level or higher elective	4.0 PSCI 300-level or higher elective	4.0
15		15	

**Total Credits 190**

\* Select students may be eligible to take COOP 001 in place of COOP 101.

## 5 year, 3 co-op

### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101	3.0 CIVC 101	1.0 COOP 101*	1.0 VACATION	
PPE 101	3.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
UNIV H101	1.0 PSCI 120	4.0 PHIL 105	3.0	
Foreign Language class	4.0 Foreign Language class	4.0 Diversity Studies course	3.0	
Math Analysis or Calculus	4.0 Math Analysis or Calculus	4.0 Natural Science course	3.0	
		Arts & Humanities elective	3.0	
15		16		0

### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ECON 201	4.0 ECON 202	4.0 COOP EXPERIENCE	COOP EXPERIENCE	
PHIL 101	3.0 PHIL 121	3.0		
PHIL 111	3.0 PSCI 110	4.0		
Natural Science course	3.0 Social & Behavioral Science course	3.0		
Arts & Humanities elective	3.0 Free elective	3.0		
16		17		0

### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ECON 326	4.0 SOC 210	4.0 COOP EXPERIENCE	COOP EXPERIENCE	
PHIL 241	3.0 UNIV H201	1.0		
PSCI 231 or 232	4.0 Social & Behavioral Science course	3.0		
Diversity Studies course	3.0 Free electives	9.0		
Free elective	3.0			
17		17		0

### Fourth Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
PHIL 251	3.0 ECON 334	4.0 COOP EXPERIENCE	COOP EXPERIENCE	
SOC 230	4.0 PSCI 210	4.0		
International Studies course	3.0 International Studies course	3.0		
Free electives	6.0 Free electives	4.0		
16		15		0

### Fifth Year

Fall	Credits Winter	Credits Spring	Credits
ECON 361	4.0 ECON 301	4.0 PPE 450	4.0
PSCI 252	4.0 PHIL 385	3.0 ECON 250-level or higher elective	4.0
SOC 355	4.0 SOC 356	4.0 PHIL 400-level elective	3.0
PHIL 400-level elective	3.0 PSCI 300-level or higher elective	4.0 PSCI 300-level or higher elective	4.0
15		15	

**Total Credits 190**

\* Select students may be eligible to take COOP 001 in place of COOP 101.



## Affiliated Faculty

Peter Amato, PhD (<https://drexel.edu/coas/faculty-research/faculty-directory/amato-peter/>) (*Fordham University*) Teaching Professor of Philosophy. Ethics, Marxism, Continental Philosophy

Debjani Bhattacharyya, PhD (<https://drexel.edu/coas/faculty-research/faculty-directory/DebjaniBhattacharyya/>) (*Emory University*) Assistant Professor of History. South Asia, Environmental History, Global History

Sebastien Bradley, PhD (<https://www.lebow.drexel.edu/people/sebastienbradley/>) (*University of Michigan*) Associate Professor of Economics. Public Economics, Real Estate. Applied Econometrics

Zoltán Búzás, PhD (<https://drexel.edu/coas/faculty-research/faculty-directory/Zoltan-Buzas/>) (*The Ohio State University*) Assistant Professor of Politics. International Norms, Human Rights, Race and Ethnicity in International Politics

Erin Graham, PhD (<https://drexel.edu/coas/faculty-research/faculty-directory/ErinGraham/>) (*The Ohio State University*) Associate Professor of Politics. International Organization, Institutional Design and Development, Climate Change

Nathan Hanna, PhD (<https://drexel.edu/coas/faculty-research/faculty-directory/HannaNathan/>) (*Syracuse University*) Associate Professor of Philosophy. Ethics, Philosophy of Law, Philosophy of Punishment

Amelia Hoover Green, PhD (<https://drexel.edu/coas/faculty-research/faculty-directory/hoover-green-amelia/>) (*Yale University*) Associate Professor of Politics. Armed Conflict, Political Violence, Empirical Research Methods

Roger A. McCain, PhD (<https://www.lebow.drexel.edu/people/rogermccain/>) (*Louisiana State University*) Professor of Economics. History of Economic Ideas, Welfare Economics, Game Theory

Carol Mele, PhD (<https://drexel.edu/coas/faculty-research/faculty-directory/MeleCarol/>) (*University of Pennsylvania*) Associate Teaching Professor of Philosophy. Ethical Theory, Social and Political Philosophy, Rawls

Joel E. Oestreich, PhD (<https://drexel.edu/coas/faculty-research/faculty-directory/JoelEOestreich/>) (*Brown University*) Professor of Politics and Global Studies. Human Rights, Economic Development, International Relations Theory

Maria Olivero, PhD (<https://www.lebow.drexel.edu/people/mariaolivero/>) (*Duke University*) Associate Professor of Economics. Open Economy Macroeconomics, Monetary Economics, Quantitative Methods

Flavia Padovani, PhD (<https://drexel.edu/coas/faculty-research/faculty-directory/padovani-flavia/>) (*University of Geneva*) Associate Professor of Philosophy. History and Philosophy of Science, Epistemology, Logic.

Rachel Reynolds, PhD (<https://drexel.edu/coas/faculty-research/faculty-directory/reynolds-rachel/>) (*University of Illinois at Chicago*) Associate Professor of Communication. Language and Linguistics. Immigration, African Studies

Andrew Smith, PhD (<https://drexel.edu/coas/faculty-research/faculty-directory/smith-andrew/>) (*SUNY, Stony Brook*) Associate Professor of Philosophy. Environmental Philosophy, Social and Political Philosophy, American Philosophy

José A. Tapia, MBBS, MPH, PhD (<https://drexel.edu/coas/faculty-research/faculty-directory/JoseTapia/>) (*New School for Social Research*) Associate Professor of Politics. Climate Change, Social Development, Economic Effects on Health

## Physics

*Major: Physics*

*Degree Awarded: Bachelor of Science (BS)*

*Calendar Type: Quarter*

*Total Credit Hours: 180.0*

*Co-op Options: Three Co-op (Five years); Four Co-op (Four years); No Co-op (Four years)*

*Classification of Instructional Programs (CIP) code: 40.0801*

*Standard Occupational Classification (SOC) code: 19-2012*

## About the Program

Drexel's undergraduate program provides a solid foundation in physics suitable for graduate study or to branch out into other scientific or technical disciplines. The physics program offers an innovative curriculum in a top-notch learning environment: small class sizes, personal input from faculty, and close interaction with researchers who are leaders in their fields. Students explore the span of universal phenomenon—from the farthest reaches of astrophysics and cosmology, to molecular biophysics and subatomic particle physics— providing a solid foundation for continued study and exploration. Most undergraduates actively participate in research projects, including co-authoring publications and presenting results at conferences.

Virtually every course in the physics major is designed to extend the students' ability to handle real-world problems solved by state-of-the-art techniques. An important feature of the program is the large number of electives, which allow a student to pursue topics of special interest. There are numerous elective courses in areas as diverse as biophysics and cosmology, nanoscience and particle physics. Students can also choose electives to meet teacher certification requirements.

The Laboratory for High-Performance Computational Physics is a venue for students to become proficient in numerical techniques, parallel processing, electronic communication, and the basic computer languages and software relevant to advanced studies and research in physics.

The Department of Physics (<http://www.drexel.edu/coas/academics/departments-centers/physics/>) conducts a broad array of outreach activities including the Kaczmarczik Lecture Series, public observing nights at the Lynch Observatory (<http://www.physics.drexel.edu/observatory/>), and demonstrations in grade school performed by the Drexel Chapter of the Society of Physics Students (<http://www.drexel.edu/coas/academics/departments-centers/physics/student-organizations/society-physics-students/>) (SPS) and the Women in Physics Society (<https://drexel.edu/coas/academics/departments-centers/physics/student-organizations/WiPS/>) (WiPS).

In addition to the physics major, the Department also offers (p. 4) a minor in physics as well as a minor in astrophysics and a minor in biophysics.

The Physics Department is dedicated to equity and inclusiveness, and strives to be a welcoming environment to students of all races, backgrounds, genders, and orientations.

## Degree Requirements

### Core Physics Requirements

PHYS 105	Computational Physics I	3.0
PHYS 113	Contemporary Physics I	5.0
PHYS 114	Contemporary Physics II	5.0
PHYS 115	Contemporary Physics III	5.0
PHYS 128	Introduction to Experimental Physics	3.0
PHYS 217	Thermodynamics	4.0
PHYS 311	Classical Mechanics I	4.0
PHYS 317	Statistical Mechanics	3.0
PHYS 321	Electromagnetic Fields I	4.0
PHYS 322	Electromagnetic Fields II	4.0
PHYS 326	Quantum Mechanics I	4.0
PHYS 327	Quantum Mechanics II	4.0
PHYS 328 [WI]	Advanced Laboratory	3.0
PHYS 491	Senior Research I	3.0
PHYS 492	Senior Research II	3.0
PHYS 493 [WI]	Senior Research III	3.0
PHYS 408	Physics Seminar (To be taken 3 times.)	3.0

### Method Classes: Complete 12.0 credits from the following \*

MATH 322	Complex Variables	
MATH 323	Partial Differential Equations	
MATH 331	Abstract Algebra I	
MATH 401	Elements of Modern Analysis I	
PHYS 160	Introduction to Scientific Computing	
PHYS 226	Instrumentation for Scientists I	
PHYS 227	Instrumentation for Scientists II	
PHYS 232	Observational Astrophysics	
PHYS 305	Computational Physics II	
PHYS 324	Topics in Mathematical Physics	
PHYS 325	Computational Physics III	
PHYS 405	Advanced Computational Physics	
PHYS 440	Big Data Physics	

### Subject Courses: Complete 15.0 credits from the following: \*\*

HNRS 301	Colloquium II (Special Relativity)	
PHYS 231	Introductory Astrophysics	
PHYS 233	Introduction to Relativity	
PHYS 262	Introduction to Biophysics	
PHYS 330	Introduction to Nuclear Physics	
PHYS 312	Classical Mechanics II	
PHYS 428	Quantum Mechanics III	
PHYS 431	Galactic Astrophysics	
PHYS 432	Cosmology	

PHYS 452	Solid State Physics	
PHYS 453	Nanoscience	
PHYS 461	Biophysics	
PHYS 462	Computational Biophysics	
PHYS 476	Particle Physics	
<b>Math and Technical Requirements</b>		
MATH 121	Calculus I	4.0
MATH 122	Calculus II	4.0
MATH 200	Multivariate Calculus	4.0
MATH 201 or MATH 261	Linear Algebra	3.0-4.0
MATH 210	Differential Equations	4.0
MATH 291	Complex and Vector Analysis for Engineers	4.0
<b>Sciences</b>		
CHEM 101	General Chemistry I	3.5
CHEM 102	General Chemistry II	4.5
CHEM 103 OR Any Bio OR an ENGR class at 200 or higher		3.0-5.0
CS 171	Computer Programming I	3.0
<b>General Education</b>		
CIVC 101	Introduction to Civic Engagement	1.0
ENGL 101 or ENGL 111	Composition and Rhetoric I: Inquiry and Exploratory Research English Composition I	3.0
ENGL 102 or ENGL 112	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing English Composition II	3.0
ENGL 103 or ENGL 113	Composition and Rhetoric III: Themes and Genres English Composition III	3.0
UNIV S101	The Drexel Experience	1.0
UNIV S201	Looking Forward: Academics and Careers (For students pursuing graduate degree only.) Students who are not required to take this course will take an additional credit of free elective.	1.0
COOP 101	Career Management and Professional Development	1.0
Liberal electives		9.0
Technical elective ***		3.0
Business elective		4.0
Free electives		24.0
<b>Total Credits</b>		<b>180.0-183.0</b>

\* At least 6.0 credits must have a PHYS subject code.

\*\* Courses at the 400 level and above will also be accepted.

\*\*\* Technical electives can be any course in BIO, CHEM, ENVS, GEO, MATH, PHYS, or any course from the College of Engineering.

## Sample Plan of Study

### 5 year, 3 co-op

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 CIVC 101	1.0 COOP 101*	1.0 VACATION	
MATH 121	4.0 CS 171	3.0 ENGL 103 or 113	3.0	
PHYS 113	5.0 ENGL 102 or 112	3.0 MATH 200	4.0	
PHYS 128	3.0 MATH 122	4.0 PHYS 105	3.0	
UNIV S101	1.0 PHYS 114	5.0 PHYS 115	5.0	
	<b>16</b>	<b>16</b>	<b>16</b>	<b>0</b>

#### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CHEM 101	3.5 CHEM 102	4.5 COOP EXPERIENCE	COOP EXPERIENCE	
MATH 201 or 261	3.0-4.0 MATH 210	4.0		
MATH 291	4.0 PHYS 311	4.0		
PHYS 217	4.0 PHYS 317	3.0		
	<b>14.5-15.5</b>	<b>15.5</b>	<b>0</b>	<b>0</b>

#### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
PHYS 321	4.0 PHYS 322	4.0 COOP EXPERIENCE	COOP EXPERIENCE	



Subject course <sup>*</sup>	3.0 Method course <sup>**</sup>	3.0 Free elective	3.0
	Free elective	3.0 Business elective	4.0
	<b>13</b>	<b>16</b>	<b>16</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits
PHYS 326	4.0 PHYS 327	4.0 PHYS 408	1.0
PHYS 408	1.0 PHYS 408	1.0 PHYS 493	3.0
PHYS 491	3.0 PHYS 492	3.0 Subject course <sup>*</sup>	3.0
UNIV S201 <sup>***</sup>	1.0 Subject course <sup>*</sup>	3.0 Free elective	3.0
Subject Course <sup>*</sup>	3.0 Method course <sup>**</sup>	3.0 Liberal elective	3.0
Method Course <sup>**</sup>	3.0		
	<b>15</b>	<b>14</b>	<b>13</b>

**Total Credits 180-182**

\* Courses at the 400 level and above will also be accepted.

\*\* At least 6.0 credits must have a PHYS subject code.

\*\*\* For students pursuing graduate study only; other students add an additional credit of Free elective.

## 4 year, 1 co-op

### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 CIVC 101	1.0 COOP 101 <sup>*</sup>	1.0 VACATION	
MATH 121	4.0 CS 171	3.0 ENGL 103 or 113	3.0	
PHYS 113	5.0 ENGL 102 or 112	3.0 MATH 200	4.0	
PHYS 128	3.0 MATH 122	4.0 PHYS 105	3.0	
UNIV S101	1.0 PHYS 114	5.0 PHYS 115	5.0	
	<b>16</b>	<b>16</b>	<b>16</b>	<b>0</b>

### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CHEM 101	3.5 CHEM 102	4.5 One of the following:	3.0-5.0 Free electives	9.0
MATH 201 or 261	3.0-4.0 MATH 210	4.0 CHEM 103	Liberal elective	3.0
MATH 291	4.0 PHYS 317	3.0 Any Biology (BIO) course	Business elective	4.0
PHYS 217	4.0 PHYS 311	4.0 Any ENGR course 200-level or higher		
		Free electives	6.0	
		Liberal elective	3.0	
		Technical elective	3.0	
	<b>14.5-15.5</b>	<b>15.5</b>	<b>15-17</b>	<b>16</b>

### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
PHYS 321	4.0 PHYS 322	4.0 CO-OP EXPERIENCE	CO-OP EXPERIENCE	
Subject course <sup>**</sup>	3.0 PHYS 328	3.0		
Method course <sup>***</sup>	3.0 Subject course <sup>**</sup>	3.0		
Free elective	3.0 Method course <sup>***</sup>	3.0		
	Free elective	3.0		
	<b>13</b>	<b>16</b>	<b>0</b>	<b>0</b>

### Fourth Year

Fall	Credits Winter	Credits Spring	Credits
PHYS 326	4.0 PHYS 327	4.0 PHYS 408	1.0
PHYS 408	1.0 PHYS 408	1.0 PHYS 493	3.0
PHYS 491	3.0 PHYS 492	3.0 Subject course <sup>**</sup>	3.0
UNIV S201 <sup>†</sup>	1.0 Subject course <sup>**</sup>	3.0 Liberal elective	3.0
Subject Course <sup>**</sup>	3.0 Method course <sup>***</sup>	3.0 Free elective	3.0
Method Course <sup>***</sup>	3.0		
	<b>15</b>	<b>14</b>	<b>13</b>

**Total Credits 180-183**

\* COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

\*\* Courses at the 400 level and above will also be accepted.

\*\*\* At least 6.0 credits must have PHYS subject code.

† For students pursuing graduate study only; other students add an additional credit of Free elective.

## Co-op/Career Opportunities

Students who complete a degree in physics have many options. Some enter graduate school with the intention of obtaining a master's or a PhD. Others attend medical school. Engineering is yet another option, and graduates of an undergraduate physics program can enter this field with an unusually solid background in fundamental physical principles, mathematics, and computation. It is also possible for physics graduates to work in business and finance; for example, Wall Street employs many analysts trained in such "hard sciences" as physics.

Many Drexel physics graduates proceed directly into graduate schools, or medical or other professional programs. Physics graduates have attended some of the best graduate programs in the United States, including Columbia, Harvard, and CalTech. Other graduates have found jobs in engineering and business, and with such government agencies as the National Bureau of Standards.

Co-op employers for physics majors include:

- Lockheed Martin
- Princeton Plasma Physics
- Children's Hospital of Philadelphia
- Harvard University
- MIT
- University of Pennsylvania
- Academy of Natural Sciences
- Brandywine Photonics
- National Board of Medical Examiners
- Philadelphia Water Department
- C. & J. Nyheim Plasma Institute
- II-VI Optical Systems
- Comcast Corporation

Visit the Drexel Steinbright Career Development Center (<http://www.drexel.edu/scdc/>) for more detailed information on co-op and post-graduate opportunities.

## Facilities

### Astrophysics Facilities:

- The Numerical Astrophysics Facility emphasizes theoretical and numerical studies of stars, star formation, planetary systems, star clusters, galaxy distributions, cosmological modeling, gravitational lensing, and the early universe. The facility employs a high-performance Graphics Processing Unit (GPU) compute cluster, each node containing two 6-core, 2.7 GHz Intel Xeon CPUs and 96 Gbytes of RAM, accelerated by 4–6 Nvidia Fermi/Titan GPUs, and connected by QDR infiniband, affording computational speeds of up to 50 trillion floating point operations per second.
- The Joseph R. Lynch Observatory houses a 16-inch Meade Schmidt-Cassegrain telescope equipped with an SBIG CCD camera.
- Drexel is an institutional member of the Legacy Survey of Space and Time (LSST) that will be conducted with the Simonyi Survey Telescope at the Vera C. Rubin Observatory, currently under construction in Chile as a joint project of the National Science Foundation and Department of Energy. Faculty and students are developing LSST-related machine learning tools and analyzing simulated LSST data to prepare for "first light" in 2022.

### Biophysics Facilities:

- Bio-manipulation and microscopy laboratories. Four optical tables and six research grade microscopes are configured to perform microscopic spectroscopy and manipulation on solutions and individual cells. A spatial light modulator allows spatial patterns to be encoded on samples and explored; all microscopes are temperature controlled with state of the art cameras, including a 2,000 frame per second high speed system. Each optical table is also equipped with high power lasers for photolysis or fluorescence spectroscopy.
- Wet lab for studies of proteins and biomimetic lipids, and protein purification and characterization. The laboratory has a variety of chromatographic equipment, large and small centrifuges, fume hood, a spectrophotometer and a spectrofluorimeter. In addition, the laboratory houses a small microfluidic fabrication facility.
- The Computational Biophysics facility also includes: (i) a Beowulf cluster with 46 dual Quad-core hyperthreaded Xeon CPU (736 cores) and 12Gb of RAM nodes plus a master with 1Tb of storage and 24Gb of RAM, (ii) a Beowulf cluster with 44 dual-core Xeon CPU (344 cores), (iii) a dual Quad-core hyperthreaded Xeon CPU workstation with 24Gb RAM and 3Tb disk with two Tesla C2050 GPU CUDA-accelerated graphics card, (iv) a dual Quad-core hyperthreaded Xeon CPU workstation with 8Gb RAM and 4Tb disk with an NVIDIA N280 GPU CUDA-accelerated graphics card, (v) a quad 8-core hyperthreaded Xeon CPU workstation with 128Gb RAM and 16Tb total disk, (vi) a 72Tb file server with 12Gb RAM, (vii) a 96Tb quad 6-core file server with 64Gb RAM, (viii) and several Linux workstations connected through a gigabit network.

## Condensed Matter Physics Research Facilities:

- The Energy Materials Research Laboratory includes a Variable Temperature UHV Scanning Probe Microscope for studies of 2D correlated electron materials and quantum systems.
- Ultrafast Structural Dynamics Laboratory includes a transient electron diffraction setup with sub-picosecond temporal resolution used in studies of quantum materials.
- Single crystal growth laboratory utilizes different techniques for growing high quality single crystals of strongly correlated materials including dichalcogenides.
- The Magnetic Material Laboratory conducts research on amorphous magnetic thin films and fiber optical sensors.
- The Surface Science Laboratory has several scanning probe microscopy setups to study surface structure interfaces at the atomic level.
- The Ultra-Low Temperature Laboratory has a cryogenic dilution refrigerator and microwave sources and detectors to study quantum phenomena in nano- and microscale devices, superconducting qubits, nanostructures, and quantum fluids and solids.
- The Mesoscale Materials Laboratory investigates light-matter interactions and the extent and effects of ordering of lattice, charge and spin degrees of freedom on electronic phases and functional properties in solids, with an emphasis on bulk and epitaxial film complex oxides. Facilities include instrumentation for pulsed laser deposition of epitaxial complex oxide films, atomic layer deposition, variable-temperature characterization of carrier transport (DC to 20 GHz), and a laser spectroscopy lab enabling high-resolution Raman scattering spectroscopy at temperatures to 1.5 K and under magnetic field to 7 T.
- Condensed Matter Physics group has active collaborations with DOE Argonne National Laboratory near Chicago (visiting faculty Dr. Valentyn Novosad) with numerous experimental capabilities available at the Materials Science Division and Center for Nanoscale Materials. Graduates students in experimental condensed matter physics have an opportunity to conduct part or all of their thesis research at Argonne as part of collaborative projects with the research groups there.
- Local high performance computing facility.
- The Experimental Condensed Matter group is actively utilizing local user facilities at Drexel (Core Research Facilities (<https://drexel.edu/core-facilities/facilities/material-characterization>)), University of Pennsylvania (Singh Center for Nanotechnology (<https://www.nano.upenn.edu>)), and Temple University (Science and Education and Research Center (<https://cst.temple.edu/research/SERC>)) to access top of the line instrumentation for nanoscale fabrication and characterization of materials.
- Faculty in Condensed Matter Physics thrust participate in several large-scale collaborations such as Energy Frontier Research Center (DOE EFRC--CCM), detector development for South Pole Telescope Collaboration and others.

## Particle Physics Facilities:

- The Drexel Particle Physics Group researches fundamental neutrino properties with the DUNE long baseline experiment hosted by Fermilab and the PROSPECT short baseline reactor experiment, as well as the planned nEXO neutrinoless double beta decay experiment.
- We are also active in the IceCube neutrino telescope located at the geographic South Pole.
- The Bubble Chamber Laboratory develops superheated-liquid detectors for rare-interaction searches, including the PICO dark matter experiment located at SNOLAB in Canada.

## Laboratory for High-Performance Computational Physics:

- In addition to the department computing cluster (15 Linux workstations), high-performance computing resources include a dual-processor server with two Xeon E5-2650 processors (16 cores), 128 GB of RAM, and two Xeon Phi P5110 co-processor cards (480 cores). Department researchers also have access to a cluster of 18 Dell PowerEdge C6145 servers (AMD Opteron 6378 Piledriver CPU's, 64 cores/server, 256 GB RAM/server) with a total of 1152 cores and 4.5TB RAM.

## Physics Faculty

Eric Brews, PhD (*Arizona State University*). Associate Professor. Physics Education Research, introductory course reform, network analysis in learning, neuromechanisms of learning.

Luis R. Cruz Cruz, PhD (*MIT*). Associate Professor. Computational studies of confinement effects on the folding of amyloidogenic proteins, spatial correlations of neurons in the brain, firing dynamics of neuronal networks, fluid flow through porous media.

N. John DiNardo, PhD (*University of Pennsylvania*). Professor. Physics education research, surface physics, condensed matter physics, materials science.

Michelle Dolinski, PhD (*University of California, Berkeley*) Associate Dean of Graduate Education. Associate Professor. Neutrino physics, rare nuclear decays, cryogenic detector technologies.

Frank A. Ferrone, PhD (*Princeton University*). Professor. Experimental and theoretical protein dynamics, kinetics of biological self-assembly, including sickle cell and Alzheimer's disease, sickle cell testing and diagnostic devices.

David M. Goldberg, PhD (*Princeton University*) Associate Department Head for Undergraduate Studies. Professor. Theoretical and computational cosmology, extragalactic astrophysics, gravitational lensing.

Goran Karapetrov, PhD (*Oregon State University*). Professor. Experimental solid state physics, scanning probe microscopy, nanoscale catalysis, mesoscopic superconductivity.

Rachael M. Kratzer, PhD (*Drexel University*). Associate Teaching Professor. Quasars, active galactic nuclei

Charles Lane, PhD (*California Institute of Technology*). Professor. Experimental tests of invariance principles and conservation laws, neutrino oscillations and properties.

Christina Love, PhD (*Temple University*). Associate Teaching Professor. Educational methods and technology, STEM education, science literacy and outreach, particle physics, astrophysics.

Stephen L. W. McMillan, PhD (*Harvard University*) Department Head. Professor. Stellar dynamics, star cluster formation, large-scale computations of stellar systems, high-performance special-purpose computers

Naoko Kurahashi Neilson, PhD (*Stanford University*). Associate Professor. Neutrino physics, high energy astro-particle physics.

Russell Neilson, PhD (*Stanford University*). Associate Professor. Dark matter, neutrino physics.

Gordon Richards, PhD (*University of Chicago*). Professor. Quasars, active galactic nuclei, supermassive black holes, galaxy evolution, sky surveys, infrared/X-ray/radio astronomy

Jonathan E. Spanier, PhD (*Columbia University*) Department Head, *Mechanical Engineering and Mechanics*. Professor. Light-matter interactions in electronic materials, including ferroelectric semiconductors, complex oxide thin film science; laser spectroscopy, including Raman scattering.

Somdev Tyagi, PhD (*Brigham Young University*). Professor. Nanobiophysics, Raman spectroscopy, magnetic materials.

Brigita Urbanc, PhD (*University of Ljubljana, Slovenia*) Associate Department Head for Graduate Studies. Professor. Computational and experimental biophysics of protein folding and assembly, relevant to Alzheimer's and Parkinson's disease; discrete molecular dynamics of coarse-grained protein and lipid models.

Jörn Venderbos, PhD (*Leiden University*). Assistant Professor. Theory of quantum materials: topological insulators, topological semimetals, materials prediction and design, strongly correlated electron materials, complex electronic ordering phenomena, unconventional superconductors

Michael Vogeley, PhD (*Harvard University*) Associate Department Head for Graduate Studies. Professor. Cosmology; galaxy formation and evolution; statistical analysis of large data sets; active galactic nuclei.

## Emeritus Faculty

Shyamalendu Bose, PhD (*University of Maryland*). Professor Emeritus.

Leonard D. Cohen, PhD (*University of Pennsylvania*). Professor Emeritus.

Leonard X. Finegold, PhD (*University of London*). Professor Emeritus.

Robert Gilmore, PhD (*Massachusetts Institute of Technology*). Professor Emeritus.

Richard D. Haracz, PhD (*Wayne State University*). Professor Emeritus.

Frederick House, PhD (*University of Wisconsin*). Professor Emeritus.

Arthur P. Joblin, PhD (*Drexel University*). Professor Emeritus.

Donald C. Larson, PhD (*Harvard University*). Professor Emeritus.

Teck-Kah Lim, PhD (*University of Adelaide*). Professor Emeritus.

Arthur E. Lord, PhD (*Columbia University*). Professor Emeritus.

James McCray, PhD (*California Institute of Technology*). Professor Emeritus.

Richard I Steinberg, PhD (*Yale University*). Professor Emeritus.

T. S. Venkataraman, PhD (*Worcester Polytechnic Institute*). Professor Emeritus.

Jian-Min Yuan, PhD (*University of Chicago*). Professor Emeritus.



# Political Science

Major: Political Science

Degree Awarded: Bachelor of Arts (BA)

Calendar Type: Quarter

Total Credit Hours: 180.0

Co-op Options: Three Co-op (Five years); One Co-op (Four years)

Classification of Instructional Programs (CIP) code: 45.1001

Standard Occupational Classification (SOC) code: 19-3094

## About the Program

The Political Science program in the Department of Politics (<http://www.drexel.edu/coas/academics/departments-centers/politics/>) helps students cultivate perspective; develop critical thinking, communication, and data analysis skills; and understand the economic, social, and political systems within which we live and work. Our curriculum builds on the department's research focuses and strengths. These include public policy, environmental politics, international organizations, human rights, and law and society. This flexible program allows students to shape a curriculum that meets their needs whether they are preparing for public service, the business world, graduate school in political science, an MBA or other business program, or law school.

## Degree Offered

The department offers a Bachelor of Arts (BA) in Political Science, which includes study of a foreign language and allows for options in the fulfillment of humanities, social science, math, and science requirements.

## Degree Requirements

### General Education Requirements

ENGL 101 or ENGL 111	Composition and Rhetoric I: Inquiry and Exploratory Research English Composition I	3.0
ENGL 102 or ENGL 112	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing English Composition II	3.0
ENGL 103 or ENGL 113	Composition and Rhetoric III: Themes and Genres English Composition III	3.0
UNIV H101	The Drexel Experience	1.0
UNIV H201	Looking Forward: Academics and Careers	1.0
CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development *	1.0
Two Math courses		6.0-8.0
Two Science courses **		6.0-8.0

### Foundation Requirements

Studies in Diversity electives		6.0
Three Consecutive Foreign Language courses (must complete level 201) ***		11.0-12.0
Humanities/Fine Arts electives		12.0
Social Science electives		12.0
International Studies electives		6.0

### Core Political Science Requirements

PSCI 110	American Government	4.0
PSCI 120	History of Political Thought	4.0
PSCI 140	Comparative Politics I	4.0
PSCI 150	International Politics	4.0

### Political Science Research Methods Sequence

PSCI 131 [WI]	Research Design for Political Science	4.0
PSCI 231	Qualitative and Mixed-Methods Research in Political Science	4.0
PSCI 232	Quantitative Research Methods in Political Science	4.0

### Intermediate Courses

Select four of the following courses:

PSCI 210	American Political Development	
PSCI 220	Constitutional Law I	
PSCI 223	Comparative Political Thought	
PSCI 229	Theories of Justice	
PSCI 240	Comparative Politics II	
PSCI 250	American Foreign Policy	
PSCI 252	Global Governance	

PSCI 260 [WI]	Power in Protest: Social Movements in Comparative Perspective	
PSCI 330	Public Opinion & Propaganda	
PSCI 363	Constitutional Law II	
<b>Political Science Electives †</b>		<b>32.0</b>
<b>Free Electives</b>		<b>32.0</b>
<b>Total Credits</b>		<b>180.0-185.0</b>

\* Select students may be eligible to take COOP 001 in place of COOP 101.

\*\* Any Biology (BIO), Chemistry (CHEM), Geoscience (GEO), Nutrition (NFS), Physics (PHYS) or Environmental Science (ENVS) course.

\*\*\* University requirement is two consecutive courses; the third language course, though listed here, is a departmental requirement.

† Choose eight 200-level or above PSCI courses.

## Sample Plan of Study

### 4 year, 1 co-op

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 CIVC 101	1.0 COOP 101	1.0 VACATION	
PSCI 110	4.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
PSCI 120, 140, or 150	4.0 PSCI 120, 140, or 150	4.0 PSCI 120, 140, or 150	4.0	
UNIV H101	1.0 PSCI 131	4.0 Foreign Language course	3.0	
Foreign Language course	4.0 Foreign Language course	4.0 Diversity Studies elective	3.0	
		Social Science elective	3.0	
	<b>16</b>	<b>16</b>	<b>17</b>	<b>0</b>

#### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
PSCI 232	4.0 PSCI 231	4.0 Intermediate course	4.0 Political Science elective	4.0
Intermediate course	4.0 Intermediate course	4.0 Humanities/Fine Arts elective	3.0 Free electives	8.0
Mathematics course	3.0 Mathematics course	3.0 Science elective	3.0	
Diversity Studies elective	3.0 Social Science elective	3.0 Political Science elective	4.0	
Free elective	3.0 Free elective	3.0 Free elective	3.0	
	<b>17</b>	<b>17</b>	<b>17</b>	<b>12</b>

#### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
Intermediate course	4.0 Social Science elective	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
Political Science elective	4.0 Humanities/Fine Arts elective	3.0		
Humanities/Fine Arts elective	3.0 Political Science elective	4.0		
Social Science elective	3.0 Free elective	3.0		
	<b>14</b>	<b>13</b>	<b>0</b>	<b>0</b>

#### Fourth Year

Fall	Credits Winter	Credits Spring	Credits
UNIV H201	1.0 International Area Studies elective	3.0 Political Science elective	4.0
Social Science elective	3.0 Political Science electives	8.0 International Area Studies elective	3.0
Humanities/Fine Arts elective	3.0 Free elective	3.0 Free electives	6.0
Political Science elective	4.0		
Free elective	3.0		
	<b>14</b>	<b>14</b>	<b>13</b>

**Total Credits 180**

## 5 year, 3 co-op

### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
UNIV H101	1.0 CIVC 101	1.0 COOP 101	1.0 VACATION	
ENGL 101 or 111	3.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
PSCI 110	4.0 PSCI 120, 140, or 150	4.0 PSCI 120, 140, or 150	4.0	
PSCI 120, 140, or 150	4.0 PSCI 131	4.0 Foreign Language course	3.0	
Foreign Language course	4.0 Foreign Language course	4.0 Diversity Studies elective	3.0	
		Social Science elective	3.0	
	<b>16</b>	<b>16</b>	<b>17</b>	<b>0</b>

### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
PSCI 232	4.0 PSCI 231	4.0 COOP EXPERIENCE	COOP EXPERIENCE	
Intermediate course	4.0 Intermediate course	4.0		
Mathematics course	3.0 Social Science course	3.0		
Diversity Studies elective	3.0 Mathematics course	3.0		
Free elective	3.0 Free elective	3.0		
	<b>17</b>	<b>17</b>	<b>0</b>	<b>0</b>

### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
Intermediate course	4.0 Political Science elective	4.0 COOP EXPERIENCE	COOP EXPERIENCE	
Political Science elective	4.0 Free electives	8.0		
Humanities/Fine Arts elective	3.0			
Science elective	3.0			
Free elective	3.0			
	<b>17</b>	<b>12</b>	<b>0</b>	<b>0</b>

### Fourth Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
Intermediate course	4.0 Social Science elective	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
Political Science elective	4.0 Humanities/Fine Arts elective	3.0		
Humanities/Fine Arts elective	3.0 Political Science elective	4.0		
Social Science elective	3.0 Free elective	3.0		
	<b>14</b>	<b>13</b>	<b>0</b>	<b>0</b>

### Fifth Year

Fall	Credits Winter	Credits Spring	Credits
UNIV H201	1.0 International Area Studies elective	3.0 Political Science elective	4.0
Social Science elective	3.0 Political Science electives	8.0 International Area Studies elective	3.0
Humanities/Fine Arts elective	3.0 Free elective	3.0 Free electives	6.0
Political Science elective	4.0		
Free elective	3.0		
	<b>14</b>	<b>14</b>	<b>13</b>

Total Credits 180

## Co-Op/Career Opportunities

Political Science majors have a wide variety of co-op experiences from which to choose. Business and public utilities offer many lucrative possibilities, and local, state, and federal governments, museums and archives, and law firms present many additional interesting co-op placements. Pre-law students, for example, are especially eager to see the inside of a law office whether the co-op job they receive is clerical or a more challenging paralegal assignment. These practical experiences in the "real" world can reinforce the lessons of the classroom, sharpen skills, and establish important contacts. Sample co-op positions include:

- Law clerk/paralegal, Joe Davidson, Attorney-at-Law, Philadelphia
- Research analyst, Legislative Office for Research Liaison, Harrisburg, PA
- Legislative intern, Corporate Public Affairs Division, Philadelphia Electric Company
- Assistant lobbyist, Government Relations Office, Drexel University
- Education intern, Philadelphia Museum of Art
- Researcher, Philadelphia Chamber of Commerce
- Assistant, Office of the Governor, Harrisburg, PA

## Career Opportunities

The flexible programs allow students to shape a curriculum that meets their needs whether they are preparing for the business world, graduate school in history or political science, the department's master's program in Science, Technology, and Society (<http://drexel.edu/coas/academics/departments-centers/science-technology-society/>), an MBA or other business program, or law school.

Visit the Drexel Steinbright Career Development Center (<http://www.drexel.edu/scdc/>) page for more detailed information on co-op and post-graduate opportunities.

## Politics Faculty

Zoltán Búzás, PhD (*Ohio State University*). Assistant Professor. International relations theory, international security, race and politics, diplomatic history.

Rose Corrigan, PhD (*Rutgers University*) Associate Dean for Undergraduate Education. Associate Professor. Women, public law, American politics and policy.

Richardson Dilworth, PhD (*Johns Hopkins University*) Director, Center for Public Policy. Professor. American political development, urban politics, public policy.

Erin R. Graham, PhD (*Ohio State University*). Associate Professor. International institutions, international relations theory, global environmental politics.

Amelia Hoover Green, PhD (*Yale University*). Associate Professor. Dynamics of conflict-related violence; intra-armed group politics and socialization; statistics in human rights.

Christian Hunold, PhD (*University of Pittsburgh*). Professor. Environmental policy; comparative politics; urban wildlife; political theory.

Alison Kenner, PhD (*Rensselaer Polytechnic Institute*). Associate Professor. Science, technology, and health; environmental health problems; cities and place; feminist theory; medical anthropology; digital humanities

Joel E. Oestreich, PhD (*Brown University*) Director of the Global Studies major. Professor. International organizations, international finance, development, and human rights.

Gwen Ottinger, PhD (*University of California, Berkeley*). Associate Professor. Social studies of science and technology, environmental justice, environmental political theory, citizen science, science and engineering ethics.

William L. Rosenberg, PhD (*Temple University*). Professor. Behavioral politics, public opinion, and political communication.

Jack Santucci, PhD (*Georgetown University*). Assistant Teaching Professor. Electoral Systems, Political Parties, American Political Development.

Chloe Silverman, PhD (*University of Pennsylvania*) Director, Center for Science, Technology & Society. Associate Professor. Parent advocacy for autism, neurodiversity, and pollinator health research.

Jose Tapia, PhD (*New School for Social Research*). Associate Professor. Social development, world economy, climate change, macroeconomic effects on health

## Emeritus Faculty

Julie Mostov, PhD (*New York University*). Professor Emeritus. Modern political thought, democratic theory, nationalism, gender studies, South Eastern Europe and the Balkans.

## Psychology

Major: Psychology

Degree Awarded: Bachelor of Science (BS)

Calendar Type: Quarter

Total Credit Hours: 180.0

Co-op Options: Three Co-op (Five years); One Co-op (Four years); No Co-op (Four years)

Classification of Instructional Programs (CIP) code: 42.2799

Standard Occupational Classification (SOC) code: 19-3031

## About the Program

Drexel University's Department of Psychological and Brain Sciences is a tight-knit, active community of internationally known faculty and impressive student scholars. The department defines psychology as a science of mind and behavior. From the neurophysiological underpinnings of cognition to defining the impact of human behaviors within the judicial systems and policies. Psychology contributes to the human behavioral aspects of other fields, including STEM, medicine, law, arts and other social sciences. Our students work alongside professors on cutting-edge research and clinical projects in a range of areas, including health, forensic, neuropsychology, human development, experimental, cognitive, and clinical psychology. Undergraduates also benefit from Drexel's cooperative education program, gaining hands-on, extensive work experience in areas of their interest.

## Bachelor of Science in Psychology

Students in the Bachelor of Science in Psychology program learn how to ask and answer important questions regarding human behavior, cognition and emotion, and how to apply their findings to improve lives. Within the program, students have the option to concentrate in three specific areas:

### Mind, Brain and Behavior

The Mind, Brain and Behavior (MBB) area of focus allows psychology majors to concentrate their plan of study on how the mind and brain produce human behavior. Situating the mind within its biological substrate is one of the great scientific challenges of the 21st century. MBB covers introductory through advanced courses, exposing students to the formal study of the human mind and behavior and their underlying brain systems and structures

### Human Development

This area allows students to focus on issues affecting human development across the lifespan. Using a biological, cognitive and socio-emotional perspective, students gain both breadth and depth in the understanding of current issues in child, adolescent and adult development.

### Clinical and Health

For those interested in health and service careers, this area of focus includes coursework, experiential learning, and individualized mentorship, providing students with practical experience in the field.

## Combined Bachelor's/Master's Degree

There is an accelerated MS program titled the Psychology BS/MS Scholars program to which undergraduates may apply. For more information, visit the Drexel University Department of Psychological and Brain Sciences (<http://www.drexel.edu/coas/academics/departments-centers/psychology/>) homepage.

## Additional Information

To schedule an appointment, students should contact the Psychological and Brain Sciences department's academic advisor:

Devon M. Thomas  
Academic Advisor, Undergraduate Program  
Phone: 215-895-0487  
Email: [dmt356@drexel.edu](mailto:dmt356@drexel.edu)  
Office: Stratton 103A

## Degree Requirements

### College Requirements

CIVC 101	Introduction to Civic Engagement	1.0
COM 230	Techniques of Speaking	3.0
COOP 101	Career Management and Professional Development *	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
Select one of the following:		8.0
MATH 101 & MATH 102	Introduction to Analysis I and Introduction to Analysis II	
MATH 121 & MATH 122	Calculus I and Calculus II	
UNIV H101	The Drexel Experience	1.0
UNIV H201	Looking Forward: Academics and Careers	1.0

Business elective		4.0
Fine Arts elective		3.0
Anthropology (ANTH) elective **		3.0
English (ENGL) electives, 200-level or above		6.0
History (HIST) electives		8.0
Philosophy (PHIL) elective		3.0
Political Science (PSCI) elective		4.0
Sociology (SOC) elective		3.0-4.0
Select one of the following sequences:		8.0
Biology		
BIO 107	Cells, Genetics & Physiology	
BIO 108	Cells, Genetics and Physiology Laboratory	
BIO 109	Biological Diversity, Ecology & Evolution	
BIO 110	Biological Diversity, Ecology and Evolution Laboratory	
Chemistry		
CHEM 111	General Chemistry I	
CHEM 112	General Chemistry II	
Physics		
PHYS 170	Electricity and Motion	
PHYS 171	Computational Lab for Electricity and Motion	
PHYS 175	Light and Sound	
PHYS 176	Computational Lab for Light and Sound	
Free electives		48.0
<b>Departmental Requirements</b>		
<b>General Psychology Requirements</b>		
PSY 111	Pre-Professional General Psychology I ***	3.0
PSY 112	Pre-Professional General Psychology II ***	3.0
<b>100-Level Requirements</b>		
Select two of the following:		6.0
PSY 120	Developmental Psychology	
PSY 140	Approaches to Personality	
PSY 150	Introduction to Social Psychology	
<b>Required Psychology Courses</b>		
PSY 212	Physiological Psychology	3.0
PSY 240 [WI]	Abnormal Psychology	3.0
PSY 264	Computer-Assisted Data Analysis I	3.0
PSY 265	Computer-Assisted Data Analysis II	3.0
PSY 280	Psychological Research	3.0
PSY 290	History and Systems of Psychology	3.0
PSY 325	Psychology of Learning	3.0
PSY 330	Cognitive Psychology	3.0
PSY 360 [WI]	Experimental Psychology	3.0
PSY 380	Psychological Testing and Assessment	3.0
<b>Advanced Psychology Electives</b>		
Any non-required PSY course at the 200-level or above.		12.0
<b>Senior Seminar Sequence OR Psychology Electives ****</b>		
PSY 490 [WI]	Psychology Senior Thesis I	4.0
PSY 491 [WI]	Psychology Senior Thesis II	4.0
PSY 492 [WI]	Psychology Senior Thesis III	4.0
<b>Total Credits</b>		<b>180.0-181.0</b>

\* Students not participating in co-op will not take COOP 101; 1 credit of Free Elective will be added in place of COOP 101. Select students may be eligible to take COOP 001 in place of COOP 101.

\*\* GST 100 may be used as a substitute for ANTH 101

\*\*\* Students with AP psychology, or transfer students with PSY 101 credit, should check the AP Student Placement Exam Crosswalk ([http://www.drexel.edu/provost/policies/pdf/supporting/ap\\_crosswalk.pdf](http://www.drexel.edu/provost/policies/pdf/supporting/ap_crosswalk.pdf)) or check with their advisor.

\*\*\*\* Students who do not wish to complete the research seminar sequence are required to complete 12.0 credits of additional advanced Psychology electives instead.

## Sample Plan of Study

### 4 year, No co-op

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 CIVC 101	1.0 ENGL 103 or 113	3.0 VACATION	
PSY 111	3.0 ENGL 102 or 112	3.0 PSY 120, 140, or 150	3.0	
MATH 121 or 101	4.0 MATH 102 or 122	4.0 PSY 240	3.0	
UNIV H101	1.0 PSY 112	3.0 UNIV H201	1.0	
Select one of the following:	4.0 PSY 120, 140, or 150	3.0 Anthropology (ANTH) Elective	3.0	
CHEM 111	Select one of the following:	4.0 Fine Arts Elective	3.0	
PHYS 170 & PHYS 171	BIO 109 & BIO 110			
BIO 107 & BIO 108	CHEM 112			
	PHYS 175 & PHYS 176			
	<b>15</b>	<b>18</b>	<b>16</b>	<b>0</b>

#### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
PSY 264	3.0 COM 230	3.0 PSY 212	3.0 VACATION	
PSY 290	3.0 PSY 265	3.0 PSY 280	3.0	
English (ENGL) elective, 200-level or above	3.0 PSY 330	3.0 PSY 360	3.0	
Political Science (PSCI) Elective	4.0 English (ENGL) Elective, 200-level or above	3.0 Psychology Elective	3.0	
Sociology (SOC) Elective	3.0-4.0 Philosophy (PHIL) Elective	3.0 Business Elective	4.0	
	<b>16-17</b>	<b>15</b>	<b>16</b>	<b>0</b>

#### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
PSY 325	3.0 Free Electives	7.0 Free Electives	12.0 VACATION	
PSY 380	3.0 History Elective	4.0 Psychology Elective*	3.0	
History Elective	4.0 Psychology Elective*	3.0		
Free Elective	3.0			
Psychology Elective	3.0			
	<b>16</b>	<b>14</b>	<b>15</b>	<b>0</b>

#### Fourth Year

Fall	Credits Winter	Credits Spring	Credits
PSY 490**	4.0 PSY 491**	4.0 PSY 492**	4.0
Free Electives	9.0 Free Electives	9.0 Free Electives	9.0
	<b>13</b>	<b>13</b>	<b>13</b>

Total Credits 180-181

\* See degree requirements (p. 172).

\*\* Students who do not wish to complete the research seminar sequence are instead required to complete 12.0 credits of additional advanced Psychology electives.

### 4 year, 1 co-op\*

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 CIVC 101	1.0 COOP 101	1.0 VACATION	
PSY 111	3.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
MATH 121 or 101	4.0 MATH 102 or 122	4.0 PSY 120, 140, or 150	3.0	
UNIV H101	1.0 PSY 112	3.0 PSY 240	3.0	
Select one of the following:	4.0 PSY 120, 140, or 150	3.0 UNIV H201	1.0	
CHEM 111	Select one of the following:	4.0 Anthropology (ANTH) Elective	3.0	

PHYS 170 & PHYS 171	BIO 109 & BIO 110	Fine Arts Elective	3.0	
BIO 107 & BIO 108	CHEM 112			
	PHYS 175 & PHYS 176			
	<b>15</b>	<b>18</b>	<b>17</b>	<b>0</b>
<b>Second Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
PSY 264	3.0 COM 230	3.0 PSY 212	3.0 PSY 325	3.0
PSY 290	3.0 PSY 265	3.0 PSY 280	3.0 PSY 380	3.0
English (ENGL) elective, 200-level or above	3.0 PSY 330	3.0 PSY 360	3.0 Psychology Elective	3.0
Political Science (PSCI) elective	4.0 English (ENGL) elective, 200-level or above	3.0 Psychology Elective	3.0 History Elective	4.0
Sociology (SOC) elective	3.0-4.0 Philosophy (PHIL) elective	3.0 Business Elective	4.0 Free Elective	3.0
	<b>16-17</b>	<b>15</b>	<b>16</b>	<b>16</b>
<b>Third Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COOP EXPERIENCE	COOP EXPERIENCE	Psychology Elective**	3.0 Psychology Elective**	3.0
		History Elective	4.0 Free Electives†	12.0
		Free Electives	6.0	
	<b>0</b>	<b>0</b>	<b>13</b>	<b>15</b>
<b>Fourth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>	
PSY 490***	4.0 PSY 491***	4.0 PSY 492***	4.0	
Free Electives	9.0 Free Electives	9.0 Free Electives	9.0	
	<b>13</b>	<b>13</b>	<b>13</b>	

**Total Credits 180-181**

\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term.

\*\* See degree requirements (p. 172).

\*\*\* Students who do not wish to complete the research seminar sequence are instead required to complete 12.0 credits of additional advanced Psychology electives.

† If student selects a 4.0 credit SOC elective, the Free Electives in this term will be 11.0 credits.

**5 year, 3 Co-ops\***

<b>First Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
ENGL 101 or 111	3.0 CIVC 101	1.0 COOP 101	1.0 VACATION	
PSY 111	3.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
MATH 121 or 101	4.0 MATH 102 or 122	4.0 PSY 120, 140, or 150	3.0	
UNIV H101	1.0 PSY 112	3.0 PSY 240	3.0	
Select one of the following:	4.0 PSY 120, 140, or 150	3.0 UNIV H201	1.0	
CHEM 111	Select one of the following:	4.0 Anthropology (ANTH) elective	3.0	
PHYS 170 & PHYS 171	BIO 109 & BIO 110	Fine Arts elective	3.0	
BIO 107 & BIO 108	CHEM 112			
	PHYS 175 & PHYS 176			
	<b>15</b>	<b>18</b>	<b>17</b>	<b>0</b>
<b>Second Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COOP EXPERIENCE	COOP EXPERIENCE	PSY 264	3.0 COM 230	3.0
		PSY 290	3.0 PSY 265	3.0
		English (ENGL) elective, 200-level or above	3.0 PSY 330	3.0



		Political Science (PSCI) elective	4.0 English (ENGL) elective, 200-level or above	3.0
		Sociology (SOC) elective	3.0-4.0 Philosophy (PHIL) elective	3.0
	0	0	16-17	15
<b>Third Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COOP EXPERIENCE	COOP EXPERIENCE	PSY 212	3.0 PSY 325	3.0
		PSY 280	3.0 PSY 380	3.0
		PSY 360	3.0 Psychology elective	3.0
		Psychology elective	3.0 History elective	4.0
		Business elective	4.0 Free elective	3.0
	0	0	16	16
<b>Fourth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COOP EXPERIENCE	COOP EXPERIENCE	Psychology elective **	3.0 Psychology elective **	3.0
		History elective	4.0 Free electives ***	12.0
		Free electives	6.0	
	0	0	13	15
<b>Fifth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>	
PSY 490 <sup>†</sup>	4.0 PSY 491 <sup>†</sup>	4.0 PSY 492 <sup>†</sup>	4.0	
Free electives	9.0 Free electives	9.0 Free electives	9.0	
	13	13	13	
<b>Total Credits 180-181</b>				

\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term.

\*\* See degree requirements (p. 172).

\*\*\* If a student selects a 4.0 credit SOC elective the Free electives in this term will be 11.0 credits.

† Students who do not wish to complete the research seminar sequence are instead required to complete 12.0 credits of additional advanced Psychology electives.

## Co-op/Career Opportunities

Some graduates seek employment immediately after receiving their bachelor's degrees. They are well trained to work as research assistants in consulting firms and medical settings or to provide front-line services in mental health and educational settings. Other graduates go on to professional schools in law, business, medicine, and other health professions. Still others pursue graduate training in psychology and related fields. Students build skills and knowledge that provide a foundation for advanced study, create opportunities for future growth, and can be used to improve the quality of life for others.

## Co-Op Experiences

Drexel University has long been known for its co-operative education programs, through which students mix periods of full-time, career-related employment with their studies. Co-op/internship employment is an option for psychology majors. Visit the Drexel Steinbright Career Development Center (<http://www.drexel.edu/scdc/>) page for more detailed information on co-op and post-graduate opportunities.

## Psychology Faculty

Meghan Butryn, PhD (*Drexel University*). Associate Professor. Treatment and prevention of obesity and eating disorders, behavioral treatment, acceptance and commitment therapy.

Dorothy Charbonnier, PhD (*State University of New York at Stony Brook*). Associate Teaching Professor. The nature of the creative process and writing.

Evangelia Chrysiou, PhD (*Temple University*). Associate Professor. Cognitive neuroscience, neuropsychology, neural basis of language, memory, and executive functions, neurocognitive processes associated with problem solving and flexible thought

Brian Daly, PhD (*Loyola University, Chicago*) *Interim Department Head*. Associate Professor. Pediatric neuropsychology, intervention with at-risk youth.

David DeMatteo, PhD, JD (*MCP Hahnemann University; Villanova University School of Law*) *Director of the JD-PhD Program in Law and Psychology*. Professor. Psychopathy, forensic mental health assessment, drug policy; offender diversion.

Evan M. Forman, PhD (*University of Rochester*) Director *WELL Center*. Professor. Clinical psychology: mechanisms and measurement of psychotherapy outcome, cognitive-behavioral and acceptance based psychotherapies, the development and evaluation of acceptance-based interventions for health behavior change (for problems of obesity and cardiac disease) as well as mood and anxiety disorders; neurocognition of eating.

Pamela Geller, PhD (*Kent State University*) Director, *Clinical Training*. Associate Professor. Stressful life events and physical and mental health outcomes, particularly in the area of women's reproductive health (e.g. pregnancy, pregnancy loss, infertility, medical education).

Maureen Gibney, PsyD (*Widener University*). Teaching Professor. Clinical psychopathology; neuropsychological evaluation and intervention with the elderly.

Naomi Goldstein, PhD (*University of Massachusetts*) Co-Director of the *JD-PhD Program*; *Stoneleigh Foundation Fellow*. Professor. Forensic psychology; juvenile justice; Miranda rights comprehension; false confessions; juvenile justice treatment outcome research; anger management intervention development; child and adolescent behavior problems.

Kirk Heilbrun, PhD (*University of Texas at Austin*). Professor. Forensic psychology, juvenile and adult criminality, violence risk assessment, forensic psychological assessment, treatment of mentally disordered offenders, academic-sports mentoring.

Adrienne Juarascio, PhD (*Drexel University*) Director, *Practicum Training*. Assistant Professor. Enhancing treatment outcomes for eating disorders and obesity; Acceptance-based behavioral treatments; Evaluating mechanisms of action in behavioral treatments

Marlin Killen, PhD (*Trident University International*). Teaching Professor. Authentic teaching methods in Psychology as well as student persistence behavior.

John Kounios, PhD (*University of Michigan*) Director, *PhD Program in Applied Cognitive and Brain Sciences*. Professor. Cognitive neuroscience, especially creativity, problem solving, and cognitive enhancement.

David Kutzik, PhD (*Temple University*). Professor. Social and cultural theory, political economy, gerontology, materialisms, activity theory, reflection theories, communities of practice and labor theories of culture.

Michael Lowe, PhD (*Boston College*). Professor. Prevention and treatment of eating disorders and obesity; effects of appetitive responsiveness and dietary restraint on eating regulation; psychobiology of obesity-proneness; empirical foundations of unconscious processes.

John Medaglia, PhD (*The Pennsylvania State University*). Assistant Professor. Applying models and methods developed in neuropsychology, cognitive neuroscience and graph theory to understand and treat brain dysfunction and enhance healthy functioning

Megan Meyer, PhD (*Temple University*). Assistant Teaching Professor. Influences on preferred body type; changes in body image, self-esteem, and self-efficacy in females as a function of strength training; Sensation and Perception

Danette Morrison, PhD (*University of Maryland - College Park*). Assistant Teaching Professor. Social and academic motivation within school context; Social relationships and identity development; Educational attainment of ethnic minorities

Arthur Nezu, PhD, DHLL, ABPP (*State University of New York at Stony Brook*). Distinguished University Professor of Psychology, Professor of Medicine, Professor of Community Health and Prevention. Behavioral medicine applications of problem-solving therapy and other cognitive-behavior therapies (e.g., to decrease emotional and psychosocial risk factors; improve adherence), particularly with regard to patients with cardiovascular disease; assessment.

Christine Maguth Nezu, PhD (*Fairleigh Dickinson University*). Professor of Psychology, Professor of Medicine. Cognitive-behavioral assessment and treatment for mood, anxiety, personality disorders, and coping with chronic illness; mind/body studies; stress and coping; developmental disabilities and comorbid behavioral and emotional disorders; spirituality and psychology.

Nancy Raitano Lee, PhD (*University of Denver*) Director of *MS and BS/MS Programs*. Associate Professor. Neuropsychological and neuroanatomic correlates of intellectual and developmental disabilities; Verbal memory and language difficulties in Down syndrome and other genetic disorders; Comorbid autism spectrum disorder symptoms in youth with genetic disorders; Neuroanatomic correlates of individual differences in typical and atypical cognition

Diana Robins, PhD (*University of Connecticut*) Interim Director, *AJ Drexel Autism Institute*. Professor. Autism screening, early detection of autism

Ludo Scheffer, PhD (*University of Pennsylvania*) Director of *Undergraduate Studies*. Teaching Professor. Meta-cognitive development, writing, and computers; Language and literacy development in the early years in the context of family and schooling; Youth-at-risk; School violence and bullying; Program/intervention effectiveness

Maria Schultheis, PhD (*Drexel University*) Vice Provost of Research, *Office of Research and Innovation*. Professor. Clinical Neuropsychology and rehabilitation following neurological compromise (brain injury, stroke, multiple sclerosis), application of technologies in psychology. Specialization in the use of virtual reality (VR) simulation, and evaluation of the demands of driving after disability.

Jennifer Schwartz, PhD (*Idaho State University*) *Director of Psychological Services Center*. Teaching Professor. Adult psychopathology; evidence-based clinical practice; competency-based training; competency-based clinical supervision.

Julia Sluzenski, PhD (*Temple University*). Assistant Teaching Professor. Spatial and episodic memory, memory loss across the lifespan, developmental psychology.

Fengqing (Zoe) Zhang, PhD (*Northwestern University*). Associate Professor. Neuroimaging data analysis; Data mining; Bayesian inference; High dimensional data analysis

Eric A Zillmer, PsyD (*Florida Institute of Technology*) *Carl R. Pacifico Professor of Neuropsychology and the Director of Athletics*. Professor. Psychological assessment (neuropsychological, cognitive, personality), psychiatric and neurological disorders, behavioral medicine, neurogerontology, mathematical modeling, sports psychology, psychology of genocide.

## Emeritus Faculty

Donald Bersoff, JD, PhD (*Yale University, New York University*). Professor Emeritus. Law and psychology; mental health law.

James Calkins, PhD. Professor Emeritus.

Douglas L. Chute, PhD (*University of Missouri*) *Louis and Bessie Stein Fellow*. Professor Emeritus. Neuropsychology and rehabilitation; technological applications for the cognitively compromised and those with acquired brain injuries.

Myrna Shure, PhD (*Cornell University*). Professor Emeritus. Child development, problem-solving interventions with children, prevention programs.

Mary Spiers, PhD (*University of Alabama at Birmingham*). Professor Emeritus. Clinical neuropsychology and medical psychology; memory and practical applications for memory disorders in the elderly; cognitive health of women.

## Sociology

*Major: Sociology*

*Degree Awarded: Bachelor of Arts (BA)*

*Calendar Type: Quarter*

*Total Credit Hours: 180.0*

*Co-op Options: Three Co-op (Five years); One Co-op (Four years); No Co-op (Four years)*

*Classification of Instructional Programs (CIP) code: 45.1101*

*Standard Occupational Classification (SOC) code: 19-3041*

## About the Program

The Sociology major at Drexel University has three components: theory, methods, and substantive coursework. It also features specialized coursework relating to social justice issues.

Sociology is the systematic study of societies. Society is the sum total of individual and group interactions and relations, from small groups and families to global networks and complex social organizations. The discipline covers a wide variety of fields of inquiry. Sociologists examine structural relations and are committed to developing a *critical understanding* of these relationships. Thus, the Sociology major stresses theory, research methods, and quantitative and qualitative data analysis. These are then applied to a wide variety of substantive areas including, but not limited to, social inequality, political power, gender, sexuality, class, race, ethnicity, family, health, cities and neighborhoods, technology and environmental change, as well as social and political movements connected with social change. The stress on *critical understanding* means that Sociology majors will strive not only to develop strong analytic abilities but an intellectual and ethical engagement reflected in sociologically informed thinking and action. The research and analytical skills developed in our program are sought after by a wide variety of professions.

Specialized social justice coursework is typically carried out in connection with community groups and organizations. It is a way the Sociology Program and Drexel University as a whole seek to become practically engaged with the wider community while promoting social justice.

## Additional Information

For more information about the Sociology major, visit the Department of Sociology (<http://www.drexel.edu/coas/academics/departments-centers/sociology/>) webpage.

## Degree Requirements

### General Requirements

CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development	1.0
ENGL 101 or ENGL 111	Composition and Rhetoric I: Inquiry and Exploratory Research English Composition I	3.0

ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
UNIV H101	The Drexel Experience	1.0
UNIV H201	Looking Forward: Academics and Careers	1.0
Four Humanities/Fine Arts Courses		12.0
Two Mathematics Courses		6.0
Two Science Courses		6.0
Two Consecutive Foreign Language Courses		8.0
<b>Social and Behavioral Sciences</b>		<b>12.0</b>
SOC 101	Introduction to Sociology	
Social and Behavioral Sciences Electives (9.0 credits)		
<b>International Studies</b>		<b>6.0</b>
Two International Studies Courses		
<b>Studies in Diversity</b>		<b>6.0</b>
Two Studies in Diversity Courses		
<b>Sociology Core Requirements</b>		
<b>Required Major Capstone</b>		<b>4.0</b>
SOC 450	Capstone in Sociology	
<b>Theory Sequence</b>		<b>8.0</b>
SOC 355 [WI]	Classical Social Theory	
SOC 356 [WI]	Contemporary Social Theory	
<b>Methods Sequence</b>		<b>8.0</b>
SOC 241	Research Design: Qualitative Methods	
SOC 242	Research Design: Quantitative Methods	
<b>Required Sociology Electives</b>		<b>40.0</b>
Select at least 10 of the following: (At least four must be at the 300 or 400 level; and at least one must be at the 400-level.)		
SOC 115	Social Problems	
SOC 207	Medicine and Society	
SOC 210	Race, Ethnicity and Social Inequality	
SOC 215	Sociology of Work	
SOC 220	Wealth and Power	
SOC 221	Sociology of the Family	
SOC 222	Sex and Society	
SOC 230	Gender and Society	
SOC 235	Sociology of Health and Illness	
SOC 238	Sociology of Health Professions	
SOC 240	Urban Sociology	
SOC 244	Sociology of the Environment	
SOC 261	Sex and The City	
SOC 268	Sociology of Sport	
SOC 271	Sociology of Aging	
SOC 276	Global Climate Change	
SOC 313	Sociology of Global Health	
SOC 315	HIV/AIDS and Africa	
SOC 318	Social Networks and Health	
SOC 320	Sociology of Deviance	
SOC 330	Development and Underdevelopment in the Global South	
SOC 335	Sociology of Education	
SOC 340	Globalization	
SOC 341	Global Environmental Movements	
SOC 346	Environmental Justice	
SOC 349	Sociology of Disasters	
SOC 370	Practicum in Applied and Community Sociology	
SOC 405	Medicine, Technology and Science	
SOC 406	Housing and Homelessness	
SOC 410	Imagining Multiple Democracies	
SOC 420	Love, Rage & Debt: The Debt Society	
SOC 430	Politics of Life	
SOC 444	Social Movements	
SOC 490	Sociology Research Seminar I: Research Design	

SOC 491	Sociology Research Seminar II: Data Acquisition and Analysis	
SOC 492	Sociology Research Seminar III: Practicum in Sociological Research	
SOC T380	Special Topics in SOC	
<b>Free Electives**</b>		<b>51.0</b>
<b>Total Credits</b>		<b>180.0</b>

\* At least one foreign language course must be at the 200-level. In addition, the department recommends students take 2 additional foreign language courses as free electives.

\*\* Students not participating in co-op (NCOP) will not take COOP 101 and will need 52.0 free elective credits.

## Sample Plan of Study

### 4 year, no co-op

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 CIVC 101	1.0 ENGL 103 or 113	3.0 VACATION	
SOC 101	3.0 ENGL 102 or 112	3.0 Diversity Studies elective	3.0	
UNIV H101	1.0 Foreign Language course	4.0 Free electives	7.0	
Foreign Language course	4.0 Social and Behavioral Science elective	3.0		
Mathematics course	3.0 Sociology required elective	4.0		
	<b>14</b>	<b>15</b>	<b>13</b>	<b>0</b>

#### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
SOC 241	4.0 SOC 242	4.0 SOC 355	4.0 VACATION	
Mathematics course	3.0 Humanities/Fine Arts elective	3.0 Diversity Studies elective	3.0	
Sociology required electives	8.0 Science course*	3.0 Free electives	6.0	
	Sociology required elective	4.0 Social and Behavioral Sciences elective	3.0	
	<b>15</b>	<b>14</b>	<b>16</b>	<b>0</b>

#### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
SOC 356	4.0 UNIV H201	1.0 Free electives	6.0 VACATION	
Free electives	6.0 Free electives	6.0 Humanities/Fine Arts elective	3.0	
Social and Behavioral Sciences elective	3.0 Sociology required elective	4.0 International Studies elective	3.0	
Sociology required elective (300-level)	4.0 Sociology required elective (300-level)	4.0 Sociology required elective (300-level)	4.0	
	<b>17</b>	<b>15</b>	<b>16</b>	<b>0</b>

#### Fourth Year

Fall	Credits Winter	Credits Spring	Credits
Free electives	6.0 Free electives	6.0 SOC 450	4.0
Humanities/Fine Arts elective	3.0 Humanities/Fine Arts elective	3.0 Free elective	3.0
Science course*	3.0 Sociology required elective (400-level)	4.0 Humanities/Fine Arts electives	6.0
Sociology required elective	4.0	International Studies elective	3.0
	<b>16</b>	<b>13</b>	<b>16</b>

**Total Credits 180**

\* See degree requirements (p. 178).

## 4 year, 1 co-op

### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 CIVC 101	1.0 COOP 101 <sup>*</sup>	1.0 VACATION	
SOC 101	3.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
UNIV H101	1.0 Foreign Language course	4.0 Diversity Studies elective	3.0	
Mathematics course	3.0 Social and Behavioral Science elective	3.0 Free electives	6.0	
Foreign Language course	4.0 Sociology required elective	4.0		
	<b>14</b>	<b>15</b>	<b>13</b>	<b>0</b>

### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
SOC 341	4.0 SOC 242	4.0 SOC 355	4.0 SOC 356	4.0
Mathematics course	3.0 Humanities/Fine Arts elective	3.0 Free electives	6.0 Free electives	6.0
Sociology required electives	8.0 Science course <sup>**</sup>	3.0 Diversity Studies elective	3.0 Social and Behavioral Sciences elective	3.0
	Sociology required elective	4.0 Social and Behavioral Sciences elective	3.0 Sociology required elective (300-level)	4.0
	<b>15</b>	<b>14</b>	<b>16</b>	<b>17</b>

### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
UNIV H201	1.0 Free electives	6.0 COOP EXPERIENCE	COOP EXPERIENCE	
Free electives	6.0 Humanities/Fine Arts elective	3.0		
Sociology required elective	4.0 International Studies elective	3.0		
Sociology required elective (300-level)	4.0 Sociology required elective (300-level)	4.0		
	<b>15</b>	<b>16</b>	<b>0</b>	<b>0</b>

### Fourth Year

Fall	Credits Winter	Credits Spring	Credits
Free electives	6.0 Free electives	6.0 SOC 450	4.0
Humanities/Fine Arts elective	3.0 Humanities/Fine Arts elective	3.0 Free elective	3.0
Science course <sup>**</sup>	3.0 Sociology Required elective (400-level)	4.0 Humanities/Fine Arts electives	6.0
Sociology required elective	4.0	International Studied elective	3.0
	<b>16</b>	<b>13</b>	<b>16</b>

**Total Credits 180**

<sup>\*</sup> Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

<sup>\*\*</sup> See degree requirements (p. 178).

## 5 year, 3 co-ops

### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 CIVC 101	1.0 COOP 101 <sup>*</sup>	1.0 VACATION	
SOC 101	3.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
UNIV H101	1.0 Foreign Language course	4.0 Free electives	6.0	
Mathematics course	3.0 Social and Behavioral Science elective	3.0 Diversity Studies elective	3.0	
Foreign Language course	4.0 Sociology required elective	4.0		
	<b>14</b>	<b>15</b>	<b>13</b>	<b>0</b>

**Second Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
SOC 241	4.0 SOC 242	4.0 COOP EXPERIENCE	COOP EXPERIENCE	
Mathematics course	3.0 Humanities/Fine Arts elective	3.0		
Sociology required electives	8.0 Science course**	3.0		
	Sociology required elective	4.0		
	<b>15</b>	<b>14</b>	<b>0</b>	<b>0</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
SOC 355	4.0 SOC 356	4.0 COOP EXPERIENCE	COOP EXPERIENCE	
Diversity Studies elective	3.0 Free electives	6.0		
Free electives	6.0 Social and Behavioral Sciences elective	3.0		
Social and Behavioral Sciences elective	3.0 Sociology required elective (300-level)	4.0		
	<b>16</b>	<b>17</b>	<b>0</b>	<b>0</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
UNIV H201	1.0 Free electives	6.0 COOP EXPERIENCE	COOP EXPERIENCE	
Free electives	6.0 Humanities/Fine Arts elective	3.0		
Sociology required elective	4.0 International Studies elective	3.0		
Sociology required elective (300-level)	4.0 Sociology required elective (300-level)	4.0		
	<b>15</b>	<b>16</b>	<b>0</b>	<b>0</b>

**Fifth Year**

Fall	Credits Winter	Credits Spring	Credits
Free electives	6.0 Free electives	6.0 SOC 450	4.0
Humanities/Fine Arts elective	3.0 Humanities/Fine Arts elective	3.0 Free elective	3.0
Science course**	3.0 Sociology required elective (400-level)	4.0 Humanities/Fine Arts electives	6.0
Sociology required elective	4.0	International Studies elective	3.0
	<b>16</b>	<b>13</b>	<b>16</b>

**Total Credits 180**

\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 101 in place of COOP 101.

\*\* See degree requirements (p. 178).

## Co-op/Career Opportunities

An undergraduate degree in sociology is excellent preparation for law school, medical school, or for graduate work in such fields as sociology, history, gerontology, or political science.

Outside of academics, sociologists work in a wide variety of settings. Some serve as statistical analysts for market research firms, health care agencies, and government. Others are involved in urban planning, survey research, public relations, agency management, trend analysis, or criminal justice. There are sociologists of religion working for national church organizations, and sociologists specializing in gerontology who are engaged in research or administration for agencies concerned with the aged.

## Co-op Experiences

Some recent co-op positions held by sociology students include the following:

- Human Resources Assistant, National Board of Medical Examiners (<http://www.nbme.org/>)
- Giving Corps Intern, Cradles to Crayons (<https://www.cradlestocrayons.org/>)
- Organizing Internship, Food & Water Watch (<https://www.foodandwaterwatch.org/>)

- Marketing Intern, Stradley Ronon Stevens & Young LLP (<http://www.stradley.com/>)
- Small Business Outreach Co-op, The Welcoming Center for New Pennsylvanians (<http://welcomingcenter.org/>)

Visit the Drexel Steinbright Career Development Center (<http://www.drexel.edu/scdc/>) page for more detailed information on co-op and post-graduate opportunities.

## Sociology Faculty

Susan E. Bell, PhD (*Brandeis University*) *Department Head, Sociology*. Professor. Sociology of health and illness; global and transnational health; reproductive health, rights, and justice; experience of illness; narrative; visual sociology

Mary Ebeling, PhD (*University of Surrey*). Associate Professor. Science and technology studies; emerging technologies and biocapital; media and democratic cultures; radical social movements; sociology of markets; political sociology; and ethnographic methodologies.

Sarah Hosman, PhD (*Boston University*). Assistant Teaching Professor. Urban sociology, Gentrification, Cultural sociology, Economic Sociology, Narratives of place, Ethnography

Sonali Jain, PhD (*Boston University*). Associate Teaching Professor. South Asia, Race, Ethnicity, Gender, Transnationalism.

Kelly Joyce, PhD (*Boston College*) *Director, Master's Program in Science Technology & Society*. Professor. Science, medicine and technology; aging and technology; qualitative social science methods; healthcare and medicine.

Emmanuel F. Koku, PhD (*University of Toronto*). Associate Professor. Social network analysis; qualitative/quantitative research; medical sociology; social epidemiology; social demography; sociology of development; communication and information technology; community and urban sociology.

Nada Matta, PhD (*New York University*). Assistant Professor. Political Economy, Social Movements, Middle East Studies, Gender Studies, Revolutions, Inequality.

Elizabeth McGhee Hassrick, PhD (*University of Chicago*). Assistant Professor. . Sociology of Education; Educational Inequality; Social Networks; Organizational Sociology; Sociology of Disability

Amanda McMillan Lequeieu, PhD (*University of Wisconsin-Madison*). Assistant Professor. Environmental sociology, political economy, place and space, rural-urban interface, qualitative and historical methodologies.

Jason Orne, PhD (*University of Wisconsin-Madison*). Assistant Professor. Urban Sociology, Sexualities Studies, Qualitative Methodologies, Sociology of Race and Ethnicity, Social Psychology, Social Theory

Diane Sicotte, PhD (*Arizona State University*). Associate Professor. Sociology of environmental justice; inequalities in the citing of environmental hazards; community-based research in neighborhoods dealing with industrial hazards; sociology of the environment; urban sociology; social inequalities.

Kelly Underman, PhD (*University of Illinois at Chicago*). Assistant Professor. Medical education, the social construction of bodies and emotions and the politics of scientific knowledge production.

## Emeritus Faculty

Robert J. Brulle, PhD (*George Washington University*). Professor Emeritus. Environmental policy and politics, critical theory, marine risk, social movements, environmental sociology.

Arthur Shostak, PhD (*Princeton University*). Professor Emeritus. Futurism, race and ethnic relations, social implications of 20th century technology, urban sociology.



# General Humanities and Social Sciences (Undeclared)

## About the Program

The GHSS (General Humanities and Social Sciences) Undeclared program allows students to explore academic options within the College of Arts and Sciences before declaring a major and while staying on track during their first year.

**GHSS is not a major;** however, all the courses in year 1 are required in some form in the various majors in the Humanities/Social Science side of the College of Arts and Sciences. This selection of courses will "follow" the student to an eventual chosen major in the college. With the help of an advisor, students can select courses based on their interests and goals. No later than the end of spring term in the first academic year, students are required to select an appropriate major which will lead to a bachelor's degree.

Students will complete co-ops in accordance with the requirements for the major that they choose.

## Admission Requirements

There are no specific requirements for admission into the General Humanities and Social Sciences (GHSS) option beyond those that are required for any student applying to majors in Humanities or Social Sciences at Drexel University.

## Program Requirements

Students are required to choose a major by the end of the first year. All students will work closely with their advisor to identify where their interests lie so that they can declare their major as soon as possible. Courses taken during the first year will all count towards the degree requirements for majors in the Humanities and the Social Sciences.

### General Education Requirements

CIVC 101	Introduction to Civic Engagement	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
UNIV H101	The Drexel Experience	1.0

### College Requirements

SOC 101	Introduction to Sociology	3.0
COM 111	Principles of Communication	3.0
PSY 101	General Psychology I	3.0
PHIL 105	Critical Reasoning	3.0
CJS 101	Introduction to Criminal Justice	3.0
COM 150	Mass Media and Society	3.0
GST 101	Becoming Global: Language and Cultural Context	3.0
PSCI 100	Introduction to Political Science	4.0

**MATH or Language Requirement \*** **8.0**

**Electives** **70.0**

**Major Requirements \*\*** **66.0**

**Total Credits** **180.0**

\* Two MATH or language courses according to placement

\*\* Declared majors include ENGL, PHIL, HIST, PSCI, SOC, COM, GST, PPE, CJS, PSY

## Sample Plan of Study

### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 111	3.0 CIVC 101	1.0 CJS 101	3.0 VACATION	
ENGL 101 or 111	3.0 ENGL 102 or 112	3.0 COM 150	3.0	
MATH or Language	4.0 MATH or Language	4.0 ENGL 103 or 113	3.0	
SOC 101	3.0 PHIL 105	3.0 GST 101	3.0	
UNIV H101	1.0 PSY 101	3.0 PSCI 100	4.0	
	<b>14</b>	<b>14</b>	<b>16</b>	<b>0</b>

**Second Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
Declared Major Credits **	12.0 Declared Major Credits **	12.0 Declared Major Credits **	9.0 VACATION	
UG Elective Credits	4.0 UG Elective Credits	3.0 UG Elective Credits	6.0	
	<b>16</b>	<b>15</b>	<b>15</b>	<b>0</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
Declared Major Credits **	6.0 Declared Major Credits **	9.0 Declared Major Credits **	6.0 VACATION	
UG Elective Credits	9.0 UG Elective Credits	6.0 UG Elective Credits	9.0	
	<b>15</b>	<b>15</b>	<b>15</b>	<b>0</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits
Declared Major Credits **	6.0 Declared Major Credits **	3.0 Declared Major Credits **	3.0
UG Elective Credits	9.0 UG Elective Credits	12.0 UG Elective Credits	12.0
	<b>15</b>	<b>15</b>	<b>15</b>

**Total Credits 180**

\* MATH or language courses according to placement

\*\* Declared majors include ENGL, PHIL, HIST, PSCI, SOC, COM, GST, PPE, CJS, PSY

## Science (Undeclared)

### About the Program

The Science Undeclared program allows students to explore academic options within the College of Arts and Sciences before declaring a major and thereby stay on track during their first year.

Science Undeclared is not a major; however, all the courses in year 1 are required in some form in the various majors in the Sciences in the College of Arts and Sciences. This selection of courses will "follow" the student to an eventual chosen major in the college. With the help of an advisor, students can select courses based on their interests and goals. No later than the end of the first year, students will select a major while being guided toward a future career path.

Students will complete co-ops in accordance with the requirements for the major that they choose.

### Degree Requirements

Students are required to chose a major by the end of the first year. All students will work closely with their advisor to identify where their interests lie so that they can declare their major as soon as possible. Courses taken during the first year will all count towards the degree requirements for majors in the Sciences.

**General Requirements**

CIVC 101	Introduction to Civic Engagement	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
UNIV S101	The Drexel Experience	1.0
UNIV S201	Looking Forward: Academics and Careers	1.0
Mathematics		12.0

**Major Requirements**

Science Major -- requirements in one of BIO, CHEM, ENVS, ENSS, GEO, MATH,PHYS	94.0
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**Electives**

Liberal Studies Electives	20.0
Free electives	42.0

**Total Credits 180.0**

## Sample Plan of Study

### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
BIO 131	4.0 BIO 132	4.0 BIO 133	4.0 VACATION	
BIO 134	1.0 BIO 135	1.0 BIO 136	1.0	
CHEM 101	3.5 CHEM 102	4.5 CHEM 103	4.5	
ENGL 101 or 111	3.0 CIVC 101	1.0 ENGL 103 or 113	3.0	
MATH 101 or 121	4.0 ENGL 102 or 112	3.0 MATH 239 or 123	4.0	
UNIV S101	1.0 MATH 102 or 122	4.0		
	<b>16.5</b>	<b>17.5</b>	<b>16.5</b>	<b>0</b>

### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
Credits in declared major: BIO, CHEM, MATH, PHYS, ENVS, GEO, or ENSS	12.0 Credits in declared major: BIO, CHEM, MATH, PHYS, ENVS, GEO, or ENSS	12.0 Credits in declared major: BIO, CHEM, MATH, PHYS, ENVS, GEO, or ENSS	9.0 VACATION	
Electives according to declared major	3.0 Electives according to declared major	3.0 Liberal Studies electives according to declared major	3.0	
UNIV S201	1.0	Electives according to declared major	3.0	
	<b>16</b>	<b>15</b>	<b>15</b>	<b>0</b>

### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
Credits in declared major: BIO, CHEM, MATH, PHYS, ENVS, GEO, or ENSS	9.0 Credits in declared major: BIO, CHEM, MATH, PHYS, ENVS, GEO, or ENSS	6.0 Credits in declared major: BIO, CHEM, MATH, PHYS, ENVS, GEO, or ENSS	6.0 VACATION	
Liberal Studies electives according to declared major	3.0 Liberal Studies electives according to declared major	3.0 Liberal Studies electives according to declared major	4.0	
Electives according to declared major	3.0 Electives according to declared major	6.0 Electives according to declared major	6.5	
	<b>15</b>	<b>15</b>	<b>16.5</b>	<b>0</b>

### Fourth Year

Fall	Credits Winter	Credits Spring	Credits
Credits in declared major: BIO, CHEM, MATH, PHYS, ENVS, GEO, or ENSS	6.0 Credits in declared major: BIO, CHEM, MATH, PHYS, ENVS, GEO, or ENSS	3.0 Credits in declared major: BIO, CHEM, MATH, PHYS, ENVS, GEO, or ENSS	3.0
Electives according to declared major	6.0 Liberal Studies electives according to declared major	5.0 Liberal Studies electives according to declared major	3.0
	Electives according to declared major	5.0 Electives according to declared major	6.0
	<b>12</b>	<b>13</b>	<b>12</b>

**Total Credits 180**

# Biological Sciences BS/ Biological Sciences MS

Major: *Biological Sciences*

Degree Awarded: *Bachelor of Science (BS) and Master of Science (MS)*

Calendar Type: *Quarter*

Total Credit Hours: *229.5*

Co-op Options: *One Co-op (Five years)*

Classification of Instructional Programs (CIP) code: *26.0101*

Standard Occupational Classification (SOC) code: *19-1029*

## About the Program

The Accelerated BS/MS in Biological Sciences is designed for academically qualified students who are looking to advance their learning in the discipline by earning both a bachelor's and graduate degree in 5 years. The BS/MS in Biological Sciences is a degree program with both thesis and non-thesis options available.

Requirements for the graduate portion of the program are the same as for the MS in Biological Sciences. The BS/MS program in Biological Sciences is a rigorous and challenging program that builds on a strong undergraduate foundation to allow students to engage in more extensive study of the discipline at a graduate level. Students applying to this program are often advanced in their plans of study, typically arriving with advanced placement credit when they matriculate.

## Eligibility

Exceptional students with a cumulative GPA of at least 3.5 and who are enrolled in the four-year or five-year co-op option are eligible for the BS/MS program. Students participating in co-op will need to be on the spring-summer cycle. Students formally apply to the program after they have completed 90.0 credits but before they have completed 120.0 credits. Students are strongly encouraged to begin planning for the program as early as their freshman year.

## Application Process

Prior to applying to the program, students are advised to meet with the respective advisor(s) in the department. The application must be accompanied by a Plan of Study prepared in consultation with the undergraduate and graduate advisors in the department. A brief statement of purpose indicating the applicant's academic and professional interest in pursuing the BS/MS degree is required. Applicants are then formally reviewed by the Biology Graduate Committee.

## Requirements

Students enrolled in the Accelerated BS/MS in Biological Sciences must complete 180.0 undergraduate quarter credits for the bachelor's degree and at least 45 graduate quarter credits for the master's degree. Courses may not be double-counted for both the BS and MS degree. All undergraduate and graduate course requirements must be satisfied in full, including producing a thesis (if the thesis-option master's program is elected) no later than the Spring Quarter of the final year. Students in the BS/MS program must maintain a cumulative GPA of 3.0 in their undergraduate and graduate coursework to remain in the program.

## Additional Information

If you are interested in applying for the BS/MS, please contact Biology Graduate Advisor Kate Pelusi at [kp475@drexel.edu](mailto:kp475@drexel.edu) and submit your current plan of study, along with your statement of purpose communicating your interest in pursuing the BS/MS degree.

## Admission Requirements

Exceptional students with a cumulative GPA of at least 3.5 and who are enrolled in the four-year or five-year co-op option are eligible for the BS/MS program. Students participating in co-op will need to be on the spring-summer cycle. Students formally apply to the program after they have completed 90.0 credits but before they have completed 120.0 credits. Students are strongly encouraged to begin planning for the program as early as their freshman year.

## Degree Requirements

### Requirements

#### Humanities and Social Sciences

CIVC 101	Introduction to Civic Engagement	1.0
COM 230	Techniques of Speaking	3.0
COM 310 [WI] or COM 320	Technical Communication Science Writing	3.0
COOP 101	Career Management and Professional Development *	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0

or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
PHIL 251	Ethics	3.0
or PHIL 321	Biomedical Ethics	
UNIV S101	The Drexel Experience	1.0
UNIV S201	Looking Forward: Academics and Careers	1.0
Humanities and Social Science Electives		9.0
Science, Technology, Health and Human Affairs Elective		3.0
<b>Mathematics and Statistics</b>		
Select one of the following sequences:		12.0
Intro to Analysis		
MATH 101 & MATH 102 & MATH 239	Introduction to Analysis I and Introduction to Analysis II and Mathematics for the Life Sciences	
Calculus		
MATH 121 & MATH 122 & MATH 123	Calculus I and Calculus II and Calculus III	
MATH 410	Scientific Data Analysis I	3.0
MATH 411	Scientific Data Analysis II	3.0
<b>Physical Sciences</b>		
BIO 311	Biochemistry	4.0
or CHEM 243	Organic Chemistry III	
CHEM 101	General Chemistry I	3.5
CHEM 102	General Chemistry II	4.5
CHEM 103	General Chemistry III	4.5
CHEM 241	Organic Chemistry I	4.0
CHEM 242	Organic Chemistry II	4.0
PHYS 152	Introductory Physics I	4.0
PHYS 153	Introductory Physics II	4.0
PHYS 154	Introductory Physics III	4.0
<b>Core Biology Courses</b>		
BIO 131	Cells and Biomolecules	4.0
BIO 134	Cells and Biomolecules Lab	1.0-2.0
or BIO 142	SEA-PHAGES I	
BIO 132	Genetics and Evolution	4.0
BIO 135	Genetics and Evolution Lab	1.0-2.0
or BIO 143	SEA-PHAGES II	
BIO 133	Physiology and Ecology	4.0
BIO 136	Anatomy and Ecology Lab	1.0-2.0
or BIO 144	SEA-PHAGES III	
BIO 207	Applications in Biology I	1.0
BIO 208	Applications in Biology II	1.0
BIO 209	Cell, Molecular & Developmental Biology I	4.0
BIO 211	Cell, Molecular & Developmental Biology II	4.0
BIO 219 [WI]	Techniques in Molecular Biology	3.0
BIO 224	Form, Function & Evolution of Vertebrates	4.0
BIO 225	Vertebrate Biology and Evolution Laboratory	2.0
BIO 471	Seminar in Biological Sciences	2.0
BIO 472	Seminar in Biological Sciences	2.0
BIO 473 [WI]	Seminar in Biological Sciences	2.0
ENVS 212	Evolution	4.0
<b>Concentration Courses</b>		<b>28.0-30.0</b>
Free electives		24.0
<b>MS Degree Courses</b>		<b>45.0</b>
<b>Total Credits</b>		<b>229.5-234.5</b>

- \* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major. COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

**Requirements for MS with Thesis**

BIO 500	Biochemistry I	3.0
BIO 632	Advanced Cell Biology	3.0
BIO 635	Advanced Genetics and Molecular Biology	3.0
BIO 997	Research in Bioscience	12.0
ENVS 506	Biostatistics	3.0
MS BIO Electives *		21.0
RCRG 600	An Introduction to the Responsible Conduct of Research	0.0
<b>Total Credits</b>		<b>45.0</b>

**Requirements for Non-thesis MS**

BIO 500	Biochemistry I	3.0
BIO 632	Advanced Cell Biology	3.0
BIO 635	Advanced Genetics and Molecular Biology	3.0
ENVS 506	Biostatistics	3.0
MS BIO Electives *		33.0
<b>Total Credits</b>		<b>45.0</b>

- \* BIO 534, BIO 535, BIO 610, BIO 613, BIO 614, BIO 615, BIO 616, BIO 620, BIO 630, BIO 644, BIO 646, BIO 650, BIO 661, BIO 662, BIO 663, BIO 664, BIO 701, BIO 740

Students select one of five concentration and fulfill the requirements, as outlined below.

## 1. The Cell/Molecular/Genetics/Biochemistry (CMGB) Concentration

This concentration provides exposure to several vital disciplines within Biology, and will prepare students for a diversity of careers in research, medicine, and industry. Students interested in tailoring their studies more specifically may follow the suggested "focus areas" when selecting their two CMGB Concentration electives.

**Cell/Molecular/Genetics/Biochemistry (CMGB) Concentration Requirements**

BIO 244 or BIO 444	Genetics I Human Genetics	3.0
BIO 314 or BIO 404 or BIO 416	Pharmacology Structure and Function of Biomolecules Biochemistry of Major Diseases	3.0
BIO 318 or BIO 430	Biology of Cancer Cell Biology of Disease	3.0
BIO 410	Advanced Molecular Biology	3.0

**Cell/Molecular/Genetics/Biochemistry (CMGB) Concentration Electives (See Lists Below)**

Two Cell/Molecular/Genetics/Biochemistry (CMGB) Electives (see list below)	6.0
Organismal/Physiology Elective (see list below)	3.0
Ecology/Evolution/Genomics Elective (see list below)	3.0

**Concentration Laboratory Courses**

Two Laboratory Electives (see list below)	4.0
<b>Total Credits</b>	<b>28.0</b>

- \* Students interested in pursuing a focus area in Neurobiology, Pharmaceuticals, Cell Biology, Biochemistry, Molecular Biology or Genetics should contact the academic advisor in the Biology Department for specific focus recommendations.

## Cell/Molecular/Genetics/Biochemistry (CMGB) Electives

BIO 244	Genetics I	3.0
BIO 285	Forensic Biology	3.0
BIO 311	Biochemistry	4.0
BIO 314	Pharmacology	3.0
BIO 318	Biology of Cancer	3.0
BIO 346	Stem Cell Research	3.0
BIO 348	Neuroscience: From Cells to Circuits	3.0
BIO 404	Structure and Function of Biomolecules	4.0

BIO 415	Proteins	3.0
BIO 416	Biochemistry of Major Diseases	3.0
BIO 421	Biomembranes	3.0
BIO 430	Cell Biology of Disease	3.0
BIO 433	Advanced Cell Biology	3.0
BIO 444	Human Genetics	3.0
BIO 447	Advanced Genetics and Molecular Biology	3.0
BIO 453	Protein Dysfunction in Disease	3.0
BIO 462	Biology of Neuron Function	3.0
BIO 463	Molecular Mechanisms of Neurodegeneration	3.0
BIO 465	Neurobiology of Disease	3.0
ENVS 326	Molecular Ecology	3.0
<b>Organismal/Physiology Electives</b>		
BIO 201	Human Physiology I	4.0
BIO 221	Microbiology	3.0
BIO 256	Vertebrate Morphology and Physiology	3.0
BIO 284	Biology of Stress	3.0
BIO 286	Forensic Toxicology	3.0
BIO 323	Parasitology	3.0
BIO 349	Behavioral Neuroscience	3.0
BIO 372	Histology	4.0
BIO 373	Developmental Biology	3.0
BIO 386	Gross Anatomy I	2.0
BIO 412	Biology of Aging	3.0
BIO 420	Virology	3.0
BIO 426	Immunology	3.0
BIO 461	Neurobiology of Autism Disorders	3.0
ENVS 254	Invertebrate Morphology and Physiology	3.0
ENVS 393	Entomology	3.0
<b>Ecology/Evolution/Genomics Electives</b>		
BIO 228	Evolutionary Biology & Human Health	3.0
BIO 331	Bioinformatics I	3.0
BIO 413	Genomics	3.0
BIO 436	Population Genetics	4.0
ENVS 230	General Ecology	3.0
ENVS 247	Native Plants and Sustainability	3.0
ENVS 323	Tropical Field Studies	3.0
ENVS 328	Conservation Biology	3.0
ENVS 333	Wetland Ecology	3.0
ENVS 343	Equatorial Guinea: Field Methods	3.0
ENVS 352	Ornithology	3.0
ENVS 354	Ichthyology	3.0
ENVS 355	Biogeography	3.0
ENVS 360	Evolutionary Developmental Biology	3.0
ENVS 364	Animal Behavior	3.0
ENVS 382	Field Botany of the New Jersey Pine Barrens	4.0
ENVS 383	Ecology of the New Jersey Pine Barrens	4.0
ENVS 391	Freshwater and Marine Algae	3.0
ENVS 470	Advanced Topics in Evolution	3.0
<b>Laboratory Electives</b>		
BIO 202	Human Physiology Laboratory	2.0
BIO 213	Drosophila Neural Research	3.0
BIO 215	Techniques in Cell Biology	3.0
BIO 222	Microbiology Laboratory	2.0
BIO 232	Discovering Antibiotics	3.0
BIO 257	Vertebrate Morphology & Physiology Lab	2.0
BIO 306	Biochemistry Laboratory	2.0
BIO 329	Dictyostelium Research	3.0
BIO 374	Developmental Biology Lab	2.0
BIO 387	Gross Anatomy I Laboratory	2.0
BIO 389	Gross Anatomy II Lab	2.0
BIO 497	Research	0.5-12.0

ENVS 255	Invertebrate Morphology and Physiology Lab	2.0
ENVS 344	Equatorial Guinea: Field Research	6.0
ENVS 353	Field Ornithology Lab	2.0
ENVS 394	Entomology Laboratory	2.0

## 2. The Organismal Biology/Physiology Concentration

This concentration combines courses in organismal biology and physiology with an opportunity to focus on human physiology. The concentration is designed to appeal to students interested in health and medicine, but also accommodates students seeking a wider breadth of knowledge in organismal diversity. Students can focus their electives in human physiology or can choose courses that study non-human organisms.

### Organismal Biology/Physiology Concentration Requirements

BIO 201	Human Physiology I	4.0
or ENVS 254	Invertebrate Morphology and Physiology	
BIO 203	Human Physiology II	4.0
or BIO 256	Vertebrate Morphology and Physiology	
BIO 373	Developmental Biology	3.0
Select one of the following:		
BIO 412	Biology of Aging	3.0
or BIO 284	Biology of Stress	
or BIO 466	Endocrinology	
or BIO 468	Pathophysiology	

### Organismal Biology/Physiology Concentration Concentration Electives (See List Below)

Cell/Molecular/Genetics/Biochemistry (CMGB) Elective	3.0
Two Organismal/Physiology Electives	6.0
Ecology/Evolution/Genomics Elective	3.0
<b>Concentration Laboratory Courses</b>	
Two Laboratory Electives	4.0

<b>Total Credits</b>	<b>30.0</b>
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\* Students interested in pursuing a focus area in Human Physiology or Organismal Biology should contact the academic advisor in the Biology Department for specific focus recommendations.

### \*Cell/Molecular/Genetics/Biochemistry (CMGB) electives

BIO 244	Genetics I	3.0
BIO 285	Forensic Biology	3.0
BIO 311	Biochemistry	4.0
BIO 314	Pharmacology	3.0
BIO 318	Biology of Cancer	3.0
BIO 346	Stem Cell Research	3.0
BIO 348	Neuroscience: From Cells to Circuits	3.0
BIO 404	Structure and Function of Biomolecules	4.0
BIO 410	Advanced Molecular Biology	3.0
BIO 416	Biochemistry of Major Diseases	3.0
BIO 430	Cell Biology of Disease	3.0
BIO 433	Advanced Cell Biology	3.0
BIO 444	Human Genetics	3.0
BIO 453	Protein Dysfunction in Disease	3.0
BIO 462	Biology of Neuron Function	3.0
BIO 463	Molecular Mechanisms of Neurodegeneration	3.0
ENVS 326	Molecular Ecology	3.0

### \*\*Organismal/Physiology electives

BIO 201	Human Physiology I	4.0
BIO 203	Human Physiology II	4.0
BIO 221	Microbiology	3.0
BIO 256	Vertebrate Morphology and Physiology	3.0
BIO 264	Ethnobotany	3.0
BIO 284	Biology of Stress	3.0
BIO 286	Forensic Toxicology	3.0
BIO 320	Microbial Pathogenesis	3.0
BIO 323	Parasitology	3.0
BIO 349	Behavioral Neuroscience	3.0



BIO 372	Histology	4.0
BIO 386	Gross Anatomy I	2.0
BIO 388	Gross Anatomy II	2.0
BIO 412	Biology of Aging	3.0
BIO 420	Virology	3.0
BIO 426	Immunology	3.0
BIO 435	Immunobiology of Disease	3.0
BIO 461	Neurobiology of Autism Disorders	3.0
BIO 466	Endocrinology	4.0
BIO 468	Pathophysiology	4.0
ENVS 254	Invertebrate Morphology and Physiology	3.0
ENVS 393	Entomology	3.0

**\*\*\* Ecology/Evolution/Genomics electives**

BIO 228	Evolutionary Biology & Human Health	3.0
BIO 331	Bioinformatics I	3.0
BIO 413	Genomics	3.0
BIO 436	Population Genetics	4.0
ENVS 230	General Ecology	3.0
ENVS 247	Native Plants and Sustainability	3.0
ENVS 323	Tropical Field Studies	3.0
ENVS 328	Conservation Biology	3.0
ENVS 333	Wetland Ecology	3.0
ENVS 343	Equatorial Guinea: Field Methods	3.0
ENVS 352	Ornithology	3.0
ENVS 354	Ichthyology	3.0
ENVS 355	Biogeography	3.0
ENVS 360	Evolutionary Developmental Biology	3.0
ENVS 364	Animal Behavior	3.0
ENVS 382	Field Botany of the New Jersey Pine Barrens	4.0
ENVS 383	Ecology of the New Jersey Pine Barrens	4.0
ENVS 388	Marine Field Methods	4.0
ENVS 391	Freshwater and Marine Algae	3.0
ENVS 438	Biodiversity	3.0
ENVS 470	Advanced Topics in Evolution	3.0

**+Laboratory electives**

BIO 202	Human Physiology Laboratory	2.0
BIO 213	Drosophila Neural Research	3.0
BIO 215	Techniques in Cell Biology	3.0
BIO 222	Microbiology Laboratory	2.0
BIO 232	Discovering Antibiotics	3.0
BIO 257	Vertebrate Morphology & Physiology Lab	2.0
BIO 306	Biochemistry Laboratory	2.0
BIO 329	Dictyostelium Research	3.0
BIO 333	Bioinformatics Laboratory	2.0
BIO 374	Developmental Biology Lab	2.0
BIO 387	Gross Anatomy I Laboratory	2.0
BIO 389	Gross Anatomy II Lab	2.0
ENVS 255	Invertebrate Morphology and Physiology Lab	2.0
ENVS 344	Equatorial Guinea: Field Research	6.0
ENVS 353	Field Ornithology Lab	2.0
ENVS 394	Entomology Laboratory	2.0

### 3. The Ecology/Evolution/Genomics Concentration

This concentration focuses on ecological and evolutionary aspects of biology for biology majors who also have specific interests in ecology, evolution or genomics. This concentration is designed to maintain a breadth of knowledge in biology, but also allows students to tailor their course work more specifically to reflect their specific area of interest.

**Ecology/Evolution/Genomics Concentration requirements**

BIO 228	Evolutionary Biology & Human Health	3.0
or BIO 331	Bioinformatics I	

BIO 436	Population Genetics	3.0-4.0
or ENVS 230	General Ecology	
ENVS 326	Molecular Ecology	3.0
Select one of the following:		3.0-5.0
BIO 221	Microbiology	
BIO 256	Vertebrate Morphology and Physiology	
BIO 323	Parasitology	
BIO 413	Genomics	
BIO 420	Virology	
ENVS 254	Invertebrate Morphology and Physiology	
ENVS 360	Evolutionary Developmental Biology	
ENVS 382	Field Botany of the New Jersey Pine Barrens	
ENVS 391	Freshwater and Marine Algae	
ENVS 393	Entomology	
ENVS 438	Biodiversity	
Ecology/Evolution/Genomics concentration electives		
Select one Cell/Molecular/Genetics/Biochemistry (CMGB) elective (see list below)		3.0
Select one Organismal/Physiology elective (see list below)		3.0
Select two Ecology/Evolution/Genomics electives (see list below)		6.0
<b>Concentration Laboratory Courses</b>		
Select two Laboratory electives (see list below)		4.0
<b>Total Credits</b>		<b>28.0-31.0</b>

\* Students interested in pursuing a focus area in Ecology, Evolutionary Biology or Genomics should contact the academic advisor in the Biology Department for specific focus recommendations.

#### Cell/Molecular/Genetics/Biochemistry (CMGB) electives

BIO 244	Genetics I	3.0
BIO 285	Forensic Biology	3.0
BIO 311	Biochemistry	4.0
BIO 314	Pharmacology	3.0
BIO 318	Biology of Cancer	3.0
BIO 346	Stem Cell Research	3.0
BIO 348	Neuroscience: From Cells to Circuits	3.0
BIO 404	Structure and Function of Biomolecules	4.0
BIO 410	Advanced Molecular Biology	3.0
BIO 415	Proteins	3.0
BIO 416	Biochemistry of Major Diseases	3.0
BIO 421	Biomembranes	3.0
BIO 430	Cell Biology of Disease	3.0
BIO 433	Advanced Cell Biology	3.0
BIO 444	Human Genetics	3.0
BIO 453	Protein Dysfunction in Disease	3.0
BIO 462	Biology of Neuron Function	3.0
BIO 463	Molecular Mechanisms of Neurodegeneration	3.0

#### Organismal/Physiology electives

BIO 201	Human Physiology I	4.0
BIO 221	Microbiology	3.0
BIO 256	Vertebrate Morphology and Physiology	3.0
BIO 264	Ethnobotany	3.0
BIO 284	Biology of Stress	3.0
BIO 286	Forensic Toxicology	3.0
BIO 323	Parasitology	3.0
BIO 349	Behavioral Neuroscience	3.0
BIO 372	Histology	4.0
BIO 373	Developmental Biology	3.0
BIO 386	Gross Anatomy I	2.0
BIO 388	Gross Anatomy II	2.0
BIO 412	Biology of Aging	3.0
BIO 420	Virology	3.0
BIO 426	Immunology	3.0

BIO 461	Neurobiology of Autism Disorders	3.0
ENVS 254	Invertebrate Morphology and Physiology	3.0
ENVS 393	Entomology	3.0
<b>Ecology/Evolution/Genomics electives</b>		
BIO 228	Evolutionary Biology & Human Health	3.0
BIO 331	Bioinformatics I	3.0
BIO 332	Bioinformatics II	3.0
BIO 413	Genomics	3.0
BIO 436	Population Genetics	4.0
ENVS 230	General Ecology	3.0
ENVS 247	Native Plants and Sustainability	3.0
ENVS 284	Physiological and Population Ecology	3.0
ENVS 286	Community and Ecosystem Ecology	3.0
ENVS 315	Plant Animal Interactions	3.0
ENVS 322	Tropical Ecology	3.0
ENVS 328	Conservation Biology	3.0
ENVS 330	Aquatic Ecology	3.0
ENVS 333	Wetland Ecology	3.0
ENVS 343	Equatorial Guinea: Field Methods	3.0
ENVS 352	Ornithology	3.0
ENVS 354	Ichthyology	3.0
ENVS 355	Biogeography	3.0
ENVS 360	Evolutionary Developmental Biology	3.0
ENVS 364	Animal Behavior	3.0
ENVS 382	Field Botany of the New Jersey Pine Barrens	4.0
ENVS 383	Ecology of the New Jersey Pine Barrens	4.0
ENVS 390	Marine Ecology	3.0
ENVS 391	Freshwater and Marine Algae	3.0
ENVS 410	Physiological Ecology	3.0
ENVS 412	Biophysical Ecology	3.0
ENVS 438	Biodiversity	3.0
ENVS 470	Advanced Topics in Evolution	3.0
<b>Laboratory electives</b>		
BIO 202	Human Physiology Laboratory	2.0
BIO 213	Drosophila Neural Research	3.0
BIO 215	Techniques in Cell Biology	3.0
BIO 222	Microbiology Laboratory	2.0
BIO 232	Discovering Antibiotics	3.0
BIO 257	Vertebrate Morphology & Physiology Lab	2.0
BIO 306	Biochemistry Laboratory	2.0
BIO 329	Dictyostelium Research	3.0
BIO 333	Bioinformatics Laboratory	2.0
BIO 374	Developmental Biology Lab	2.0
BIO 387	Gross Anatomy I Laboratory	2.0
BIO 389	Gross Anatomy II Lab	2.0
BIO 497	Research (by permission of the department)	0.5-12.0
ENVS 255	Invertebrate Morphology and Physiology Lab	2.0
ENVS 327	Molecular Ecology Laboratory	2.0
ENVS 344	Equatorial Guinea: Field Research	6.0
ENVS 353	Field Ornithology Lab	2.0
ENVS 382	Field Botany of the New Jersey Pine Barrens	4.0
ENVS 383	Ecology of the New Jersey Pine Barrens	4.0
ENVS 388	Marine Field Methods	4.0
ENVS 394	Entomology Laboratory	2.0

#### 4. The Pathobiology Concentration

The Pathobiology concentration focuses on pathogenesis, and provides a unique option for students that differs from the more traditional disciplines in cell/molecular/genetics/biochemistry. This concentration is designed to appeal to students with an interest in pursuing careers in areas of public and allied health.

BIO 221	Microbiology	3.0
BIO 320	Microbial Pathogenesis	3.0
BIO 323	Parasitology	3.0
or BIO 420	Virology	
or BIO 435	Immunobiology of Disease	
BIO 426	Immunology	3.0
Select one Cell/Molecular/Genetics/Biochemistry (CMGB) elective (see list below)		3.0
Select two Organismal/Physiology electives (see list below)		6.0
Select one Evolutionary Bio/Ecology elective (see list below)		3.0
Concentration Laboratory Courses		
Two Laboratory electives (see list below)		4.0
<b>Total Credits</b>		<b>28.0</b>

**Cell/Molecular/Genetics/Biochemistry (CMGB) electives**

BIO 244	Genetics I	3.0
BIO 285	Forensic Biology	3.0
BIO 311	Biochemistry	4.0
BIO 314	Pharmacology	3.0
BIO 318	Biology of Cancer	3.0
BIO 346	Stem Cell Research	3.0
BIO 348	Neuroscience: From Cells to Circuits	3.0
BIO 404	Structure and Function of Biomolecules	4.0
BIO 410	Advanced Molecular Biology	3.0
BIO 415	Proteins	3.0
BIO 416	Biochemistry of Major Diseases	3.0
BIO 421	Biomembranes	3.0
BIO 430	Cell Biology of Disease	3.0
BIO 433	Advanced Cell Biology	3.0
BIO 444	Human Genetics	3.0
BIO 453	Protein Dysfunction in Disease	3.0
BIO 462	Biology of Neuron Function	3.0
BIO 463	Molecular Mechanisms of Neurodegeneration	3.0
ENVS 326	Molecular Ecology	3.0

**Organismal/Physiology electives**

BIO 201	Human Physiology I	4.0
BIO 203	Human Physiology II	4.0
BIO 221	Microbiology	3.0
BIO 256	Vertebrate Morphology and Physiology	3.0
BIO 284	Biology of Stress	3.0
BIO 286	Forensic Toxicology	3.0
BIO 323	Parasitology	3.0
BIO 349	Behavioral Neuroscience	3.0
BIO 372	Histology	4.0
BIO 373	Developmental Biology	3.0
BIO 386	Gross Anatomy I	2.0
BIO 388	Gross Anatomy II	2.0
BIO 412	Biology of Aging	3.0
BIO 420	Virology	3.0
BIO 435	Immunobiology of Disease	3.0
BIO 461	Neurobiology of Autism Disorders	3.0
BIO 466	Endocrinology	4.0
BIO 468	Pathophysiology	4.0
ENVS 254	Invertebrate Morphology and Physiology	3.0

**Ecology/Evolution/Genomics electives**

BIO 228	Evolutionary Biology & Human Health	3.0
BIO 331	Bioinformatics I	3.0
BIO 413	Genomics	3.0
BIO 436	Population Genetics	4.0
ENVS 230	General Ecology	3.0
ENVS 247	Native Plants and Sustainability	3.0

ENVS 323	Tropical Field Studies	3.0
ENVS 328	Conservation Biology	3.0
ENVS 333	Wetland Ecology	3.0
ENVS 343	Equatorial Guinea: Field Methods	3.0
ENVS 352	Ornithology	3.0
ENVS 354	Ichthyology	3.0
ENVS 355	Biogeography	3.0
ENVS 360	Evolutionary Developmental Biology	3.0
ENVS 364	Animal Behavior	3.0
ENVS 382	Field Botany of the New Jersey Pine Barrens	4.0
ENVS 383	Ecology of the New Jersey Pine Barrens	4.0
ENVS 391	Freshwater and Marine Algae	3.0
ENVS 438	Biodiversity	3.0
ENVS 470	Advanced Topics in Evolution	3.0

**Laboratory electives**

BIO 202	Human Physiology Laboratory	2.0
BIO 213	Drosophila Neural Research	3.0
BIO 215	Techniques in Cell Biology	3.0
BIO 222	Microbiology Laboratory	2.0
BIO 232	Discovering Antibiotics	3.0
BIO 257	Vertebrate Morphology & Physiology Lab	2.0
BIO 306	Biochemistry Laboratory	2.0
BIO 329	Dictyostelium Research	3.0
BIO 333	Bioinformatics Laboratory	2.0
BIO 374	Developmental Biology Lab	2.0
BIO 387	Gross Anatomy I Laboratory	2.0
BIO 389	Gross Anatomy II Lab	2.0
BIO 497	Research (by permission of the department)	0.5-12.0
ENVS 255	Invertebrate Morphology and Physiology Lab	2.0
ENVS 344	Equatorial Guinea: Field Research	6.0
ENVS 353	Field Ornithology Lab	2.0

## 5. The General Biology Concentration

This concentration will allow maximum flexibility for students who want to develop their own unique plan of study. The concentration is designed for students who may not have one specific area of interest, but who are looking to be well-rounded in the biological sciences. Students pursuing careers in education, where a wider breadth of knowledge in biology is desirable, may choose to select this concentration.

<b>General Biology Concentration Electives</b>	<b>24.0</b>
2 or 3 Cell/Molecular/Genetics/Biochemistry (CMGB) electives (see list below)	
2 or 3 Organismal/Physiology electives (see list below)	
2 or 3 Ecology/Evolution/Genomics electives (see list below)	
<b>Concentration Laboratory Courses</b>	
Two Laboratory electives (see list below)	4.0
<b>Total Credits</b>	<b>28.0</b>

**Cell/Molecular/Genetics/Biochemistry (CMGB) electives**

BIO 244	Genetics I	3.0
BIO 285	Forensic Biology	3.0
BIO 311	Biochemistry	4.0
BIO 314	Pharmacology	3.0
BIO 318	Biology of Cancer	3.0
BIO 331	Bioinformatics I	3.0
BIO 332	Bioinformatics II	3.0
BIO 346	Stem Cell Research	3.0
BIO 348	Neuroscience: From Cells to Circuits	3.0
BIO 404	Structure and Function of Biomolecules	4.0
BIO 413	Genomics	3.0
BIO 415	Proteins	3.0
BIO 421	Biomembranes	3.0
BIO 430	Cell Biology of Disease	3.0
BIO 433	Advanced Cell Biology	3.0

BIO 444	Human Genetics	3.0
BIO 447	Advanced Genetics and Molecular Biology	3.0
BIO 453	Protein Dysfunction in Disease	3.0
BIO 462	Biology of Neuron Function	3.0
BIO 465	Neurobiology of Disease	3.0
ENVS 326	Molecular Ecology	3.0

**Organismal/Physiology electives**

BIO 201	Human Physiology I	4.0
BIO 203	Human Physiology II	4.0
BIO 221	Microbiology	3.0
BIO 256	Vertebrate Morphology and Physiology	3.0
BIO 264	Ethnobotany	3.0
BIO 284	Biology of Stress	3.0
BIO 286	Forensic Toxicology	3.0
BIO 320	Microbial Pathogenesis	3.0
BIO 323	Parasitology	3.0
BIO 349	Behavioral Neuroscience	3.0
BIO 372	Histology	4.0
BIO 373	Developmental Biology	3.0
BIO 386	Gross Anatomy I	2.0
BIO 388	Gross Anatomy II	2.0
BIO 412	Biology of Aging	3.0
BIO 420	Virology	3.0
BIO 426	Immunology	3.0
BIO 435	Immunobiology of Disease	3.0
BIO 461	Neurobiology of Autism Disorders	3.0
BIO 466	Endocrinology	4.0
BIO 468	Pathophysiology	4.0
ENVS 254	Invertebrate Morphology and Physiology	3.0
ENVS 393	Entomology	3.0

**Ecology/Evolution/Genomics electives**

BIO 228	Evolutionary Biology & Human Health	3.0
BIO 331	Bioinformatics I	3.0
BIO 332	Bioinformatics II	3.0
BIO 413	Genomics	3.0
ENVS 230	General Ecology	3.0
ENVS 247	Native Plants and Sustainability	3.0
ENVS 284	Physiological and Population Ecology	3.0
ENVS 286	Community and Ecosystem Ecology	3.0
ENVS 315	Plant Animal Interactions	3.0
ENVS 322	Tropical Ecology	3.0
ENVS 323	Tropical Field Studies	3.0
ENVS 328	Conservation Biology	3.0
ENVS 330	Aquatic Ecology	3.0
ENVS 333	Wetland Ecology	3.0
ENVS 343	Equatorial Guinea: Field Methods	3.0
ENVS 352	Ornithology	3.0
ENVS 354	Ichthyology	3.0
ENVS 355	Biogeography	3.0
ENVS 360	Evolutionary Developmental Biology	3.0
ENVS 364	Animal Behavior	3.0
ENVS 382	Field Botany of the New Jersey Pine Barrens	4.0
ENVS 383	Ecology of the New Jersey Pine Barrens	4.0
ENVS 388	Marine Field Methods	4.0
ENVS 390	Marine Ecology	3.0
ENVS 391	Freshwater and Marine Algae	3.0
ENVS 410	Physiological Ecology	3.0
ENVS 412	Biophysical Ecology	3.0
ENVS 438	Biodiversity	3.0
ENVS 470	Advanced Topics in Evolution	3.0

**Laboratory electives**

BIO 202	Human Physiology Laboratory	2.0
BIO 213	Drosophila Neural Research	3.0
BIO 215	Techniques in Cell Biology	3.0
BIO 222	Microbiology Laboratory	2.0
BIO 232	Discovering Antibiotics	3.0
BIO 257	Vertebrate Morphology & Physiology Lab	2.0
BIO 306	Biochemistry Laboratory	2.0
BIO 329	Dictyostelium Research	3.0
BIO 333	Bioinformatics Laboratory	2.0
BIO 374	Developmental Biology Lab	2.0
BIO 387	Gross Anatomy I Laboratory	2.0
BIO 389	Gross Anatomy II Lab	2.0
BIO 497	Research (by permission of the department)	0.5-12.0
ENVS 255	Invertebrate Morphology and Physiology Lab	2.0
ENVS 327	Molecular Ecology Laboratory	2.0
ENVS 344	Equatorial Guinea: Field Research	6.0
ENVS 353	Field Ornithology Lab	2.0
ENVS 382	Field Botany of the New Jersey Pine Barrens	4.0
ENVS 383	Ecology of the New Jersey Pine Barrens	4.0
ENVS 388	Marine Field Methods	4.0
ENVS 394	Entomology Laboratory	2.0

**Note** about laboratory credits: ENVS 382 and ENVS 388 have both a lecture and laboratory component.

**Sample Plan of Study****5 years, 1 co-op****First Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
BIO 131	4.0 BIO 132	4.0 BIO 133	4.0 VACATION	
BIO 134	1.0 BIO 135	1.0 BIO 136	1.0	
CHEM 101	3.5 CHEM 102	4.5 CHEM 103	4.5	
ENGL 101	3.0 CIVC 101	1.0 COOP 101*	1.0	
MATH 101 or 121	4.0 ENGL 102	3.0 ENGL 103	3.0	
UNIV S101	1.0 MATH 102 or 122	4.0 MATH 239 or 123	4.0	
	<b>16.5</b>	<b>17.5</b>	<b>17.5</b>	<b>0</b>

**Second Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
BIO 207	1.0 BIO 208	1.0 BIO 311	4.0 BIO 224	4.0
BIO 209	4.0 BIO 211	4.0 ENVS 212	4.0 BIO 225	2.0
BIO 219	3.0 CHEM 242	4.0 PHIL 251	3.0 (UG) BIO/ENVS Elective	3.0
CHEM 241	4.0 PHYS 153	4.0 PHYS 154	4.0 (UG) Humanities/Social Science Elective	3.0
PHYS 152	4.0 UNIV S201	1.0 (UG) Free elective	3.0 (UG) Sci/Tech/Human Affairs Elective	3.0
	(UG) Biology Lab Requirement	2.0		
	<b>16</b>	<b>16</b>	<b>18</b>	<b>15</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 230	3.0 COM 310	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
MATH 410	3.0 MATH 411	3.0 (GR) Graduate Elective	3.0 (GR) Graduate Elective	3.0
(UG) BIO/ENVS Elective	3.0 (UG) BIO/ENVS Elective	3.0		
(UG) Free Electives	6.0 (UG) Biology Lab Requirement	2.0		
	(UG) Free Elective	3.0		
	<b>15</b>	<b>14</b>	<b>3</b>	<b>3</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
BIO 471	2.0 BIO 472	2.0 BIO 473	2.0 Student Classified as Graduate	
(UG) BIO/ENVS Electives	6.0 (UG) BIO/ENVS Electives	6.0 (UG) BIO/ENVS Elective	3.0	
(UG) Free Elective	4.0 (UG) Free Elective	3.0 (UG) Free Electives	5.0	
BIO 500	3.0 (UG) Humanities/Social Science Elective	3.0 (UG) Humanities/Social Science Elective	3.0	
BIO 540 (or (GR) Graduate Elective)**	3.0 BIO 635	3.0 Student graduates with BS Degree		
	RCRG 600**	0.0 BIO 632	3.0	
	<b>18</b>	<b>17</b>	<b>16</b>	<b>0</b>

**Fifth Year**

Fall	Credits Winter	Credits Spring	Credits
BIO 601 (or (GR) Graduate Elective)**	3.0 BIO 997 (or (GR) Graduate Elective)	3.0 ENVS 506	3.0
(GR) Graduate Electives	6.0 (GR) Graduate Elective	6.0 (GR) Graduate Electives	6.0
	<b>9</b>	<b>9</b>	<b>9</b>

**Total Credits 229.5**

\* COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

\*\* This course is for thesis students only.

## Chemistry BS / Chemistry MS

Major: Chemistry

Degree Awarded: Bachelor of Science (BS) and Master of Science (MS)

Calendar Type: Quarter

Total Credit Hours: 226.0

Co-op Options: Three Co-op (Five years)

Classification of Instructional Programs (CIP) code: 40.0501

Standard Occupational Classification (SOC) code: 19-2031

### About the Program

The Accelerated Bachelor's/Master's (BS + MS) in Chemistry provides academically qualified students with the opportunity to earn both a bachelor's and master's degree in five years, which is the time normally required to finish the co-op option bachelor's degree alone.

### Eligibility

Exceptional students with a cumulative GPA of at least 3.0 and who are enrolled in the five-year co-op option are eligible for the BS + MS program. Students formally apply to the program after they have completed 90.0 credits but before they have completed 120.0 credits. Students are strongly encouraged to begin planning for the program as early as their freshman year. Students who have more than 120.0 credits are not eligible.

Transfer students are eligible to join the BS + MS program, but they must be able to complete the program in the time it would take to complete the BS degree alone. International transfer students must be able to meet the required minimum TOEFL score for the department graduate program (currently 550) in order to be admitted to the BS + MS program.

### Application Process

Students need to formally apply to the accelerated chemistry program. Applications are available in the Office of Graduate Admissions or in the College of Arts and Sciences advisor's office. Applications must be accompanied by a plan of study prepared in consultation with the undergraduate and graduate advisor in the department, and must be officially approved by both the department head and the dean.

### Additional Information

For more information, contact:

Daniel King, PhD  
Undergraduate Affairs Committee Chair  
Department of Chemistry  
Drexel University



dk68@drexel.edu

## Admission Requirements

Students enrolled in the Accelerated BS + MS in Chemistry must complete 180.0 undergraduate quarter credits for the bachelor's degree and at least 45.0 graduate quarter credits for the master's degree. All graduate departmental requirements must be satisfied in full, including producing a thesis, if the thesis-option master's program is elected. Master's thesis requirements must be completed no later than the spring quarter of the final year. Students in the BS + MS program must maintain a cumulative GPA of 3.0 in their undergraduate and graduate coursework to remain in the program.

Exceptional students with a cumulative GPA of at least 3.0 and who are enrolled in the five-year co-op option are eligible for the BS + MS program. Students formally apply to the program after they have completed 90.0 credits but before they have completed 120.0 credits. Students are strongly encouraged to begin planning for the program as early as their freshman year. Students who have more than 120.0 credits are not eligible.

## BS/MS Requirements

Students enrolled in the BS/MS dual degree program must complete 180-181 undergraduate quarter credits for the BS degree and at least 45.0 graduate quarter credits for the MS degree. All graduate departmental requirements must be satisfied in full, including producing a thesis, if the thesis-option master's program is elected. Master's thesis requirements may be completed in the summer term of the final year with prior approval of the department. Students in the BS/MS program must maintain a cumulative GPA of 3.0 in their undergraduate and graduate coursework to remain in the program. Further questions about the BS/MS degree program should be directed to the departmental graduate advisor.

## Degree Requirements

### General Education Requirements - BS

CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development *	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
UNIV S101	The Drexel Experience	1.0
UNIV S201	Looking Forward: Academics and Careers	1.0
Technical electives **		6.0
Liberal Studies electives **		6.0

### Chemistry Requirements \*\*\*

CHEM 121	Majors Chemistry I	5.0
CHEM 122	Majors Chemistry II	5.0
CHEM 123	Majors Chemistry III	5.5
CHEM 230	Quantitative Analysis	4.0
CHEM 231 [WI]	Quantitative Analysis Laboratory	2.0
CHEM 246	Organic Chemistry for Majors I	6.5
CHEM 248	Organic Chemistry for Majors II	6.5
CHEM 249	Organic Chemistry for Majors III	7.0
CHEM 253	Thermodynamics and Kinetics	4.0
CHEM 270	Software Skills for Chemists	3.0
CHEM 346	Qualitative Organic Chemistry	5.5
CHEM 355	Physical Chemistry IV	3.0
CHEM 357 [WI]	Physical Chemistry Laboratory I	2.5
CHEM 358	Physical Chemistry Laboratory II	2.5
CHEM 359	Atomic and Molecular Spectroscopy	3.0
CHEM 420	Molecular Symmetry and Group Theory Applied Chemistry	3.0
CHEM 421	Inorganic Chemistry I	3.0
CHEM 422	Inorganic Chemistry II	3.0
CHEM 425	Inorganic Chemistry Laboratory	4.0
CHEM 430	Analytical Chemistry I	3.0
CHEM 431 [WI]	Analytical Chemistry II	4.0
CHEM 493	Senior Research Project	3.0
6.0 credits of CHEM 493 are satisfied by 6.0 credits of CHEM 997 as shared coursework		

### Biology Requirements

BIO 131	Cells and Biomolecules	4.0
BIO 134	Cells and Biomolecules Lab	1.0

BIO 214	Principles of Cell Biology	4.0
<b>Biochemistry Requirements †</b>		
BIO 306	Biochemistry Laboratory	2.0
BIO 311	Biochemistry	3.0-4.0
or BIO 404	Structure and Function of Biomolecules	
or CHEM 371	Chemistry of Biomolecules	
<b>Computer/Mathematics Requirements</b>		
MATH 121	Calculus I	4.0
MATH 122	Calculus II	4.0
MATH 123	Calculus III	4.0
MATH 200	Multivariate Calculus	4.0
MATH 201	Linear Algebra	4.0
or MATH 210	Differential Equations	
<b>Physics Requirements</b>		
PHYS 101	Fundamentals of Physics I	4.0
PHYS 102	Fundamentals of Physics II	4.0
PHYS 201	Fundamentals of Physics III	4.0
<b>Free Electives</b>		<b>21.0</b>
<b>MS Major Sequence</b>		<b>9.0</b>
Select one of the following sequences:		
<b>Inorganic Chemistry</b>		
CHEM 521	Inorganic Chemistry I	
CHEM 522	Inorganic Chemistry II	
CHEM 523	Inorganic Chemistry III	
<b>Analytical Chemistry</b>		
CHEM 530	Analytical Chemistry I	
CHEM 531	Analytical Chemistry II	
CHEM 755	Mass Spectrometry	
<b>Organic Chemistry</b>		
CHEM 541	Organic Chemistry I	
CHEM 542	Organic Chemistry II	
CHEM 543	Organic Chemistry III	
<b>Physical Chemistry ††</b>		
CHEM 555	Quantum Chemistry Of Molecules I	
CHEM 557	Physical Chemistry I	
CHEM 558	Physical Chemistry II	
<b>Polymer Chemistry</b>		
CHEM 561	Polymer Chemistry I	
CHEM 562	Polymer Chemistry II	
CHEM 563	Polymer Chemistry III	
Additional Sequence Courses		12.0
CHEM 767	Chemical Information Retrieval	3.0
CHEM 367 is satisfied by CHEM 767 as shared coursework		
CHEM 865	Chemistry Research Seminar	3.0
Electives ‡		18.0
<b>Total Credits</b>		<b>225.0-226.0</b>

\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

\*\* Technical electives are defined as 200+ level courses from Science, Mathematics, Business, Engineering or Information Studies. Liberal studies electives are defined as courses (at any level) from all other areas.

\*\*\* If the GR equivalent of any UG course(s) is taken (e.g., CHEM 555 instead of CHEM 355, CHEM 521 instead of CHEM 421), the UG course(s) in the plan of study must be replaced with a technical elective.

† The American Chemical Society requires ACS-certified students to take a specified number of biochemistry courses. To fulfill this requirement in the BS curriculum, students should take a combination of one lecture and one lab course from the choice of: BIO 311, BIO 306, BIO 404, or CHEM 371 to fulfill the biochemistry requirement. Students may also choose to take the two lecture courses (BIO 311, BIO 404, or CHEM 371) rather than a lecture/laboratory combination.

†† Every course can be replaced by CHEM 554 or CHEM 752.

‡ The remaining 18.0 credits may be satisfied by any graduate Chemistry courses. Students may take one graduate-level course during applicable co-op terms. In some cases, course substitutions may be made with courses from other departments. Elective courses taken outside the department must receive prior departmental approval in order to be counted toward the degree. It is recommended that students take 7.0 credits of CHEM 997 as part of the 18.0 elective credits.

## Sample Plan of Study

### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
BIO 131	4.0 CHEM 122	5.0 CHEM 123	5.5 VACATION	
BIO 134	1.0 CIVC 101	1.0 COOP 101 <sup>†</sup>	1.0	
CHEM 121	5.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
ENGL 101 or 111	3.0 MATH 122	4.0 MATH 123	4.0	
MATH 121	4.0 PHYS 101	4.0 PHYS 102	4.0	
UNIV S101	1.0			
	<b>18</b>	<b>17</b>	<b>17.5</b>	<b>0</b>

### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CHEM 230 & CHEM 231	6.0 CHEM 248	6.5 COOP EXPERIENCE	COOP EXPERIENCE	
CHEM 246	6.5 MATH 200	4.0		
PHYS 201	4.0 (UG) Technical elective**	3.0		
(UG) Free elective	3.0 (UG) Liberal Studies elective	3.0		
	<b>19.5</b>	<b>16.5</b>	<b>0</b>	<b>0</b>

### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
BIO 214	4.0 CHEM 270	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
CHEM 249	7.0 CHEM 357	2.5		
CHEM 253	4.0 MATH 210	4.0		
(UG) Free elective	3.0 (UG) Liberal Studies elective	3.0		
	CHEM 532 or 562 <sup>†</sup>	3.0		
	CHEM 865	3.0		
	(GR) Graduate CHEM course <sup>†</sup>	1.0		
	<b>18</b>	<b>19.5</b>	<b>0</b>	<b>0</b>

### Fourth Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CHEM 355	3.0 BIO 306	2.0 COOP EXPERIENCE	COOP EXPERIENCE	
CHEM 421	3.0 CHEM 359	3.0		
CHEM 430	3.0 CHEM 420	3.0		
CHEM 493	1.0 CHEM 431	4.0		
UNIV S201	1.0 CHEM 522, 531, 542, 558, or 562 <sup>†</sup>	3.0		
(UG) Free elective	3.0 (GR) Graduate CHEM course <sup>†</sup>	5.0		
CHEM 521, 530, 541, 557, or 561 <sup>†</sup>	3.0			
CHEM 767	3.0			
	<b>20</b>	<b>20</b>	<b>0</b>	<b>0</b>

### Fifth Year

Fall	Credits Winter	Credits Spring	Credits
BIO 311 or 404 <sup>***</sup>	4.0 (UG) Technical elective	3.0 CHEM 422	3.0
CHEM 346	5.5 (UG) Free electives	9.0 CHEM 425	4.0
CHEM 358	2.5 (GR) Graduate CHEM courses <sup>†</sup>	8.0 CHEM 493	2.0
(GR) Graduate CHEM courses <sup>†</sup>	8.0	(UG) Free elective	3.0
		CHEM 523, 755, 543, 555, or 563 <sup>†</sup>	3.0

	(GR) Graduate CHEM course <sup>†</sup>	5.0
20	20	20

Total Credits 226

- \* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major. COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.
- \*\* Technical electives are defined as 200+ level courses from Science, Mathematics, Business, Engineering or Information Studies. Liberal studies electives are defined as courses (at any level) from all other areas.
- \*\*\* *Biochemistry Requirement:* The American Chemical Society requires ACS-certified students to take a specified number of biochemistry courses. To fulfill this requirement in the BS curriculum, you should take a combination of one lecture and one lab course from the choice of: BIO 311, BIO 306, BIO 404 or CHEM 371 to fulfill the biochemistry requirement. Students may also choose to take the two lecture courses (BIO 404, BIO 311 or CHEM 371) rather than a lecture/laboratory combination.
- † Students must complete three courses in one of the major areas: Analytical, Inorganic, Organic, Physical, or Polymer Chemistry. For the Physical Chemistry major area, CHEM 554 or CHEM 752 can replace CHEM 557, CHEM 558 or CHEM 555.
- ‡ SUGGESTED OPTIONS: major area electives and non-major area electives not previously taken, CHEM 997 (up to 9.0 credits). At least one sequence course from each of the major areas, a total of 12.0 credits, should be completed as part of the required CHEM electives.

## Co-op/Career Opportunities

Opportunities for Chemistry majors include working in research and development in corporate and government laboratories in the chemical, pharmaceutical, and agricultural (e.g., U.S. Department of Agriculture) sectors. There is a remarkably high concentration of chemical and pharmaceutical companies in the Philadelphia region. Other options include entering medical, dental, law, or other professional schools. The major in Chemistry is sufficiently flexible to allow students to prepare to teach at the secondary level. With proper selection of electives, students can meet teacher certification requirements.

## Sample Co-op Opportunities

A five-year co-op degree is offered. When students complete their co-op jobs, they are asked to write an overview of their experiences. These brief quotes are taken from some recent student reports:

*Assistant chemist, pharmaceuticals manufacturer:* "My position involved the synthesis and characterization of target compounds in the endothelium project. Involved the development of synthetic routes to the prescribed target. This would include the investigation of reactions which were going to be used...the position was very independent...great working environment."

*Co-op chemist, petroleum refiner:* "Performed synthesis of ligands and metal complexes. Operated FT-IR spectrometer for sample analysis. Submitted samples for analysis by mass spectrometer and NMR...The position allowed me to develop the skills necessary for independent research in organic synthesis."

*Assistant lab technician, pharmaceuticals manufacturer:* "I was an assistant technician in a mass spectrometry lab...I was responsible for the development of SDS-gel electrophoresis techniques for gels and gel membranes...I developed the methods independently and my employer encouraged me to be an expert on the technique and explore any method I found that would benefit the lab."

Visit the Drexel Steinbright Career Development Center (<http://www.drexel.edu/scdc/>) page for more detailed information on co-op and post-graduate opportunities.

## Facilities

There are nine undergraduate teaching laboratories in the department: three Freshman Chemistry labs, three Organic Chemistry labs, a Physical Chemistry lab, an Analytical Instrumentation Laboratory, and a combined Analytical/Inorganic Chemistry lab.

### Mass Spectrometry Laboratory

The department maintains a professionally staffed mass spectrometry facility available to all members of the university community. Currently available instrumentation consists of a Waters Autospec M high resolution magnetic-sector mass spectrometer, a Bruker Autoflex III MALDI Time-of-Flight Mass Spectrometer, a Thermo LTQ-FT Fourier Transform Mass Spectrometer, a Sciex API-3000 triple-quadrupole mass spectrometer, and a Varian Saturn 2000 Gas Chromatograph/Ion-trap mass spectrometer system.

### Nuclear Magnetic Resonance Laboratory

The professionally staffed Chemistry department NMR facility is equipped with 300MHz and 500MHz Varian Unity INNOVA NMR systems; both instruments have multi-nuclear capability. The probe on the 500MHz instrument is a cryogenically cooled triple resonance model (1H {13C/15N}) suitable for protein analysis. A Varian X-band 12" EPR spectrometer is also available.

*Analytical Instrumentation Laboratory*

The open-access departmental Analytical Instrumentation Laboratory includes two Perkin-Elmer (PE) Spectrum One Fourier-transform infrared absorption spectrometers each with a universal diamond ATR accessory, a PE Lambda-35 UV/visible spectrometer, a PE Lambda-950 UV/visible/NIR spectrometer with a 60-mm-diameter diffuse reflectance integrating sphere, a PE model 343 polarimeter, a PE LS55B luminescence spectrometer, a PE Clarus 500 capillary-column GC with dual FID detectors, a Clarus 500 capillary-column GC/MS system (with electron impact capability), a PE Series 200 Quaternary HPLC development system with UV/visible photodiode array detector, a PE Series 200 binary HPLC system interfaced to a Sciex 2000 triple-quadrupole mass spectrometer, a PE Series 2000 binary Gel Permeation Chromatography system with refractive index detector, and a Varian AA240FS flame atomic absorption spectrometer equipped with a GTA 120 Graphite Furnace Accessory.

*Organic Instrumentation Laboratory*

The Organic Instrumentation Laboratory (co-located with the organic synthesis teaching laboratories in the Papdakis Integrated Sciences Building) is equipped with two Perkin-Elmer (PE) Spectrum Two Fourier-transform infrared absorption spectrometers each with a universal diamond ATR accessory, a PE Clarus 500 capillary-column GC with one FID and one TCD detector, and an Anasazi EFT-90 FT-NMR system.

*Other Departmental Facilities*

The department has a VEECO INNOVA N3 Multimode Scanning Probe Microscope and also maintains a computational chemistry laboratory equipped with nine Dell Optiplex 790 computers running Hyperchem v 8.0. Research laboratories for each of the department faculty members are located in Disque and Stratton Halls. Instrumentation available in the research laboratories is described on individual faculty web pages. Full-time professional support includes two electronic instrument specialists (for NMR and MS- Chemistry department), two electronics specialists (College of Arts & Sciences Electronics Shop), and four machinists (Drexel University Machine Shop).

**Chemistry Faculty**

Reza Farasat, PhD (*University of Alabama*). Assistant Teaching Professor. Modification of polymers for diverse applications; utilizing Thermoanalysis techniques to study polymeric and non-polymeric materials; nanotechnology; applying Multi-detector Size Exclusion Chromatography for characterization of polymers; creating composites to improve materials' properties.

Fraser Fleming, PhD (*University of British Columbia (Canada)*). Professor. Nitriles, Isonitriles, Stereochemistry, Organometallics

Joe P. Foley, PhD (*University of Florida*) *Department Head*. Professor. Separation science, especially the fundamentals and biomedical/pharmaceutical applications of the following voltage- or pressure-driven separation techniques: capillary electrophoresis (CE), electrokinetic chromatography, supercritical fluid chromatography, and high-performance and two-dimensional liquid chromatography (LC). Within these techniques, we explore novel separation modes (e.g., dual-opposite-injection CE and sequential elution LC), novel surfactant aggregate pseudophases, and chiral separations.

Lee Hoffman, PhD (*Flinders University, Adelaide, South Australia*). Assistant Teaching Professor. Interfacial studies on the self-assembly of natural organic materials, understanding the nature of each component, and development of a mechanism describing this process; Dendrimer/metal nanocomposite design and synthesis hosting metal nanoparticles, utilizing the multivalent dendritic polymer architecture for further exploitation with other molecules such as antibodies and other targeting species.

Monica Ilies, PhD (*Polytechnic University of Bucharest*). Associate Teaching Professor. Bioorganic chemistry and chemical biology; bioinorganic chemistry and biochemistry.

Haifeng Frank Ji, PhD (*Chinese Academy of Sciences*). Professor. Micromechanical sensors for biological and environmental applications; Nanomechanical drug screening technology.

Daniel B. King, PhD (*University of Miami*). Associate Professor. Assessment of active learning methods and technology in chemistry courses; incorporation of environmental data into chemistry classroom modules; development of hands-on activities and laboratory experiments.

Jamie Ludwig, PhD (*UT Southwestern Medical Center*). Discovery and optimization of biocatalytic transformations for use inorganic synthesis.

Dionicio Martinez-Solario, PhD (*University of Alabama*). Assistant Professor. Total synthesis of complex biologically active natural products serving as inspirational platforms for the discovery and development of new reactions and synthetic methods.

Craig McClure, PhD (*University of Michigan*). Associate Teaching Professor. Promotion of quantitative literacy in introductory courses; development of guided inquiry activities for introductory chemistry; outreach programs in STEM fields.

Kevin G. Owens, PhD (*Indiana University*). Associate Professor. Mass spectrometry research, including the development of sample preparation techniques for quantitative analysis and mass spectrometric imaging using matrix-assisted laser desorption/ionization (MALDI) time-of-flight mass spectrometry (TOFMS) techniques for both biological and synthetic polymer systems, the development of laser spectroscopic techniques for combustion analysis, and the development of correlation analysis and other chemometric techniques for automating the analysis of mass spectral information.

Susan A. Rutkowsky, PhD (*Drexel University*) *Associate Department Head*. Associate Teaching Professor. Development of labs and lecture demonstrations for general and organic chemistry courses; STEM outreach programs.

Jeremiah Scepaniak, PhD (*New Mexico State University*). Assistant Professor. Design transition metal-based contrast agents for MRI & synthesis of bimetallic complexes to activate small molecules.

Reinhard Schweitzer-Stenner, PhD (*Universität Bremen (Germany)*). Professor. Exploring conformational ensembles of unfolded or partially folded peptides and proteins; determining the parameters governing peptide self-aggregation; structure and function of heme proteins; investigating protein-membrane interactions; use of IR, VCD, Raman, NMR and absorption spectroscopy for structure analysis.

Karl Sohlberg, PhD (*University of Delaware*). Associate Professor. Computational and theoretical materials-related chemistry: (1) complex catalytic materials; (2) mechanical and electrical molecular devices.

Anthony Wambsgans, PhD (*Rice University*). Associate Teaching Professor.

Ezra Wood, PhD (*University of California-Berkeley*). Associate Professor. Radical chemistry and formation of secondary pollutants in urban and forest environments, impacts of biomass burning on air pollution and climate change, pollutant emissions, and design and deployment of novel instrumentation for field studies.

Jun Xi, PhD (*Cornell University*). Associate Teaching Professor. Biomacromolecular interactions both in solution and in confined environment; mechanisms of DNA replication and DNA repair; structure and function of molecular chaperones; drug target identification and new therapeutic development; single molecule enzymology; DNA directed organic synthesis.

## Emeritus Faculty

Anthony W. Addison, PhD (*University of Kent at Canterbury, England*). Professor Emeritus. Design and synthesis of novel biomimetic and oligonuclear chelates of copper, nickel, iron, ruthenium and vanadium; their interpretation by magnetochemical, electrochemical and spectroscopic methods, including electron spin resonance; CD and ESR spectroscopy and kinetics for elucidation of molecular architecture of derivatives (including NO) of oxygen-binding and electron-transfer heme- and non-heme iron metalloproteins of vertebrate and invertebrate origins; energy-transfer by Ru, Ir and lanthanide-containing molecules and assemblies.

Amar Nath, PhD (*Moscow State University, Moscow USSR*). Professor Emeritus.

Peter A. Wade, PhD (*Purdue University*). Professor Emeritus. Exploration of a newly discovered [3,3]-sigmatropic rearrangement in which O-allyl nitronic esters are thermally converted to  $\alpha,\beta$ -unsaturated nitro compounds; development and exploitation of a carbon-based hemiacetal mimic; and exploration of cycloaddition reactions involving nitroethylene derivatives and novel nitrile oxides.

## Communication BA / Strategic & Digital Communication MS

*Major: Communication and Strategic & Digital Communication*

*Degree Awarded: Bachelor of Science (BA) and Master of Science (MS)*

*Calendar Type: Quarter*

*Total Credit Hours: 225.0*

*Co-op Options: One Co-op (Five years); Three Co-ops (Five years)*

*Classification of Instructional Programs (CIP) code: 09.0199*

*Standard Occupational Classification (SOC) code: 11-2011*

## About the Program

The ability to communicate effectively is one of the most sought-after skills by prospective employers industry wide. Drexel University is committed to building this strong foundation through the Accelerated Communication degree, which enables academically qualified students to earn both a bachelor's and master's degree—graduating sooner than they would in traditional programs. Graduates of the accelerated degree enter the workforce one year sooner with the benefits of a master's degree in Strategic and Digital Communication, using the year saved to gain full-time experience and earn a salary in the field.

The BA in Communication program requires 180.0 UG credits and is committed to helping students become broadly educated and professionally competent communicators. Students are exposed to a variety of media and are guided in the development of their interpretive and expressive skills. Students may complete the BA in Communication with a concentration in Public Relations, Journalism, or open Communication. Independent of their chosen concentration, all BA in Communication majors take a common core of courses that emphasize communication theory and methods, as well as a modern language.

Students in the Public Relations concentration take courses and pursue careers in public relations, event planning, media relations, social media, and corporate communication. Journalism students take courses and pursue careers as reporters, copywriters, editors, and media specialists. Students in the open Communication concentration have the flexibility of crafting their path through the major and thus have career possibilities in any of the areas listed here.

Drexel's Master of Science in Strategic and Digital Communication requires 45.0 credits, and prepares students for careers in a wide range of professional activities relating to communication in both media environments and communication contexts that are characterized by advanced digitization.

With a robust core curriculum consisting of seven courses (21.0 credits), the program provides a strong foundation in theoretical approaches to communication, ethics, and media/communication policy. This theoretical basis is designed to ensure that, as the field changes, students will continue to have an intellectual framework for evaluating and implementing new technology and changing media environments. Furthermore, the program trains students in leadership skills that will help them to lead teams to be innovative communication professionals in digitized media environments and different organizational communication contexts.

The program emphasizes flexibility, encouraging each student, in consultation with a faculty advisor, to craft an individual course of study tailored to the student's individual interests and career goals. Throughout the curriculum, students use four Communication electives (12.0 credits) to increase communication skills or to further develop areas of specialization. An additional four free elective courses (12.0 credits) can be taken in Communication or in other departments across the university, allowing students to continue to tailor their plan of study.

The program specializes in two areas:

- Strategic Communication (public relations)
- Digital and Social Media Communication

## Strategic Communication

Strategic Communication has much to offer for those looking to work in public relations as well as for-profit and nonprofit organizations. Students typically choose from courses such as PR Writing and Planning courses, Crisis Communication, Media Relations, Nonprofit Communication, and others.

## Digital Communication

With Communication being an area characterized by ongoing digitization, the program offers courses such as Strategic Social Media Communication, Digital Publishing, Digital Media Environments, Social Media Concepts That Matter, and others.

## Additional Information

For more information, visit the MS in Strategic and Digital Communication webpage (<https://drexel.edu/coas/academics/graduate-programs/communication/>).

Contact Julia May, Director of the MS in Strategic and Digital Communication program, at [julia.may@drexel.edu](mailto:julia.may@drexel.edu) for additional information.

## Admission Requirements

Both incoming freshmen and current Communication majors are eligible to apply for this program. Students who are already matriculated may apply after completing a minimum of 90.0 credits but no more than 120.0 credits. Applicants must have a minimum 3.0 GPA and maintain this GPA throughout the accelerated program.

In addition to formally applying, applicants must provide:

- A 500-word statement of goals that explains why they want to enroll in the accelerated degree program.
- The name of a faculty reference who can speak to the applicant's academic qualifications and preparedness for graduate studies.

## Additional Information

For more information, contact Dr. Julia May, Director of the MS in Strategic and Digital Communication program, at [julia.may@drexel.edu](mailto:julia.may@drexel.edu).

## Degree Requirements

### General Requirements

CIVC 101	Introduction to Civic Engagement	1.0
ENGL 101 or ENGL 111	Composition and Rhetoric I: Inquiry and Exploratory Research English Composition I	3.0
ENGL 102 or ENGL 112	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing English Composition II	3.0
ENGL 103 or ENGL 113	Composition and Rhetoric III: Themes and Genres English Composition III	3.0
PSY 101	General Psychology I	3.0
UNIV H101	The Drexel Experience	1.0
UNIV H201	Looking Forward: Academics and Careers	1.0
COOP 101	Career Management and Professional Development	1.0
Two mathematics courses		6.0-8.0

Two science courses		6.0-8.0
Foreign language courses		8.0-12.0
Humanities and fine arts		12.0
Social sciences		9.0
International studies		6.0
Studies in diversity		6.0
<b>Communication Core Requirements</b>		
<b>Theory Sequence</b>		
COM 101	Human Communication	3.0
COM 150	Mass Media and Society	3.0
COM 210	Theory and Models of Communication	3.0
COM 400	Seminar in Communication	3.0
LING 101	Introduction to Linguistics	3.0
or LING 102	Language and Society	
<b>Methods Sequence</b>		
COM 220	Qualitative Research Methods	3.0
COM 221	Quantitative Research Methods in Communication	3.0
or COM 284	Public Relations Research, Measurement and Evaluation	
<b>Additional Core Requirements</b>		
COM 222	Interpersonal Communication	3.0
COM 230	Techniques of Speaking	3.0
COM 240	New Technologies In Communication	3.0
COM 247	Strategic Social Media Communication	3.0
COM 491	Senior Project in Communication I	3.0
COM 492	Senior Project in Communication II	3.0
PHIL 305	Ethics and the Media	3.0
<b>Required Concentration Courses</b>		
Select one of the following concentrations (Communication, Public Relations, or Journalism):		31.0-45.0
<b>Communication</b>		
COM 160 [WI]	Introduction to Journalism	
COM 181	Public Relations Principles and Theory	
COM 261 [WI]	Advanced Journalism	
or COM 282	Public Relations Writing	
COM 310 [WI]	Technical Communication	
Two COM Electives at 300 level or higher		
Six COM Electives		
<b>Public Relations</b>		
COM 181	Public Relations Principles and Theory	
COM 160 [WI]	Introduction to Journalism	
COM 282 [WI]	Public Relations Writing	
COM 286	Public Relations Strategies and Tactics	
COM 335 [WI]	Digital Publishing	
or COM 340	Modern Desktop Publishing	
COM 386	Public Relations Campaign Planning	
MKTG 201	Introduction to Marketing Management	
Three COM Electives		
<b>Journalism</b>		
COM 160 [WI]	Introduction to Journalism	
COM 181	Public Relations Principles and Theory	
COM 261 [WI]	Advanced Journalism	
COM 266	Copy Editing for the Media	
COM 315 [WI]	Investigative Journalism	
COM 365	Journalists, the Courts, and the Law	
TVPR 220	TV News Writing	
Six COM Electives		
<b>Free Electives</b>		
		<b>38.0</b>
<b>MS Strategic &amp; Digital Communication Requirements</b>		
<b>Required Core Courses</b>		
COM 500	Reading & Research in Communication	3.0
COM 574	Organizational Communication in Project Management	3.0
COM 610	Theories of Communication and Persuasion	3.0
COM 613	Ethics for Professional Communication	3.0



COM 615	Media Environments in a Digital World	3.0
COM 651	Media and Communication Policy in a Digitized World	3.0
COM 698	Managing Communication Professional Identities in a Digital Age	3.0

**Program Electives 12.0**

Choose four of the following courses:

COM 516	Campaigns for Health and Environment
COM 518	Communicating Health and Risk in a 'Fake News' World
COM 520	Science Writing
COM 525	Document Design and Usability
COM 533	Modern Desktop Publishing
COM 535	Digital Publishing
COM 536	Strategic Social Media Communication
COM 541	Foundations of Public Relations
COM 542	Public Relations Writing
COM 543	Public Relations Planning
COM 544	Media Relations in a Digital Age
COM 551	Creative Content Production
COM 561	Fundamentals of Journalism & Newswriting
COM 562	International Negotiations
COM 563	Event Planning
COM 570	Technical, Science and Health Editing
COM 575	Grant Writing
COM 576	Nonprofit Communications
COM 577	Communication for Civic Engagement
COM 578	Focus Groups
COM 586	Strategic International Communication
COM 600	Graduate Seminar in Communication
COM 614	Social Media Concepts that Matter
COM 660	Investigative Journalism
COM 670	Medical Writing
COM 673	Medical Journalism
COM I599	Independent Study in COM
COM I699	Independent Study in COM
COM T580	Special Topics in Communication
COM T680	Special Topics in Communication

**Graduate Electives \*\* 12.0**

**Total Credits 225.0-247.0**

\* Students must complete at least 8 credits of a foreign language at Drexel and, at minimum, must complete the 103 level of the target language (or beyond if they place higher).

\*\* Students can select up to 12.0 credits of graduate-level electives (500-799) in the following subject areas (AADM, AAML, ACCT, BUSN, CCM, CHP, COM, CRTV, CW, DIGM, ECON, EDAM, EDHE, EDLT, EDUC, ENTP, ENVP, ENV5, EOH, HMP, HRM, LING, MGMT, MKTG, MUSL, NPM, ORGB, PBHL, PLCY, PROJ, PRST, RMER, SCRIP, SCTS, SMT, TVMN). Other graduate courses outside these areas might be taken pending approval from the graduate advisor or program director.

## Sample Plan of Study

### 4+1, 1 co-op (Accelerated program completed in 5 years)

Students complete undergraduate requirements in four years, then convert to graduate status in the fifth and final year.

**First Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 101	3.0 CIVC 101	1.0 COM 181 or 160	3.0 VACATION	
COM 150	3.0 COM 181 or 160	3.0 COM 230	3.0	
ENGL 101 or 111	3.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
PSY 101	3.0 (UG) Math Course	3.0-4.0 (UG) Humanities Elective	3.0	
UNIV H101	1.0 (UG) Foreign Language Course*	4.0 (UG) Math Course	3.0-4.0	
(UG) Foreign Language Course*	4.0 (UG) Free Elective	3.0		
	<b>17</b>	<b>17-18</b>	<b>15-16</b>	<b>0</b>

**Second Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 210	3.0 COM 220	3.0 COM 221 or 284	3.0 COOP 101**	1.0
COM 222	3.0 COM 247	3.0 (UG) COM Elective or Free Elective	3.0 PHIL 305	3.0
(UG) COM Concentration Course	3.0 LING 101 or 102	3.0 (UG) COM Concentration Course	3.0 (UG) COM Elective or Free Elective	3.0
(UG) Science Course	3.0-4.0 (UG) COM Concentration Course	3.0 (UG) International Elective	3.0 (UG) COM Concentration Course	3.0
(UG) Humanities Elective	3.0 (UG) Science Course	3.0-4.0 (UG) Social Science Elective	3.0 (UG) Free Elective	2.0
(UG) Free Elective	3.0 (UG) Free Elective	3.0 (UG) Free Elective	3.0 (UG) Diversity Elective	3.0
	<b>18-19</b>	<b>18-19</b>	<b>18</b>	<b>15</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 240	3.0 (UG) Social Science Elective	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
UNIV H201	1.0 (UG) International Elective	3.0	COM 574	3.0
(UG) COM Concentration Course	3.0 (UG) Free Electives	6.0		
(UG) Humanities Elective	3.0 COM 610	3.0		
(UG) COM Elective or Free Elective	3.0			
COM 500	3.0			
	<b>16</b>	<b>15</b>	<b>0</b>	<b>3</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 400	3.0 COM 491	3.0 COM 492	3.0 Student converts to Graduate Status	
(UG) Diversity Elective	3.0 (UG) COM Elective	3.0 (UG) COM Elective	3.0	
(UG) COM Elective Course	3.0 (UG) Humanities Elective	3.0 (UG) COM Elective or Free Elective	3.0	
(UG) COM Elective or Free Elective	3.0 (UG) Social Science Elective	3.0 (UG) Free Elective	4.0	
COM 613	3.0 COM 651	3.0 COM 615	3.0	
(GR) SDC Program Elective	3.0 (GR) SDC Program Elective	3.0		
	<b>18</b>	<b>18</b>	<b>16</b>	<b>0</b>

**Fifth Year**

Fall	Credits Winter	Credits Spring	Credits
(GR) SDC Program Elective	3.0 (GR) SDC Program Elective	3.0 COM 698	3.0
(GR) Graduate Electives	6.0 (GR) Graduate Elective	3.0 (GR) Graduate Elective	3.0
	<b>9</b>	<b>6</b>	<b>6</b>

**Total Credits 225-229**

\* Students must complete at least 8 credits of a foreign language at Drexel and, at minimum, must complete the 103 level of the target language (or beyond if they place higher).

\*\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

**5+0, 3 co-op, Co-terminal (Accelerated program completed in 5 years)**

Students take graduate courses in the third, fourth, and fifth years, while finishing their undergraduate requirements. They receive both BA and MS at the end of the fifth year.

**First Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 101	3.0 CIVC 101	1.0 COM 181 or 160	3.0 VACATION	
COM 150	3.0 COM 181 or 160	3.0 COM 230	3.0	
ENGL 101 or 111	3.0 COOP 101**	1.0 ENGL 103 or 113	3.0	

PSY 101	3.0 ENGL 102 or 112	3.0 (UG) Humanities Elective	3.0	
UNIV H101	1.0 (UG) Math Course	3.0-4.0 (UG) Math Course	3.0-4.0	
(UG) Foreign Language Course*	4.0 (UG) Foreign Language Course*	4.0 (UG) Social Science Elective	3.0	
	(UG) Free Elective	3.0		
	<b>17</b>	<b>18-19</b>	<b>18-19</b>	<b>0</b>
<b>Second Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COM 210	3.0 COM 220	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
COM 222	3.0 COM 247	3.0		
(UG) COM Concentration Course	3.0 LING 101 or 102	3.0		
(UG) Science Course	3.0-4.0 (UG) COM Concentration Course	3.0		
(UG) Humanities Elective	3.0 (UG) Science Course	3.0-4.0		
(UG) Free Elective	4.0 (UG) Free Elective	3.0		
	<b>19-20</b>	<b>18-19</b>	<b>0</b>	<b>0</b>
<b>Third Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COM 221 or 284	3.0 PHIL 305	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
(UG) COM Elective or Free Elective	3.0 (UG) COM Elective or Free Elective	3.0 (GR) SDC Program Elective	3.0 COM 574	3.0
(UG) COM Concentration Course	3.0 (UG) COM Concentration Course	3.0		
(UG) International Elective	3.0 (UG) Free Elective	3.0		
COM 500	3.0 (UG) Diversity Elective	3.0		
	COM 610	3.0		
	<b>15</b>	<b>18</b>	<b>3</b>	<b>3</b>
<b>Fourth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COM 240	3.0 (UG) Free Electives	6.0 COOP EXPERIENCE	COOP EXPERIENCE	
UNIV H201	1.0 (UG) Social Science Elective	3.0 COM 615	3.0 (GR) SDC Program Elective	3.0
(UG) Humanities Elective	3.0 (UG) International Elective	3.0		
(UG) COM Elective or Free Elective	3.0 COM 651	3.0		
(UG) COM Concentration Course	3.0 (GR) Graduate Elective	3.0		
(UG) Free Elective	2.0			
COM 613	3.0			
	<b>18</b>	<b>18</b>	<b>3</b>	<b>3</b>
<b>Fifth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>	
COM 400	3.0 COM 491	3.0 COM 492	3.0	
(UG) Diversity Elective	3.0 (UG) COM Elective	3.0 (UG) COM Elective	3.0	
(UG) COM Elective	3.0 (UG) Humanities Elective	3.0 (UG) COM Elective or Free Elective	3.0	
(UG) COM Elective or Free Elective	3.0 (UG) Social Science Elective	3.0 (UG) Free Elective	3.0	
(GR) SDC Program Elective	3.0 (GR) SDC Program Elective	3.0 COM 698	3.0	
(GR) Graduate Elective	3.0 (GR) Graduate Elective	3.0 (GR) Graduate Elective	3.0	
	<b>18</b>	<b>18</b>	<b>18</b>	

**Total Credits 225-229**

\* Students must complete at least 8 credits of a foreign language at Drexel and, at minimum, must complete the 103 level of the target language (or beyond if they place higher).

- \*\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.  
COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

## Communication Faculty

Ronald Bishop, III, PhD (*Temple University*). Professor. Investigative reporting, sports journalism, journalism history, journalism sourcing patterns, textual narrative and ideological analysis, cultural history of fame.

Karen Cristiano, MS (*Temple University*) *Assistant Department Head of Communication*. Teaching Professor. Journalism, medical writing, feature writing, copy editing, mass media and society.

Richard Forney Assistant Teaching Professor. Broadcast journalism technology and the effects of new technologies on personal and corporate communication skills.

Ernest A. Hakanen, PhD (*Temple University*) *Director, Graduate Programs in Communication, Culture & Media*. Professor. Telecommunications policy, adolescent media use, communication theory and history, global media, and semiotics.

Barbara Hoekje, PhD (*University of Pennsylvania*). Associate Professor. Sociolinguistic theory, discourse analysis, applied linguistics (language teaching, learning, and testing).

Alexander Jenkins, PhD (*Drexel University*). Assistant Teaching Professor. Digital games, video games, emotion, morality, online fan communities, emerging media, convergence.

Hyunmin Lee, PhD (*University of Missouri*) *Director, Undergraduate Programs in Communication*. Associate Professor. Social media strategies for relationship and reputation management in public relations; media messages of public health issues and its psychological and behavioral effects on the public.

Susan Magee, MFA *Director Online Teaching*. Instructor. Digital Publishing, Content creation, Blogging, Strategic Social Media, Public Relations, Business and Technical Communication

Julia May, PhD (*Drexel University*) *Director, Strategic and Digital Communication MS Program*. Associate Teaching Professor. Political communication; international politics and its news coverage; public opinion; transatlantic relations; war, torture and human rights; debate in the public sphere.

Alexander Nikolaev, PhD (*Florida State University*). Associate Professor. Public relations, political communication, organizational communication, mass communication, international communications and negotiations, communications theory.

Rakhmiel Peltz, PhD (*University of Pennsylvania*). Professor. Judaic studies, Yiddish culture and linguistics, ethnography of communication, immigrant cultural studies.

Douglas V. Porpora, PhD (*Temple University*). Professor. War, genocide, torture, and human rights; macro-moral reasoning in public sphere debate; contemporary social theory moral and political communication; religion.

Rachel R. Reynolds, PhD (*University of Illinois*). Associate Professor. Sociolinguistics, ethnography of communication and discourse analysis; violence against women in mass media; political economy of migration; semiotics including the textual, the visual and multimodal.

Rosemary Rys, MA (*Rowan University*). Assistant Teaching Professor. Public relations and marketing.

Wesley Shumar, PhD (*University of Pennsylvania*). Professor. Digital media and learning; culture of higher education; entrepreneurship education; craft culture; semiotic of consumer culture.

Allan Stegeman, MA (*University of Houston*). Teaching Professor. Communication, technology and mass media, video.

Scott Tattar, BA (*York College of Pennsylvania*) *Faculty Advisor, Drexel PRSSA, Communication Department Recruitment Liaison*. Instructor. Public relations

Hilde Van den Bulck, PhD (*Katholieke Universiteit Leuven*) *Department Head of Communication*. Professor. Political economy of media structures; media policies for digitized media ecologies; stakeholders and coalitions in media policies; digitization; convergence and legacy media; public (service) media; celebrity culture and industry; fandom and anti-fandom.

Asta Zelenkauskaitė, PhD (*Indiana University*). Associate Professor. Social media; user-generated content; computer-mediated communication; interactivity; active audience analysis; mobile communication; gender and online identity; prosumer culture; internet of things; quantitative/qualitative research.

## Emeritus Faculty

Alexander Friedlander, PhD (*Carnegie Mellon University*). Associate Professor. Rhetorical theory and practice, document design, writing and technology.

Lawrence Souder, PhD (*Temple University*) Director, *Drexel Edits*. Teaching Professor. Science and technical writing, communication ethics, nonprofit communication.

## Communication BS / Strategic & Digital Communication MS

*Major: Communication and Strategic & Digital Communication*

*Degree Awarded: Bachelor of Science (BS) and Master of Science (MS)*

*Calendar Type: Quarter*

*Total Credit Hours: 225.0*

*Co-op Options: One Co-op (Five years); Three Co-op (Five years)*

*Classification of Instructional Programs (CIP) code: 09.0199*

*Standard Occupational Classification (SOC) code: 11-2011*

## About the Program

The ability to communicate effectively is one of the most sought-after skills by prospective employers industry wide. Drexel University is committed to building this strong foundation through the Accelerated Communication degree, which enables academically qualified students to earn both a bachelor's and master's degree—graduating sooner than they would in traditional programs. Graduates of the accelerated degree enter the workforce one year sooner with the benefits of a master's degree in Strategic and Digital Communication, using the year saved to gain full-time experience and earn a salary in the field.

The BS in Communication program requires 180.0 UG credits and offers three different concentrations to choose from. All students take a common core of courses that emphasize communication theory and methods, as well as a lab science sequence and a math analysis sequence.

Students in the Public Relations concentration take courses and pursue careers in public relations, event planning, media relations, social media, and corporate communication. Those who choose the Technical and Science Communication concentration go on to work in technical writing, science writing, publishing, and software and hardware documentation. Students in the open Communication concentration have the flexibility of crafting their path through the major and thus have career possibilities in any of the areas listed here.

Drexel's Master of Science in Strategic and Digital Communication requires 45.0 credits, and prepares students for careers in a wide range of professional activities relating to communication in both media environments and communication contexts that are characterized by advanced digitization.

With a robust core curriculum consisting of seven courses (21.0 credits), the program provides a strong foundation in theoretical approaches to communication, ethics and media/communication policy. This theoretical basis is designed to ensure that, as the field changes, students will continue to have an intellectual framework for evaluating and implementing new technology and changing media environments. Furthermore, the program trains students in leadership skills that will help them to lead teams to be innovative communication professionals in digitized media environments and different organizational communication contexts.

The program emphasizes flexibility, encouraging each student, in consultation with a faculty advisor, to craft an individual course of study tailored to the student's individual interests and career goals. Throughout the curriculum students use four Communication electives (12.0 credits) to increase communication skills or to further develop areas of specialization. An additional four free elective courses (12.0 credits) can be taken in Communication or in other departments across the university, allowing students to continue to tailor their plan of study.

The program specializes in two areas:

- Strategic Communication (public relations)
- Digital and Social Media Communication

## Strategic Communication

Strategic Communication has much to offer for those looking to work in public relations as well as for-profit and nonprofit organizations. Students typically choose from courses such as PR Writing and Planning courses, Crisis Communication, Media Relations, Nonprofit Communication, and others.

## Digital Communication

With Communication being an area characterized by ongoing digitization, the program offers courses such as Strategic Social Media Communication, Digital Publishing, Digital Media Environments, Social Media Concepts That Matter, and others.

## Additional Information

For more information, visit the MS in Strategic and Digital Communication webpage (<https://drexel.edu/coas/academics/graduate-programs/communication/>).

Contact Julia May, Director of the MS in Strategic and Digital Communication program, at [julia.may@drexel.edu](mailto:julia.may@drexel.edu) for additional information.

## Admission Requirements

Both incoming freshmen and current Communication majors are eligible to apply for this program. Students who are already matriculated may apply after completing a minimum of 90.0 credits but no more than 120.0 credits. Applicants must have a minimum 3.0 GPA and maintain this GPA throughout the accelerated program.

In addition to formally applying to the program, applicants must provide:

- A 500-word statement of goals that explains why they want to enroll in the accelerated degree program.
- The name of a faculty reference who can speak to the applicant's academic qualifications and preparedness for graduate studies.

## Additional Information

For more information, contact Dr. Julia May, Director of the MS in Strategic and Digital Communication program, at [julia.may@drexel.edu](mailto:julia.may@drexel.edu).

## Degree Requirements

### General Requirements

CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
PSY 101	General Psychology I	3.0
UNIV H101	The Drexel Experience	1.0
UNIV H201	Looking Forward: Academics and Careers	1.0
Humanities and fine arts		12.0
Social sciences		9.0
International studies		6.0
Studies in diversity		6.0

### Select one of the following Science Sequences: 8.0

Biology Sequence		
BIO 107	Cells, Genetics & Physiology	
BIO 108	Cells, Genetics and Physiology Laboratory	
BIO 109	Biological Diversity, Ecology & Evolution	
BIO 110	Biological Diversity, Ecology and Evolution Laboratory	
Chemistry Sequence		
CHEM 111	General Chemistry I	
CHEM 112	General Chemistry II	
Physics Sequence		
PHYS 170	Electricity and Motion	
PHYS 175	Light and Sound	

### Select one of the following Mathematics Sequences: 8.0

Analysis Sequence		
MATH 101	Introduction to Analysis I	
MATH 102	Introduction to Analysis II	
Calculus Sequence		
MATH 121	Calculus I	
MATH 122	Calculus II	

### Communication Core Requirements

Theory Sequence		
COM 101	Human Communication	3.0
COM 150	Mass Media and Society	3.0
COM 210	Theory and Models of Communication	3.0

COM 400	Seminar in Communication	3.0
LING 101	Introduction to Linguistics	3.0
or LING 102	Language and Society	
<b>Methods Sequence</b>		
COM 220	Qualitative Research Methods	3.0
COM 221	Quantitative Research Methods in Communication	3.0
or COM 284	Public Relations Research, Measurement and Evaluation	
<b>Additional Core Requirements</b>		
COM 222	Interpersonal Communication	3.0
COM 230	Techniques of Speaking	3.0
COM 240	New Technologies In Communication	3.0
COM 247	Strategic Social Media Communication	3.0
COM 491	Senior Project in Communication I	3.0
COM 492	Senior Project in Communication II	3.0
PHIL 305	Ethics and the Media	3.0
<b>Required Concentration Courses</b>		
Select one of the following concentrations (Communication, Public Relations, or Technical and Science Communication)		30.0-36.0
<b>Communication</b>		
COM 160 [WI]	Introduction to Journalism	
COM 181	Public Relations Principles and Theory	
COM 261 [WI]	Advanced Journalism	
or COM 282	Public Relations Writing	
COM 310 [WI]	Technical Communication	
Two COM Electives at 300 level or higher		
Six COM Electives		
<b>Public Relations</b>		
COM 160 [WI]	Introduction to Journalism	
COM 181	Public Relations Principles and Theory	
COM 282 [WI]	Public Relations Writing	
COM 286	Public Relations Strategies and Tactics	
COM 335 [WI]	Digital Publishing	
or COM 340	Modern Desktop Publishing	
COM 386	Public Relations Campaign Planning	
MKTG 201	Introduction to Marketing Management	
Three COM Electives		
<b>Technical &amp; Science Communication</b>		
COM 160 [WI]	Introduction to Journalism	
COM 181	Public Relations Principles and Theory	
COM 310 [WI]	Technical Communication	
COM 320 [WI]	Science Writing	
COM 335 [WI]	Digital Publishing	
COM 350 [WI]	Document Design and Evaluation	
COM 420	Technical, Science and Health Editing	
Three COM Electives		
<b>Free Electives</b>		<b>43.0</b>
<b>MS Strategic and Digital Communication Requirements</b>		
<b>Required Core Courses</b>		
COM 500	Reading & Research in Communication	3.0
COM 574	Organizational Communication in Project Management	3.0
COM 610	Theories of Communication and Persuasion	3.0
COM 613	Ethics for Professional Communication	3.0
COM 615	Media Environments in a Digital World	3.0
COM 651	Media and Communication Policy in a Digitized World	3.0
COM 698	Managing Communication Professional Identities in a Digital Age	3.0
<b>Program Electives</b>		<b>12.0</b>
Choose four of the following courses:		
COM 516	Campaigns for Health and Environment	
COM 518	Communicating Health and Risk in a 'Fake News' World	
COM 520	Science Writing	
COM 525	Document Design and Usability	
COM 533	Modern Desktop Publishing	
COM 535	Digital Publishing	

COM 536	Strategic Social Media Communication
COM 541	Foundations of Public Relations
COM 542	Public Relations Writing
COM 543	Public Relations Planning
COM 544	Media Relations in a Digital Age
COM 551	Creative Content Production
COM 561	Fundamentals of Journalism & Newswriting
COM 562	International Negotiations
COM 563	Event Planning
COM 570	Technical, Science and Health Editing
COM 575	Grant Writing
COM 576	Nonprofit Communications
COM 577	Communication for Civic Engagement
COM 578	Focus Groups
COM 586	Strategic International Communication
COM 600	Graduate Seminar in Communication
COM 614	Social Media Concepts that Matter
COM 660	Investigative Journalism
COM 670	Medical Writing
COM 673	Medical Journalism
COM I599	Independent Study in COM
COM I699	Independent Study in COM
COM T580	Special Topics in Communication
COM T680	Special Topics in Communication

**Graduate Electives \*** **12.0**

**Total Credits** **225.0-231.0**

\* Students can select up to 12.0 credits of graduate-level electives (500-799) in the following subject areas (AADM, AAML, ACCT, BUSN, CCM, CHP, COM, CRTV, CW, DIGM, ECON, EDAM, EDHE, EDLT, EDUC, ENTP, ENVP, ENV5, EOH, HMP, HRM, LING, MGMT, MKTG, MUSL, NPM, ORGB, PBHL, PLCY, PROJ, PRST, RMER, SCRP, SCTS, SMT, TVMN). Other graduate courses outside these areas might be taken pending approval from the graduate advisor or program director.

## Sample Plan of Study

### 4+1, 1 co-op (Accelerated program completed in 5 years)

Students complete undergraduate requirements in four years, then convert to graduate status in the fifth and final year.

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 101	3.0 CIVC 101	1.0 COM 160 or 181	3.0 VACATION	
COM 150	3.0 COM 181 or 160	3.0 COM 230	3.0	
ENGL 101 or 111	3.0 COOP 101*	1.0 ENGL 103 or 113	3.0	
PSY 101	3.0 ENGL 102 or 112	3.0 (UG) Humanities Elective	3.0	
UNIV H101	1.0 (UG) Math Sequence Course	4.0 (UG) Free Elective	3.0	
(UG) Math Sequence Course	4.0 (UG) Social Science Elective	3.0		
	<b>17</b>	<b>15</b>	<b>15</b>	<b>0</b>

#### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 210	3.0 COM 220	3.0 COM 221 or 284	3.0 PHIL 305	3.0
COM 222	3.0 COM 247	3.0 COM 310	3.0 (UG) COM Concentration Course	3.0
(UG) COM Concentration Course	3.0 LING 101 or 102	3.0 (UG) COM Concentration Course	3.0 (UG) COM Elective or Free Elective	3.0
(UG) Humanities Elective	3.0 (UG) COM Elective	3.0 (UG) COM Elective or Free Elective	3.0 (UG) Free Elective	3.0
(UG) Science Sequence Course	4.0 (UG) Science Sequence Course	4.0 (UG) Free Elective	3.0 (UG) International or Diversity Elective	3.0
(UG) Free Elective	2.0	(UG) International or Diversity Elective	3.0	
	<b>18</b>	<b>16</b>	<b>18</b>	<b>15</b>



**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 240	3.0 (UG) COM Concentration Course	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
UNIV H201	1.0 (UG) COM Elective	3.0	COM 574	3.0
(UG ) COM Concentration Course	3.0 (UG) Social Science Elective	3.0		
(UG) Humanities Elective	3.0 (UG) Free Electives	6.0		
(UG) Free Elective	2.0 COM 610	3.0		
COM 500	3.0			
	<b>15</b>	<b>18</b>	<b>0</b>	<b>3</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 400	3.0 COM 491	3.0 COM 492	3.0 Student converts to Graduate Status	
(UG) COM Elective or COM Concentration Course	3.0 (UG) COM Elective	3.0 (UG) COM Elective Course or COM Concentration Course	3.0	
(UG) International or Diversity Elective	3.0 (UG) Humanities Elective	3.0 (UG) COM Elective of Free Elective	3.0	
(UG) COM Elective or Free Elective	3.0 (UG) Social Science Elective	3.0 (UG) Free Elective	3.0	
COM 613	3.0 (UG) International or Diversity Elective	3.0 COM 615	3.0	
(GR) SDC Program Elective	3.0 COM 651	3.0 (GR) SDC Program Elective	3.0	
	<b>18</b>	<b>18</b>	<b>18</b>	<b>0</b>

**Fifth Year**

Fall	Credits Winter	Credits Spring	Credits
(GR) SDC Program Elective	3.0 (GR) SDC Program Elective	3.0 COM 698	3.0
(GR) Graduate Electives	6.0 (GR) Graduate Elective	3.0 (GR) Graduate Elective	3.0
	<b>9</b>	<b>6</b>	<b>6</b>

**Total Credits 225**

\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major. COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

5+0, 3 co-op, co-terminal (Accelerated program completed in 5 years)

Students take graduate courses in the third, fourth, and fifth years, while finishing their undergraduate requirements. They receive both the BS and MS at the end of the fifth year.

**First Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 101	3.0 CIVC 101	1.0 COM 160 or 181	3.0 VACATION	
COM 150	3.0 COM 181 or 160	3.0 COM 230	3.0	
ENGL 101 or 111	3.0 COOP 101	1.0 ENGL 103 or 113	3.0	
PSY 101	3.0 ENGL 102 or 112	3.0 (UG) Humanities Elective	3.0	
UNIV H101	1.0 (UG) Math Sequence Course	4.0 (UG) Free Elective	3.0	
(UG) Math Sequence Course	4.0 (UG) Social Science Elective	3.0 (UG) COM Elective	3.0	
	(UG) Free Elective	3.0		
	<b>17</b>	<b>18</b>	<b>18</b>	<b>0</b>

**Second Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 210	3.0 COM 220	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
COM 222	3.0 COM 247	3.0		
(UG) COM Concentration Course	3.0 LING 101 or 102	3.0		

(UG) Science Sequence Course	4.0 (UG) COM Concentration Course	3.0		
(UG) Free Elective	2.0 (UG) Science Sequence Course	4.0		
(UG) Humanities Elective	3.0 (UG) Free Elective	3.0		
	<b>18</b>	<b>19</b>	<b>0</b>	<b>0</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 221 or 284	3.0 PHIL 305	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
(UG) COM Concentration Courses	6.0 (UG) COM Concentration Course	3.0 (GR) SDC Program Elective	3.0 COM 574	3.0
(UG) International or Diversity Elective	3.0 (UG) COM Elective	3.0		
COM 500	3.0 (UG) Free Elective	3.0		
	(UG) International or Diversity Elective	3.0		
	COM 610	3.0		
	<b>15</b>	<b>18</b>	<b>3</b>	<b>3</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 240	3.0 (UG) COM Elective or COM Concentration Course	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
UNIV H201	1.0 (UG) Humanities Elective	3.0 COM 615	3.0 (GR) SDC Program Elective	3.0
(UG) COM Concentration Course	3.0 (UG) International or Diversity Elective	3.0		
(UG) COM Elective or Free Elective	3.0 (UG) Social Science Elective	3.0		
(UG) Free Elective	2.0 COM 651	3.0		
COM 613	3.0 (GR) Graduate Elective	3.0		
(GR) Graduate Elective	3.0			
	<b>18</b>	<b>18</b>	<b>3</b>	<b>3</b>

**Fifth Year**

Fall	Credits Winter	Credits Spring	Credits
COM 400	3.0 COM 491	3.0 COM 492	3.0
(UG) COM Elective	3.0 (UG) COM Elective	3.0 (UG) COM Electives	6.0
(UG) International or Diversity Elective	3.0 (UG) Humanities Elective	3.0 (UG) Free Elective	3.0
(UG) COM Elective or Free Elective	3.0 (UG) Social Science Elective	3.0 COM 698	3.0
(GR) SDC Program Elective	3.0 (UG) Free Elective	3.0 (GR) Graduate Elective	3.0
(GR) Graduate Elective	3.0 (GR) SDC Program Elective	3.0	
	<b>18</b>	<b>18</b>	<b>18</b>

**Total Credits 225**

\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major. COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

## Communication Faculty

Ronald Bishop, III, PhD (*Temple University*). Professor. Investigative reporting, sports journalism, journalism history, journalism sourcing patterns, textual narrative and ideological analysis, cultural history of fame.

Karen Cristiano, MS (*Temple University*) *Assistant Department Head of Communication*. Teaching Professor. Journalism, medical writing, feature writing, copy editing, mass media and society.

Richard Forney Assistant Teaching Professor. Broadcast journalism technology and the effects of new technologies on personal and corporate communication skills.

Ernest A. Hakanen, PhD (*Temple University*) *Director, Graduate Programs in Communication, Culture & Media*. Professor. Telecommunications policy, adolescent media use, communication theory and history, global media, and semiotics.

Barbara Hoekje, PhD (*University of Pennsylvania*). Associate Professor. Sociolinguistic theory, discourse analysis, applied linguistics (language teaching, learning, and testing).

Alexander Jenkins, PhD (*Drexel University*). Assistant Teaching Professor. Digital games, video games, emotion, morality, online fan communities, emerging media, convergence.

Hyunmin Lee, PhD (*University of Missouri*) *Director, Undergraduate Programs in Communication*. Associate Professor. Social media strategies for relationship and reputation management in public relations; media messages of public health issues and its psychological and behavioral effects on the public.

Susan Magee, MFA *Director Online Teaching*. Instructor. Digital Publishing, Content creation, Blogging, Strategic Social Media, Public Relations, Business and Technical Communication

Julia May, PhD (*Drexel University*) *Director, Strategic and Digital Communication MS Program*. Associate Teaching Professor. Political communication; international politics and its news coverage; public opinion; transatlantic relations; war, torture and human rights; debate in the public sphere.

Alexander Nikolaev, PhD (*Florida State University*). Associate Professor. Public relations, political communication, organizational communication, mass communication, international communications and negotiations, communications theory.

Rakhmiel Peltz, PhD (*University of Pennsylvania*). Professor. Judaic studies, Yiddish culture and linguistics, ethnography of communication, immigrant cultural studies.

Douglas V. Porpora, PhD (*Temple University*). Professor. War, genocide, torture, and human rights; macro-moral reasoning in public sphere debate; contemporary social theory moral and political communication; religion.

Rachel R. Reynolds, PhD (*University of Illinois*). Associate Professor. Sociolinguistics, ethnography of communication and discourse analysis; violence against women in mass media; political economy of migration; semiotics including the textual, the visual and multimodal.

Rosemary Rys, MA (*Rowan University*). Assistant Teaching Professor. Public relations and marketing.

Wesley Shumar, PhD (*University of Pennsylvania*). Professor. Digital media and learning; culture of higher education; entrepreneurship education; craft culture; semiotic of consumer culture.

Allan Stegeman, MA (*University of Houston*). Teaching Professor. Communication, technology and mass media, video.

Scott Tattar, BA (*York College of Pennsylvania*) *Faculty Advisor, Drexel PRSSA, Communication Department Recruitment Liaison*. Instructor. Public relations

Hilde Van den Bulck, PhD (*Katholieke Universiteit Leuven*) *Department Head of Communication*. Professor. Political economy of media structures; media policies for digitized media ecologies; stakeholders and coalitions in media policies; digitization; convergence and legacy media; public (service) media; celebrity culture and industry; fandom and anti-fandom.

Asta Zelenkauskaite, PhD (*Indiana University*). Associate Professor. Social media; user-generated content; computer-mediated communication; interactivity; active audience analysis; mobile communication; gender and online identity; prosumer culture; internet of things; quantitative/qualitative research.

## Emeritus Faculty

Alexander Friedlander, PhD (*Carnegie Mellon University*). Associate Professor. Rhetorical theory and practice, document design, writing and technology.

Lawrence Souder, PhD (*Temple University*) *Director, Drexel Edits*. Teaching Professor. Science and technical writing, communication ethics, nonprofit communication.

## English BA / Strategic & Digital Communication MS

*Major: English and Strategic & Digital Communications*

*Degree Awarded: Bachelor of Arts (BA) and Master of Science (MS)*

*Calendar Type: Quarter*

*Total Credit Hours: 226.0*

*Co-op Options: One Co-op (Five Years); Three Co-ops (Five years)*

*Classification of Instructional Programs (CIP) code: 23.9999*

*Standard Occupational Classification (SOC) code: 25-1123*

## About the Program

The ability to communicate effectively is one of the most sought-after skills by prospective employers industry wide. Drexel University is committed to building this strong foundation through the accelerated degree option, which enables academically qualified students to earn both a bachelor's and master's degree—graduating sooner than they would in traditional programs. Graduates of the accelerated degree enter the workforce one year sooner with the benefits of both a bachelor's degree in English and a master's degree in Strategic and Digital Communication, using the year saved to gain full-time experience and earn a salary in the field.

The BA in English focuses on three areas:

- A rich academic core grounded in disciplinary expertise that promotes literary exploration, sophisticated textual literacy, excellent writing, and other transferable skills;
- Applied learning opportunities using skills in research, interpretation, analysis, and writing to solve real-world problems;
- Opportunities for civic engagement, connecting with community partners to promote social justice and the common good.

Drexel's Master of Science in Strategic and Digital Communication requires 45.0 credits, and prepares students for careers in a wide range of professional activities relating to communication in both media environments and communication contexts that are characterized by advanced digitization.

With a robust core curriculum consisting of seven courses (21.0 credits), the program provides a strong foundation in theoretical approaches to communication, ethics, and media/communication policy. This theoretical basis is designed to ensure that, as the field changes, students will continue to have an intellectual framework for evaluating and implementing new technology and changing media environments. Furthermore, the program trains students in leadership skills that will help them to lead teams to be innovative communication professionals in digitized media environments and different organizational communication contexts.

The program emphasizes flexibility, encouraging each student, in consultation with a faculty advisor, to craft an individual course of study tailored to the student's individual interests and career goals. Throughout the curriculum, students use four Communication electives (12.0 credits) to increase communication skills or to further develop areas of specialization. An additional four free elective courses (12.0 credits) can be taken in Communication or in other departments across the university, allowing students to continue to tailor their plan of study.

The program specializes in two areas:

- Strategic Communication (public relations)
- Digital and Social Media Communication

## Strategic Communication

Strategic Communication has much to offer for those looking to work in public relations as well as for-profit and nonprofit organizations. Students typically choose from courses such as PR Writing and Planning courses, Crisis Communication, Media Relations, Nonprofit Communication, and others.

## Digital Communication

With Communication being an area characterized by ongoing digitization, the program offers courses such as Strategic Social Media Communication, Digital Publishing, Digital Media Environments, Social Media Concepts That Matter, and others.

## Additional Information

For more information, visit the MS in Strategic and Digital Communication webpage (<https://drexel.edu/coas/academics/graduate-programs/communication/>).

Contact Julia May, Director of the MS in Strategic and Digital Communication program, at [julia.may@drexel.edu](mailto:julia.may@drexel.edu) for more information.

## Admission Requirements

Already matriculated English majors may apply after completing a minimum of 90.0 credits but no more than 120.0 credits. Applicants must have a minimum 3.0 GPA and maintain this GPA throughout the program.

In addition to formally applying, applicants must provide:

- A 500-word statement of goals that explains why they want to enroll in the accelerated degree program
- The name of a faculty reference who can speak to the applicant's academic qualifications and preparedness for graduate studies.

## Additional Information

For more information, contact Julia May, Director of the MS in Strategic and Digital Communication program, at [julia.may@drexel.edu](mailto:julia.may@drexel.edu).

## Degree Requirements

CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
UNIV H101	The Drexel Experience	1.0
UNIV H201	Looking Forward: Academics and Careers	1.0
Mathematics courses		6.0
Science courses		6.0
Social and Behavioral Science courses		12.0
Humanities courses (other than ENGL or WRIT)		6.0
Studies in Diversity courses		6.0
International Studies courses		6.0
Language requirement (2 consecutive courses, reaching at least 103)		8.0
<b>Core Courses, Required for either Concentrations</b>		
ENGL 195	English Freshman Seminar	3.0
ENGL 207 [WI]	African American Literature	3.0
ENGL 301	English Major Colloquium *	3.0
ENGL 315 [WI]	Shakespeare	3.0
ENGL 325	Topics in World Literature	3.0
ENGL 355 [WI]	Women and Literature	3.0
ENGL 495	Senior Project in Literature	3.0
WRIT 195	Threshold Concepts in Writing	3.0
WRIT 200	Language Puzzles and Word Games: Issues in Modern Grammar	3.0
WRIT 225 [WI]	Creative Writing	3.0
<b>Concentrations (Choose 1)</b>		<b>36.0</b>
<b>A) Literary Studies Concentration (36 credits)</b>		
Literature Surveys - Select 4 for a minimum of 12 credits		
ENGL 200 [WI]	Classical to Medieval Literature	
ENGL 201	Renaissance to the Enlightenment	
ENGL 202 [WI]	Romanticism to Modernism	
ENGL 203 [WI]	Survey of World Literature	
ENGL 204	Post-Colonial Literature	
ENGL 205 [WI]	American Literature I	
ENGL 206 [WI]	American Literature II	
ENGL 211 [WI]	British Literature I	
ENGL 212	British Literature II	
Authors and Periods - Select 1 for a minimum of 3 credits		
ENGL 310 [WI]	Period Studies	
or ENGL 320	Major Authors	
Literary Impacts - Select 1 for a minimum of 3 credits		
ENGL 300 [WI]	Literature & Science	
or ENGL 323	Literature and Other Arts	
or ENGL 360	Literature and Society	
Literary Traditions - Select one for a minimum of 3 credits		
ENGL 330	The Bible as Literature	
or ENGL 335	Mythology	
Literary Theory - 3 credits		
ENGL 380	Literary Theory	
Literature Seminars - Take both for a minimum of 6 credits		
ENGL 490	Seminar in English and American Literature	
ENGL 492	Seminar in World Literature	
English Electives - minimum of 6 credits		
Choose any additional 2 courses (300+) in ENGL or WRIT for a minimum of 6 credits		
<b>B) Writing Concentration</b>		
Foundations - Select 1 for a minimum of 3 credits		
WRIT 210 [WI]	The Peer Reader in Context	

or WRIT 211	Advanced Composition
Rhetoric and Technique - Select 1 for a minimum of 3 credits	
WRIT 212	Argument and Rhetoric
or WRIT 295	Forms Seminar
Audience Awareness - Select 1 for a minimum of 3 credits	
WRIT 312 [WI]	Writing for Target Audiences
or WRIT 315	Writing for Social Change
Writing Practices - Select 7 additional courses for a minimum of 21 credits (at least 5 must be WRIT or ENGL courses)	
COM 160 [WI]	Introduction to Journalism
COM 270 [WI]	Business Communication
COM 310 [WI]	Technical Communication
COM 375 [WI]	Grant Writing
ENGL 312	Research Project Development
SCRP 220	Playwriting I
SCRP 270 [WI]	Screenwriting I
WRIT 210 [WI]	The Peer Reader in Context
WRIT 211	Advanced Composition
WRIT 212	Argument and Rhetoric
WRIT 215 [WI]	Story Medicine
WRIT 220 [WI]	Creative Nonfiction Writing
WRIT 226	Writing in Public Spaces
WRIT 250	"Mistakes Were Made": Truth, Writing, and Responsibility
WRIT 295	Forms Seminar
WRIT 301 [WI]	Writing Poetry
WRIT 302 [WI]	Writing Fiction
WRIT 303	Writing Humor and Comedy
WRIT 305	Life is Beautiful
WRIT 306	Writing About the Media
WRIT 310	Literary Editing & Publication
WRIT 311	Writing and Reading the Memoir
WRIT 312 [WI]	Writing for Target Audiences
WRIT 315	Writing for Social Change
WRIT 400 [WI]	Writing for -- and about -- the Web
WRIT 401	Advanced Poetry Workshop
WRIT 402	Advanced Fiction Workshop
WRIT 405	Internship in Publishing
WRIT T380	Special Topics in Writing
English Electives - minimum of 6 credits	
Choose any additional 2 courses (300+) in WRIT or ENGL for a minimum of 6 credits	

**ELECTIVES** **52.0-54.0****MS Strategic & Digital Communication Requirements****Required Core Courses**

COM 500	Reading & Research in Communication	3.0
COM 574	Organizational Communication in Project Management	3.0
COM 610	Theories of Communication and Persuasion	3.0
COM 613	Ethics for Professional Communication	3.0
COM 615	Media Environments in a Digital World	3.0
COM 651	Media and Communication Policy in a Digitized World	3.0
COM 698	Managing Communication Professional Identities in a Digital Age	3.0

**Program Electives****12.0**

Choose four of the following courses:

COM 516	Campaigns for Health and Environment
COM 518	Communicating Health and Risk in a 'Fake News' World
COM 520	Science Writing
COM 525	Document Design and Usability
COM 533	Modern Desktop Publishing
COM 535	Digital Publishing
COM 536	Strategic Social Media Communication
COM 541	Foundations of Public Relations
COM 542	Public Relations Writing
COM 543	Public Relations Planning
COM 544	Media Relations in a Digital Age

COM 551	Creative Content Production	
COM 561	Fundamentals of Journalism & Newswriting	
COM 562	International Negotiations	
COM 563	Event Planning	
COM 570	Technical, Science and Health Editing	
COM 575	Grant Writing	
COM 576	Nonprofit Communications	
COM 577	Communication for Civic Engagement	
COM 578	Focus Groups	
COM 586	Strategic International Communication	
COM 600	Graduate Seminar in Communication	
COM 614	Social Media Concepts that Matter	
COM 660	Investigative Journalism	
COM 670	Medical Writing	
COM 673	Medical Journalism	
COM I599	Independent Study in COM	
COM I699	Independent Study in COM	
COM T580	Special Topics in Communication	
COM T680	Special Topics in Communication	
<b>Graduate Electives **</b>		<b>12.0</b>
<b>Total Credits</b>		<b>226.0-228.0</b>

\* One credit course taken three times for a total of 3.0 credits.

\*\* Students can select up to 12.0 credits of graduate-level electives (500-799) in the following subject areas (AADM, AAML, ACCT, BUSN, CCM, CHP, COM, CRTV, CW, DIGM, ECON, EDAM, EDHE, EDLT, EDUC, ENTP, ENVP, ENV, EOH, HMP, HRM, LING, MGMT, MKTG, MUSL, NPM, ORGB, PBHL, PLCY, PROJ, PRST, RMER, SCR, SCTS, SMT, TVMN). Other graduate courses outside these areas might be taken pending approval from the graduate advisor or program director.

## Sample Plan of Study

### Literary Studies Concentration

#### 4 Year, 1 Co-Op

First Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 CIVC 101	1.0 COOP 101*	1.0 VACATION	
ENGL 195	3.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
UNIV H101	1.0 WRIT 200	3.0 ENGL 207	3.0	
(UG) Foreign Language Course	4.0 (UG) Foreign Language Course (level 103+)	4.0 WRIT 195	3.0	
(UG) Math Elective	3.0 (UG) Math Elective	3.0 (UG) Social/Behavioral Science Elective	3.0	
(UG) Social/Behavioral Science Elective	3.0 (UG) Social/Behavioral Science Elective	3.0 (UG) Science Elective	3.0	
	<b>17</b>	<b>17</b>	<b>16</b>	<b>0</b>
Second Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 301	1.0 (UG) Literature Survey	3.0 ENGL 301	1.0 ENGL 325	3.0
WRIT 225	3.0 (UG) Authors & Periods	3.0 ENGL 315	3.0 (UG) Literature Survey	3.0
(UG) Science Elective	3.0 (UG) Diversity Studies	3.0 (UG) Literature Survey	3.0 (UG) Literary Impacts	3.0
(UG) Literature Survey	3.0 (UG) International Studies Elective	3.0 (UG) Diversity Studies	3.0 (UG) Free Electives	6.0
(UG) International Studies Elective	3.0 (UG) Humanities Elective	3.0 (UG) Humanities Elective	3.0	
(UG) Social/Behavioral Science Elective	3.0	(UG) Free Elective	3.0	
	<b>16</b>	<b>15</b>	<b>16</b>	<b>15</b>
Third Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 301	1.0 (UG) Free Electives	13.0 COOP EXPERIENCE	COOP EXPERIENCE	
ENGL 380	3.0 COM 610	3.0	COM 574	3.0
(UG) Free Electives	9.0			

COM 500	3.0			
	<b>16</b>	<b>16</b>	<b>0</b>	<b>3</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 490	3.0 ENGL 355	3.0 ENGL 495	3.0 Student classified as Graduate	
UNIV H201	1.0 ENGL 492	3.0 (UG) Free Electives	9.0	
(UG) Literary Traditions	3.0 (UG) English Elective (ENGL or WRIT)	3.0 COM 615	3.0	
(UG) English Elective	3.0 (UG) Free Electives	6.0 (GR) SDC Program Elective	3.0	
(UG) Free Electives	6.0 COM 651	3.0 Student graduates with BA degree		
COM 613	3.0			
	<b>19</b>	<b>18</b>	<b>18</b>	<b>0</b>

**Fifth Year**

Fall	Credits Winter	Credits Spring	Credits
(GR) SDC Program Electives	6.0 (GR) SDC Program Elective	3.0 COM 698	3.0
(GR) Graduate Elective	3.0 (GR) Graduate Electives	6.0 (GR) Graduate Electives	3.0
	<b>9</b>	<b>9</b>	<b>6</b>

**Total Credits 226**

\* COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

## 5 Year, 3 Co-Op

**First Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 CIVC 101	1.0 COOP 101*	1.0 VACATION	
ENGL 195	3.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
UNIV H101	1.0 WRIT 200	3.0 ENGL 207	3.0	
(UG) Foreign Language Course	4.0 (UG) Foreign Language Course (level 103+ or higher)	4.0 WRIT 195	3.0	
(UG) Math Elective	3.0 (UG) Math Elective	3.0 (UG) Social/Behavioral Science	3.0	
(UG) Social/Behavioral Sciences Elective	3.0 (UG) Social/Behavioral Science Elective	3.0 (UG) Science Elective	3.0	
		(UG) Free Elective	3.0	
	<b>17</b>	<b>17</b>	<b>19</b>	<b>0</b>

**Second Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE	COOP EXPERIENCE	ENGL 301	1.0 (UG) Literature Survey	3.0
		WRIT 225	3.0 (UG) Diversity Studies	3.0
		(UG) Science Elective	3.0 (UG) International Studies Elective	3.0
		(UG) Literature Survey	3.0 (UG) Humanities Elective	3.0
		(UG) International Studies Elective	3.0 (UG) Free Electives	6.0
		(UG) Social/Behavioral Sciences	3.0	
		(UG) Free Elective	3.0	
	<b>0</b>	<b>0</b>	<b>19</b>	<b>18</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE	COOP EXPERIENCE	ENGL 301 (2nd of 3)	1.0 ENGL 325	3.0
	COM 610	3.0 ENGL 315	3.0 (UG) Literature Survey	3.0
		(UG) Literature Survey	3.0 (UG) Free Electives	7.0
		(UG) Authors and Periods	3.0 COM 574	3.0
		(UG) Diversity Studies	3.0	



		(UG) Humanities Elective	3.0	
		(GR) SDC Program Elective	3.0	
	<b>0</b>	<b>3</b>	<b>19</b>	<b>16</b>
<b>Fourth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COOP EXPERIENCE	COOP EXPERIENCE	ENGL 301	1.0 (UG) Free Electives	12.0
COM 615	3.0 (GR) Graduate Elective	3.0 ENGL 355	3.0 COM 651	3.0
		(UG) Literary Impacts	3.0 (GR) SDC Program Elective	3.0
		(UG) Literary Traditions	3.0	
		(UG) Free Elective	3.0	
		COM 613	3.0	
		(GR) SDC Program Elective	3.0	
	<b>3</b>	<b>3</b>	<b>19</b>	<b>18</b>
<b>Fifth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>	
ENGL 380	3.0 ENGL 492	3.0 ENGL 495	3.0	
ENGL 490	3.0 (UG) English Elective (ENGL or WRIT)	3.0 (UG) Free Electives	9.0	
UNIV H201	1.0 (UG) Free Electives	6.0 COM 698	3.0	
(UG) English Elective (ENGL or WRIT)	3.0 (GR) SDC Program Elective	3.0 (GR) Graduate Elective	3.0	
(UG) Free Elective	3.0 (GR) Graduate Elective	3.0		
COM 500	3.0			
(GR) Graduate Elective	3.0			
	<b>19</b>	<b>18</b>	<b>18</b>	

**Total Credits 226**

\* COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

## Writing Concentration

### 4 Year, 1 Co-Op

<b>First Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
ENGL 101 or 111	3.0 CIVC 101	1.0 COOP 101*	1.0 VACATION	
ENGL 195	3.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
UNIV H101	1.0 WRIT 200	3.0 ENGL 207	3.0	
(UG) Foreign Language Course	4.0 (UG) Foreign Language Course (level 103+)	4.0 WRIT 195	3.0	
(UG) Math Elective	3.0 (UG) Math Elective	3.0 (UG) Social/Behavioral Science Elective	3.0	
(UG) Social/Behavioral Science Elective	3.0 (UG) Social/Behavioral Science Elective	3.0 (UG) Science Elective	3.0	
	<b>17</b>	<b>17</b>	<b>16</b>	<b>0</b>
<b>Second Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
ENGL 301	1.0 WRIT 212 or 295	3.0 ENGL 301	1.0 ENGL 325	3.0
WRIT 210 or 211	3.0 (UG) Writing Practice Course (1 of 7)	3.0 ENGL 315	3.0 (UG) Writing Practice Course (3 of 7)	3.0
WRIT 225	3.0 (UG) Diversity Studies	3.0 (UG) Writing Practice Course (2 of 7)	3.0 (UG) Writing Practice Course (4 of 7)	3.0
(UG) Science Elective	3.0 (UG) International Studies Elective	3.0 (UG) Diversity Studies	3.0 (UG) Free Electives	6.0
(UG) International Studies Elective	3.0 (UG) Humanities Elective	3.0 (UG) Humanities Elective	3.0	
(UG) Social/Behavioral Science Elective	3.0	(UG) Free Elective	3.0	
	<b>16</b>	<b>15</b>	<b>16</b>	<b>15</b>

**Third Year**

<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
ENGL 301	1.0 (UG) Free Electives	13.0 COOP EXPERIENCE	COOP EXPERIENCE	
ENGL 380	3.0 COM 610	3.0	COM 574	3.0
(UG) Free Electives	9.0			
COM 500	3.0			
	<b>16</b>	<b>16</b>	<b>0</b>	<b>3</b>

**Fourth Year**

<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
ENGL 490	3.0 ENGL 355	3.0 ENGL 495	3.0 Student classified as Graduate	
UNIV H201	1.0 ENGL 492	3.0 (UG) Free Electives	9.0	
(UG) Literary Traditions	3.0 (UG) English Elective (ENGL or WRIT)	3.0 COM 615	3.0	
(UG) English Elective	3.0 (UG) Free Electives	6.0 (GR) SDC Program Elective	3.0	
(UG) Free Electives	6.0 COM 651	3.0 Student graduates with BA degree		
COM 613	3.0			
	<b>19</b>	<b>18</b>	<b>18</b>	<b>0</b>

**Fifth Year**

<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>
(GR) SDC Program Electives	6.0 (GR) SDC Program Elective	3.0 COM 698	3.0
(GR) Graduate Elective	3.0 (GR) Graduate Electives	6.0 (GR) Graduate Electives	3.0
	<b>9</b>	<b>9</b>	<b>6</b>

**Total Credits 226**

\* COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

**5 year, 3 co-op****First Year**

<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
ENGL 101 or 111	3.0 CIVC 101	1.0 COOP 101*	1.0 VACATION	
ENGL 195	3.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
UNIV H101	1.0 WRIT 200	3.0 ENGL 207	3.0	
(UG) Foreign Language Course	4.0 (UG) Foreign Language Course (level 103+ or higher)	4.0 WRIT 195	3.0	
(UG) Math Elective	3.0 (UG) Math Elective	3.0 (UG) Social/Behavioral Science	3.0	
(UG) Social/Behavioral Sciences Elective	3.0 (UG) Social/Behavioral Science Elective	3.0 (UG) Science Elective	3.0	
		(UG) Free Elective	3.0	
	<b>17</b>	<b>17</b>	<b>19</b>	<b>0</b>

**Second Year**

<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COOP EXPERIENCE	COOP EXPERIENCE	ENGL 301	1.0 (UG) Literature Survey	3.0
		WRIT 225	3.0 (UG) Diversity Studies	3.0
		(UG) Science Elective	3.0 (UG) International Studies Elective	3.0
		(UG) Literature Survey	3.0 (UG) Humanities Elective	3.0
		(UG) International Studies Elective	3.0 (UG) Free Electives	6.0
		(UG) Social/Behavioral Sciences	3.0	
		(UG) Free Elective	3.0	
	<b>0</b>	<b>0</b>	<b>19</b>	<b>18</b>

**Third Year**

<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COOP EXPERIENCE	COOP EXPERIENCE	ENGL 301	1.0 ENGL 325	3.0

	COM 610	3.0 ENGL 315	3.0 (UG) Literature Survey	3.0
		(UG) Literature Survey	3.0 (UG) Free Electives	7.0
		(UG) Authors and Periods	3.0 COM 574	3.0
		(UG) Diversity Studies	3.0	
		(UG) Humanities Elective	3.0	
		(GR) SDC Program Elective	3.0	
	<b>0</b>	<b>3</b>	<b>19</b>	<b>16</b>
<b>Fourth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COOP EXPERIENCE	COOP EXPERIENCE	ENGL 301	1.0 (UG) Free Electives	12.0
COM 615	3.0 (GR) Graduate Elective	3.0 ENGL 355	3.0 COM 651	3.0
		(UG) Literary Impacts	3.0 (GR) SDC Program Elective	3.0
		(UG) Literary Traditions	3.0	
		(UG) Free Elective	3.0	
		COM 613	3.0	
		(GR) SDC Program Elective	3.0	
	<b>3</b>	<b>3</b>	<b>19</b>	<b>18</b>
<b>Fifth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>	
ENGL 380	3.0 ENGL 492	3.0 ENGL 495	3.0	
ENGL 490	3.0 (UG) English Elective (ENGL or WRIT)	3.0 (UG) Free Electives	9.0	
UNIV H201	1.0 (UG) Free Electives	6.0 COM 698	3.0	
(UG) English Elective (ENGL or WRIT)	3.0 (GR) SDC Program Elective	3.0 (GR) Graduate Elective	3.0	
(UG) Free Elective	3.0 (GR) Graduate Elective	3.0		
COM 500	3.0			
(GR) Graduate Elective	3.0			
	<b>19</b>	<b>18</b>	<b>18</b>	

**Total Credits 226**

\* COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

## Environmental Science BS / Environmental Policy MS

*Major: Environmental Science and Environmental Policy*

*Degree Awarded: Bachelor of Science (BS) and Master of Science in Environmental Policy (MSEP)*

*Calendar Type: Quarter*

*Total Credit Hours: 224.5*

*Co-op Options: One Co-op (Five years)*

*Classification of Instructional Programs (CIP) code: 03.0104*

*Standard Occupational Classification (SOC) code: 19-2041*

### About the Program

The BS/MS program in Environmental Science (BS) and Environmental Policy (MS) is designed to bring two distinct but mutually enhancing disciplines together in one program. It provides an opportunity for highly motivated and qualified undergraduates to begin pursuing a graduate degree prior to completion of their bachelor's degree in the 4+1 one co-op program.

Environmental policy pairs naturally with environmental science by helping students bridge the gap between their strength in science and their interest in making change through policy. Science without an effective avenue toward working with decision makers and supporting public policy runs short of its reach and potential benefit. The BS/MS in ENVS-ENVP prepares students both as scientists and professionals who can communicate science and translate environmental data into actionable environmental policy with tangible impact. Students can also conduct real-world research writing through a case study thesis, select elective courses tailored to their interests, or complete their degree with research experience.

The accelerated program is appropriate for Environmental Science majors interested in learning about public policy and who have a desire to work in environmental policy, such as in government, advocacy work, consulting, or the nonprofit sector.

## Admission Requirements

To be eligible for the BS/MS program, students must apply between 90.0-120.0 credits and have a minimum 3.25 cumulative GPA. Applicants should meet with their advisor to create a plan of study and email that plan of study and a one-page essay to the director of the ENVP program along with a short email of introduction including their current major and proposed ENVP track. After a review of the initial plan of study, the director and the student will have a 20-minute interview. If accepted, the student will receive an Accelerated Degree Program Application form and will use it to obtain permission from all approving parties listed on the form.

## Degree Requirements

### Degree Requirements

#### Humanities and Social Science

CIVC 101	Introduction to Civic Engagement	1.0
COM 230	Techniques of Speaking	3.0
COM 310 [WI]	Technical Communication	3.0
COOP 101	Career Management and Professional Development *	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
PHIL 340	Environmental Ethics	3.0
or PHIL 341	Environmental Philosophy	
UNIV S101	The Drexel Experience	1.0
Humanities/Social Science electives		6.0
UNIV S201	Looking Forward: Academics and Careers	1.0

#### Mathematics, Statistics & Computing

21.0

Select one of the following sequences:

##### Calculus sequence

MATH 121	Calculus I
MATH 122	Calculus II
MATH 123	Calculus III

##### Analysis sequence

MATH 101	Introduction to Analysis I
MATH 102	Introduction to Analysis II
MATH 239	Mathematics for the Life Sciences

Additional required math & computing courses:

CS 171	Computer Programming I
MATH 410	Scientific Data Analysis I
MATH 411	Scientific Data Analysis II

#### Physical Sciences

CHEM 101	General Chemistry I	3.5
CHEM 102	General Chemistry II	4.5
CHEM 103	General Chemistry III	4.5
Choose two chemistry electives from:		5.0

CHEM 241	Organic Chemistry I
ENVS 302	Environmental Chemistry Laboratory
ENVS 310	Introduction to Environmental Chemistry

##### Physics sequence

PHYS 152	Introductory Physics I	4.0
PHYS 153	Introductory Physics II	4.0
PHYS 154	Introductory Physics III	4.0

#### Biological Sciences

BIO 131	Cells and Biomolecules	4.0
BIO 132	Genetics and Evolution	4.0
BIO 133	Physiology and Ecology	4.0
BIO 134	Cells and Biomolecules Lab	1.0
BIO 135	Genetics and Evolution Lab	1.0
BIO 136	Anatomy and Ecology Lab	1.0

#### Geoscience Requirements

GEO 101	Physical Geology	4.0
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GEO 103	Introduction to Field Methods in Earth Science	2.0
GEO 201 [WI]	Earth Systems Processes	3.0
<b>Environmental Science Core Requirements</b>		
ENVS 101	Introduction to Environmental Science	5.0
ENVS 102	Natural History, Research and Collections	2.0
ENVS 201	Practical Identification of Plants and Animals	2.0
ENVS 212	Evolution	4.0
ENVS 284	Physiological and Population Ecology	3.0
ENVS 286	Community and Ecosystem Ecology	3.0
ENVS 308	GIS and Environmental Modeling	3.0
ENVS 441 [WI]	Issues in Global Change I: Seminar	2.0
ENVS 442	Issues in Global Change II: Research	2.0
ENVS 443	Issues in Global Change III: Synthesis	2.0
Choose one of the following:		3.0
ENSS 283	Introduction to Environmental Policy	
ENSS 326	Cities and Sustainability	
ENSS 348	Delaware River Issues and Policy	
PSCI 284	Environmental Politics	
<b>Environmental Science Lab Requirements</b>		<b>2.0</b>
<b>Environmental Concentration Requirements</b>		<b>14.0</b>
See list of concentration requirements below.		
<b>Environmental Electives (plus 6crs shared with ENVP 522 and ENVS 528 or 538)</b>		<b>6.0</b>
<b>Free Electives</b>		<b>24.0</b>
<b>MS Environmental Policy</b>		
<b>Public Policy Core Graduate Courses</b>		<b>12.0</b>
PLCY 503	Theory and Practice of Policy Analysis	
PLCY 504	Methods of Policy Analysis	
PLCY 506	Institutional Dynamics of the Policy Process	
PLCY 507	Nonprofit Organizations	
<b>Environmental Core Graduate Courses</b>		<b>9.0</b>
ENVP 522	Environmental Law	
ENVP 572	Environmental Policy	
ENVS 506	Biostatistics	
<b>Environmental Science or Environmental and Occupational Health Track</b>		<b>6.0</b>
Environmental Science Track (2 of the following courses):		
ENVS 501	Chemistry of the Environment	
ENVS 528	Conservation Biology	
ENVS 538	Biodiversity	
Environmental and Occupational Health Track (EOH 510 and one of the following 600-level EOH courses):		
EOH 510	Principles and Practice of Environmental and Occupational Health	
EOH 605	Evidence Evaluation for Identification of Environmental Hazards	
EOH 610	Environmental and Occupational Toxicology	
EOH 615	Environmental and Occupational Health Policy	
EOH 630	Environmental Health Risk and Impact Assessment	
EOH 665	Quantitative Risk Analysis for Environmental Health	
<b>Economics Core</b>		<b>6.0</b>
BUSN 502	Essentials of Economics	
or ECON 601	Managerial Economics	
ECON 616	Public Finance and Cost Benefit Analysis	
<b>Research Experience and/or Approved Courses in Environmental Policy</b>		<b>12.0</b>
Case Study Sequence (optional 9 credits)		
Approved Electives: The remaining 3-12 credits may be any graduate ENVP or PLCY courses. **		
<b>Total Credits</b>		<b>224.5</b>

\* Students not participating in co-op will not take COOP 101; 1 credit of Free Elective will be added in place of COOP 101.

\*\* In some cases, course substitutions may be made with courses from other departments. Elective courses taken outside the department must receive prior departmental approval in order to be counted toward the degree.

## Environmental Science Concentrations

### Ecology & Evolution Concentration

14.0-15.0

Choose 5 from below:

BIO 244	Genetics I
BIO 436	Population Genetics
ENVS 202	Tree of Life
ENVS 312	Systematic Biology
ENVS 328	Conservation Biology
ENVS 470	Advanced Topics in Evolution

Total Credits

14.0-15.0

### Applied Environmental Science Concentration

14.0-15.0

Required Courses

ENVS 203	The Watershed Approach
ENVS 275	Global Climate Change
ENVS 372	Environmental Assessment

Choose 2 from below:

ENVS 376	Environmental and Ecological Remediation
ENVS 401	Chemistry of the Environment
GEO 306	Environmental Geology

Total Credits

14.0-15.0

## Sample Plan of Study

### 4+1 (4COP), 1 co-op

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CHEM 101	3.5 BIO 132	4.0 BIO 136	1.0 VACATION	
ENGL 101 or 111	3.0 BIO 135	1.0 BIO 133	4.0	
ENVS 101	5.0 CHEM 102	4.5 CHEM 103	4.5	
MATH 101 or 121	4.0 CIVC 101	1.0 COOP 101	1.0	
UNIV S101	1.0 ENGL 102 or 112	3.0 GEO 103	2.0	
	MATH 102 or 122	4.0 MATH 239 or 123	4.0	
	<b>16.5</b>	<b>17.5</b>	<b>16.5</b>	<b>0</b>

#### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
BIO 131	4.0 CS 171	3.0 ENVS 212	4.0 COM 230	3.0
BIO 134	1.0 ENVS 286	3.0 GEO 101	4.0 PHYS 153	4.0
ENGL 103 or 113	3.0 GEO 201	3.0 PHYS 152	4.0 (UG) ENVS Lab elective	2.0
ENVS 102	2.0 UNIV S201	1.0 (UG) Free elective	3.0 (UG) Humanities/Social Science elective	3.0
ENVS 201	2.0 (UG) ENVS Concentration course	2.0 (UG) Humanities/Social Science elective	3.0 (UG) Free elective	3.0
ENVS 284	3.0 (UG) Free elective	3.0		
	<b>15</b>	<b>15</b>	<b>18</b>	<b>15</b>

#### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
MATH 410	3.0 ENSS 283 or PSCI 284	3.0-4.0 COOP EXPERIENCE	COOP EXPERIENCE	
PHIL 340 or 341	3.0 ENVS 308	3.0		
PHYS 154	4.0 MATH 411	3.0		
(UG) CHEM elective	3.0 (UG) CHEM elective	2.0		
(UG) ENVS Concentration course	3.0 (UG) ENVS Concentration course	3.0		
	<b>16</b>	<b>14-15</b>	<b>0</b>	<b>0</b>

#### Fourth Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 310	3.0 ENVS 442	2.0 ENVS 443	2.0 Student converted to Graduate status	
ENVS 441	2.0 (UG) ENVS Concentration course	3.0 (UG) ENVS electives	3.0	

(UG) ENVS Concentration course	3.0 (UG) ENVS elective	3.0 (UG) Free elective	7.0
(UG) Free elective	4.0 (UG) Free elective	4.0 ENVS 506	3.0
ENVP 522 (Shared UG/GR course)	3.0 ENVS 528 or 538 (Shared UG/GR Course)	3.0 PLCY 510 (or [GR] elective)	3.0
ENVS 501 or EOH 510	3.0 ENVP 572	3.0	
	<b>18</b>	<b>18</b>	<b>18</b>
<b>Fifth Year</b>			<b>0</b>
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>
PLCY 506	3.0 BUSN 502	3.0 ECON 616	3.0
PLCY 516 (or [GR] elective)	3.0 PLCY 503	3.0 PLCY 504	3.0
(GR) elective	3.0 PLCY 517 (or [GR] elective)	3.0 PLCY 507 (or [GR] elective)	3.0
	<b>9</b>	<b>9</b>	<b>9</b>
<b>Total Credits 224.5-225.5</b>			

## Environmental Science BS / Environmental Science MS

*Major: Environmental Science*

*Degree Awarded: Bachelor of Science (BS) and Master of Science in Environmental Science (MSES)*

*Calendar Type: Quarter*

*Total Credit Hours: 224.5*

*Co-op Options: One Co-op (Five years)*

*Classification of Instructional Programs (CIP) code: 03.0104*

*Standard Occupational Classification (SOC) code: 19-2041*

### About the Program

The BS/MS program in Environmental Science is designed to provide an opportunity for highly motivated and qualified undergraduates to begin pursuing a graduate degree prior to completion of their bachelor's degree in the 4+1 one co-op program.

The MS in Environmental Science builds on the knowledge undergraduates gain in their Environmental Science program and allows students to advance into higher-level courses with greater depth. Students interested in a course-based program can choose to do the BS/MS as a non-thesis student, which has advantages when seeking positions in consulting, government, or nonprofit organizations. Students interested in research careers or future doctoral studies can opt to pursue the thesis option, which provides an opportunity to conduct independent research and gain valuable research experience. Students interested in the thesis option require early planning.

### Admission Requirements

To be eligible for the BS/MS program, students must apply between 90.0-120.0 credits and have a minimum 3.25 cumulative GPA overall and in their math and science courses. Applicants should meet with their advisor to create a plan of study and submit a one-page personal statement. After a review of the initial plan of study and personal statement, the applicant will meet with the undergraduate and graduate chairs for an interview. If accepted, the student will receive an Accelerated Degree Program Application form and will use it to obtain permission from all approving parties listed on the form.

### Degree Requirements

#### Degree Requirements

##### Humanities and Social Science

CIVC 101	Introduction to Civic Engagement	1.0
COM 230	Techniques of Speaking	3.0
COM 310 [WI]	Technical Communication	3.0
COOP 101	Career Management and Professional Development *	1.0
ENGL 101 or ENGL 111	Composition and Rhetoric I: Inquiry and Exploratory Research English Composition I	3.0
ENGL 102 or ENGL 112	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing English Composition II	3.0
ENGL 103 or ENGL 113	Composition and Rhetoric III: Themes and Genres English Composition III	3.0
PHIL 340 or PHIL 341	Environmental Ethics Environmental Philosophy	3.0
Humanities/Social Science electives		6.0
UNIV S101	The Drexel Experience	1.0

UNIV S201	Looking Forward: Academics and Careers	1.0
<b>Mathematics, Statistics &amp; Computing</b>		<b>21.0</b>
CS 171	Computer Programming I	
MATH 101 or MATH 121	Introduction to Analysis I Calculus I	
MATH 102 or MATH 122	Introduction to Analysis II Calculus II	
MATH 239 or MATH 123	Mathematics for the Life Sciences Calculus III	
MATH 410	Scientific Data Analysis I	
MATH 411	Scientific Data Analysis II	
<b>Physical Sciences</b>		
CHEM 101	General Chemistry I	3.5
CHEM 102	General Chemistry II	4.5
CHEM 103	General Chemistry III	4.5
Choose two chemistry electives from:		5.0
CHEM 241	Organic Chemistry I	
ENVS 302	Environmental Chemistry Laboratory	
ENVS 310	Introduction to Environmental Chemistry	
Physics sequence		
PHYS 152	Introductory Physics I	4.0
PHYS 153	Introductory Physics II	4.0
PHYS 154	Introductory Physics III	4.0
<b>Biological Sciences</b>		
BIO 131	Cells and Biomolecules	4.0
BIO 132	Genetics and Evolution	4.0
BIO 133	Physiology and Ecology	4.0
BIO 134	Cells and Biomolecules Lab	1.0
BIO 135	Genetics and Evolution Lab	1.0
BIO 136	Anatomy and Ecology Lab	1.0
<b>Geoscience Requirements</b>		
GEO 101	Physical Geology	4.0
GEO 103	Introduction to Field Methods in Earth Science	2.0
GEO 201 [WI]	Earth Systems Processes	3.0
<b>Environmental Science Core Requirements</b>		
ENVS 101	Introduction to Environmental Science	5.0
ENVS 102	Natural History, Research and Collections	2.0
ENVS 201	Practical Identification of Plants and Animals	2.0
ENVS 212	Evolution	4.0
ENVS 284	Physiological and Population Ecology	3.0
ENVS 286	Community and Ecosystem Ecology	3.0
ENVS 308	GIS and Environmental Modeling	3.0
ENVS 441 [WI]	Issues in Global Change I: Seminar	2.0
ENVS 442	Issues in Global Change II: Research	2.0
ENVS 443	Issues in Global Change III: Synthesis	2.0
Choose one of the following:		3.0
ENSS 283	Introduction to Environmental Policy	
ENSS 326	Cities and Sustainability	
ENSS 348	Delaware River Issues and Policy	
PSCI 284	Environmental Politics	
<b>Environmental Science Lab Requirements</b>		<b>2.0</b>
<b>Environmental Concentration Requirements</b>		<b>14.0</b>
See list of concentration requirements below.		
<b>Environmental Electives (plus 6crs GR shared ENVS 501 and ENVS 511)</b>		<b>6.0</b>
<b>Free Electives</b>		<b>24.0</b>
<b>Graduate Courses</b>		
ENVS 501	Chemistry of the Environment	3.0
ENVS 511	Evolutionary Ecology	3.0
MS ENVS electives		39.0
<b>Total Credits</b>		<b>224.5</b>



\* Students not participating in co-op will not take COOP 101; 1 credit of Free Elective will be added in place of COOP 101.

## Environmental Science Concentrations

### Ecology & Evolution Concentration 14.0-15.0

Choose 5 from below:

BIO 244	Genetics I
BIO 436	Population Genetics
ENVS 202	Tree of Life
ENVS 312	Systematic Biology
ENVS 328	Conservation Biology
ENVS 470	Advanced Topics in Evolution

**Total Credits** **14.0-15.0**

### Applied Environmental Science Concentration 14.0-15.0

Required Courses

ENVS 203	The Watershed Approach
ENVS 275	Global Climate Change
ENVS 372	Environmental Assessment

Choose 2 from below:

ENVS 376	Environmental and Ecological Remediation
ENVS 401	Chemistry of the Environment
GEO 306	Environmental Geology

**Total Credits** **14.0-15.0**

## Sample Plan of Study

### 4+1 (4COP), 1 co-op

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CHEM 101	3.5 BIO 132	4.0 BIO 133	4.0 VACATION	
ENGL 101 or 111	3.0 BIO 135	1.0 BIO 136	1.0	
ENVS 101	5.0 CHEM 102	4.5 CHEM 103	4.5	
MATH 101 or 121	4.0 CIVC 101	1.0 COOP 101	1.0	
UNIV S101	1.0 ENGL 102 or 112	3.0 GEO 103	2.0	
	MATH 102 or 122	4.0 MATH 239 or 123	4.0	
	<b>16.5</b>	<b>17.5</b>	<b>16.5</b>	<b>0</b>

#### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
BIO 131	4.0 CS 171	3.0 ENVS 212	4.0 COM 230	3.0
BIO 134	1.0 ENVS 286	3.0 GEO 101	4.0 PHYS 153	4.0
ENGL 103 or 113	3.0 GEO 201	3.0 PHYS 152	4.0 (UG) ENVS Lab elective	2.0
ENVS 102	2.0 UNIV S201	1.0 (UG) Humanities/Social Science elective	3.0 (UG) Humanities/Social Science elective	3.0
ENVS 201	2.0 (UG) ENVS Concentration course	2.0 (UG) Free elective	3.0 (UG) Free elective	3.0
ENVS 284	3.0 (UG) Free elective	3.0		
	<b>15</b>	<b>15</b>	<b>18</b>	<b>15</b>

#### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
MATH 410	3.0 ENSS 283 or PSCI 284	3.0-4.0 COOP EXPERIENCE	COOP EXPERIENCE	
PHIL 340 or 341	3.0 ENVS 308	3.0		
PHYS 154	4.0 MATH 411	3.0		
(UG) ENVS Concentration course	3.0 (UG) ENVS Concentration course	3.0		
(UG) CHEM elective	3.0 (UG) CHEM elective	2.0		
	<b>16</b>	<b>14-15</b>	<b>0</b>	<b>0</b>

#### Fourth Year

Fall	Credits Winter	Credits Spring	Credits
ENVS 441	2.0 ENVS 442	2.0 ENVS 443	2.0
COM 310	3.0 (UG) ENVS Concentration course	3.0 (UG) ENVS electives	3.0

(UG) ENVS Concentration course	3.0 (UG) ENVS elective	3.0 (UG) Free elective	7.0
(UG) Free elective	4.0 (UG) Free elective	4.0 ENVS 506	3.0
ENVS 501 (Shared UG/ GR course)	3.0 ENVS 511 (Shared UG/ GR course)	3.0 (GR) Electives	3.0
(GR) Elective	3.0 (GR) Elective	3.0	
	<b>18</b>	<b>18</b>	<b>18</b>
<b>Fifth Year</b>			
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>
(GR) Electives	9.0 (GR) Electives	9.0 (GR) Electives	9.0
	<b>9</b>	<b>9</b>	<b>9</b>

Total Credits 224.5-225.5

## Environmental Studies & Sustainability BA / Environmental Policy MSEP

Major: *Environmental Studies & Sustainability and Environmental Policy*

Degree Awarded: *Bachelor of Arts (BA) and Master of Science in Environmental Policy (MSEP)*

Calendar Type: *Quarter*

Total Credit Hours: *225.0*

Co-op Options: *One Co-op (Five years)*

Classification of Instructional Programs (CIP) code: *03.0104*

Standard Occupational Classification (SOC) code: *19-2041*

### About the Program

The BAMS program in Environmental Studies and Sustainability (BA) and Environmental Policy (MS) is designed to provide an opportunity for highly motivated and qualified undergraduates to begin pursuing a graduate degree prior to completion of their bachelor's degree. The MS in Environmental Policy builds on the knowledge that undergraduates gain in the Environmental Studies and Sustainability program and provides advanced training for careers in environmental law, research, advocacy, and more.

Creating public policy that supports environmental stewardship is a challenging and critical endeavor. The BAMS program prepares students to critically engage with complex environmental challenges; devise and communicate innovative policy solutions; and work with decision makers to effect policy change. Coursework spans the disciplines of law, political science, economics, engineering, business, and public health. Students have the opportunity to select elective courses tailored to their interests, gain hands-on research experience, and complete a case-based thesis with real-world impact.

The BAMS ENSS-ENVP program is appropriate for environmental studies and sustainability majors interested in advanced studies in public policy, and who have a desire to work in a range of environmental sectors.

### Admission Requirements

To be eligible for the BAMS program, students must apply between 90.0-120.0 credits and have a minimum 3.25 cumulative GPA. Applicants should meet with their advisor to create a plan of study and email that plan of study and a 1-page essay to the Director of the ENVP Program along with a short email of introduction including their current major and proposed ENVP track. After a review of the initial plan of study, the director and the student will have a 20-minute interview. If accepted, the student will receive an Accelerated Degree Program Application form and will use it to obtain permission from all approving parties listed on the form.

### Degree Requirements

#### General Requirements

CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
MATH 101	Introduction to Analysis I	4.0
MATH 107	Probability and Statistics for Liberal Arts	3.0
UNIV S101	The Drexel Experience	1.0
UNIV H201	Looking Forward: Academics and Careers	1.0

#### Social and Behavioral Sciences

SOC 101	Introduction to Sociology	3.0
or ANTH 101	Introduction to Cultural Diversity	
PSY 101	General Psychology I	3.0
PSCI 110	American Government	4.0
Social Behavior elective		3.0
<b>Physical and Natural Sciences</b>		
BIO 109	Biological Diversity, Ecology & Evolution	3.0
BIO 110	Biological Diversity, Ecology and Evolution Laboratory	1.0
ENVS 101	Introduction to Environmental Science	5.0
ENVS 230	General Ecology	3.0
ENSS 275	Global Climate Change	3.0
or ENVS 289	Global Warming, Biodiversity and Your Future	
GEO 201 [WI]	Earth Systems Processes	3.0
<b>Humanities and Fine Arts</b>		
Humanities & Fine Arts Electives		6.0
COM 317 [WI]	Environmental Communication	3.0
or COM 320	Science Writing	
PHIL 340	Environmental Ethics	3.0
or PHIL 341	Environmental Philosophy	
<b>Diversity Electives</b>		<b>6.0</b>
<b>International Studies</b>		<b>6.0</b>
<b>Foreign Language</b>		<b>8.0</b>
Students must complete at least 8 credits of a foreign language and, at minimum, must complete the 103 level of the target language (or beyond if they place higher).		
<b>ENSS Core Requirements</b>		
ECON 201	Principles of Microeconomics	4.0
ECON 202	Principles of Macroeconomics	4.0
ENSS 120	Introduction to Environmental Studies	3.0
ENSS 244	Sociology of the Environment	4.0
ENSS 283	Introduction to Environmental Policy	3.0
ENSS 285	Introduction to Urban Planning	3.0
ENSS 326	Cities and Sustainability	3.0
ENSS 346	Environmental Justice	4.0
ENVS 260	Environmental Science and Society	3.0
PBHL 101	Public Health 101	3.0
PSCI 284	Environmental Politics	4.0
<b>Modeling and Research</b>		
ENVS 308	GIS and Environmental Modeling	3.0
SOC 241	Research Design: Qualitative Methods	4.0
SOC 242	Research Design: Quantitative Methods	4.0
<b>ENSS Electives (plus 3crs shared GR course ENVP 522)</b>		<b>18.0</b>
<b>Senior Sequence</b>		
ENVS 441 [WI]	Issues in Global Change I: Seminar	2.0
ENVS 442	Issues in Global Change II: Research	2.0
ENVS 443	Issues in Global Change III: Synthesis	2.0
Free Electives		24.0
<b>MS Environmental Policy</b>		
<b>Public Policy Core Graduate Courses</b>		<b>12.0</b>
PLCY 503	Theory and Practice of Policy Analysis	
PLCY 504	Methods of Policy Analysis	
PLCY 506	Institutional Dynamics of the Policy Process	
PLCY 507	Nonprofit Organizations	
<b>Environmental Core Graduate Courses</b>		<b>9.0</b>
ENVP 522	Environmental Law	
ENVP 572	Environmental Policy	
ENVS 506	Biostatistics	
<b>Environmental Science or Environmental and Occupational Health Track</b>		<b>6.0</b>
Environmental Science Track (2 of the following courses):		
ENVS 501	Chemistry of the Environment	
ENVS 528	Conservation Biology	
ENVS 538	Biodiversity	
Environmental and Occupational Health Track (EOH 510 and one of the following 600-level EOH courses):		
EOH 510	Principles and Practice of Environmental and Occupational Health	

EOH 605	Evidence Evaluation for Identification of Environmental Hazards	
EOH 610	Environmental and Occupational Toxicology	
EOH 615	Environmental and Occupational Health Policy	
EOH 630	Environmental Health Risk and Impact Assessment	
EOH 665	Quantitative Risk Analysis for Environmental Health	
<b>Economics Core</b>		<b>6.0</b>
BUSN 502 or ECON 601	Essentials of Economics Managerial Economics	
ECON 616	Public Finance and Cost Benefit Analysis	
<b>Research Experience and/or Approved Courses in Environmental Policy</b>		<b>12.0</b>
Case Study Sequence (optional 9 credits)		
Approved Electives: The remaining 3-12 credits may be any graduate ENVP or PLCY courses. In some cases, course substitutions may be made with courses from other departments. Elective courses taken outside the department must receive prior departmental approval in order to be counted toward the degree.		
<b>Total Credits</b>		<b>225.0</b>

\* Students not participating in co-op will not take COOP 101; 1 credit of Free Elective will be added in place of COOP 101.

## Sample Plan of Study

### 4+1 (4COP), 1 co-op

First Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENSS 120	3.0 BIO 109	3.0 COOP 101	1.0 VACATION	
ENVS 101	5.0 BIO 110	1.0 ENGL 103 or 113	3.0	
ENGL 101 or 111	3.0 CIVC 101	1.0 MATH 107	3.0	
MATH 101	4.0 ENGL 102 or 112	3.0 SOC 101 or ANTH 101	3.0	
UNIV S101	1.0 PSY 101	3.0 (UG) Foreign Language	4.0	
	(UG) Foreign Language	4.0 (UG) Free elective	3.0	
	<b>16</b>	<b>15</b>	<b>17</b>	<b>0</b>
Second Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENSS 283	3.0 ENSS 244	4.0 ECON 201	4.0 ECON 202	4.0
ENVS 260	3.0 ENSS 275 or ENVS 289	3.0 ENVS 230	3.0 (UG) ENSS elective	3.0
PBHL 101	3.0 GEO 201	3.0 (UG) ENSS elective	3.0 (UG) Humanities/Fine Arts elective	3.0
PSCI 110	4.0 (UG) ENSS elective	3.0 (UG) International elective	3.0 (UG) Diversity elective	3.0
UNIV H201	1.0 (UG) Free elective	3.0 (UG) Diversity elective	3.0 (UG) Free elective	4.0
	<b>14</b>	<b>16</b>	<b>16</b>	<b>17</b>
Third Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENSS 285	3.0 COM 317	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
PHIL 340 or 341	3.0 ENVS 308	3.0		
SOC 241	4.0 PSCI 284	4.0		
(UG) Humanities/Fine Arts elective	3.0 SOC 242	4.0		
(UG) Free elective	3.0 (UG) Free elective	3.0		
	<b>16</b>	<b>17</b>	<b>0</b>	<b>0</b>
Fourth Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENSS 346	4.0 ENSS 326	3.0 ENVS 443	2.0 Student Classified as Graduate	
ENVS 441	2.0 ENVS 442	2.0 (UG) ENSS elective	3.0	
(UG) ENSS elective	3.0 (UG) ENSS elective	3.0 (UG) International elective	3.0	
(UG) Social/Behavior Science elective	3.0 (UG) Free elective	4.0 (UG) Free elective	4.0	
ENVP 522 (Shared UG/GR course)	3.0 ENVP 572	3.0 ENVS 506	3.0	
ENVS 501 or EOH 510	3.0 ENVS 528 (or [GR] EOH elective)	3.0 PLCY 510 (or [GR] elective)	3.0	
	<b>18</b>	<b>18</b>	<b>18</b>	<b>0</b>

**Fifth Year**

Fall	Credits Winter	Credits Spring	Credits
PLCY 506	3.0 BUSN 502	3.0 ECON 616	3.0
PLCY 516 (or [GR] elective)	3.0 PLCY 503	3.0 PLCY 504	3.0
(GR) elective	3.0 PLCY 517 (or [GR] elective)	3.0 PLCY 507 (or [GR] elective)	3.0
	<b>9</b>	<b>9</b>	<b>9</b>

Total Credits 225

## Global Studies BA / Business Administration MBA

Major: Global Studies

Degree Awarded: Bachelor of Arts (BA) and Master of Business Administration (MBA)

Calendar Type: Quarter

Total Credit Hours: 229.0

Co-op Options: One Co-op (Five Years)

Classification of Instructional Programs (CIP) code: 30.2001

Standard Occupational Classification (SOC) code: 19-3094

### About the Program

To further prepare students for careers in the international sphere, Drexel University now offers an accelerated degree that allows students to complete an accelerated bachelor's degree (BA) in Global Studies and an MBA. Students apply in their third year to Drexel's LeBow College of Business. Those accepted begin working on their MBA as they complete their BA, getting their MBA a year earlier than if they had done the two degrees separately. They also have a chance to complete an undergraduate co-op and gain valuable work experience as they go.

The Drexel BA degree prepares students for exciting international careers or at home working with diverse international populations. It prepares them by giving them foreign language fluency and offers a wide variety of courses in the social sciences, humanities, philosophy, hard sciences, cultural studies, and other fields. While working on their Global Studies degree, students also are encouraged to study abroad, adding to their global perspective as well as perfecting their foreign language skills. There are also many opportunities for doing co-op abroad: a chance to live overseas for six months while gaining valuable work experience and getting the opportunity to truly be part of the culture of the place where they are working. Study abroad opportunities exist in many countries in Europe, Africa, Latin America, and across Asia. Co-op abroad employers can also be found in almost any part of the world.

Added to this is the chance to get an accelerated degree with an MBA, a much-in-demand professional degree with many uses. Students interested in business, trade, accounting, and corporate careers, for example, can gain skills that make them attractive to international development agencies like the US Agency for International Development, the World Bank, or many government agencies, private multinational corporations, and regional companies. Students who want to work domestically can use their language and cultural skills in a wide variety of settings here, working with the diverse population within the US. A degree in Business Administration allows graduates to make a real impact on society, improving the lives of people around the world.

Drexel Global Studies students have won a wide variety of international fellowships, including Fulbright, Boren, and other US government programs. They have studied abroad in countries as diverse as France, Senegal, Equatorial Guinea, Argentina, Costa Rica, China, Japan, and Korea. They have gone on to work with the US State Department and other government agencies, with large Silicon Valley tech firms, and with private corporations and nonprofits around the world. Adding an MBA will open even more doors for students interested in making a difference at home and abroad.

### Admission Requirements

Same as regular requirements for Global Studies majors.

### Degree Requirements

#### General Requirements

CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development	1.0
ECON 201	Principles of Microeconomics	4.0
ECON 202	Principles of Macroeconomics	4.0
ENGL 101 or ENGL 111	Composition and Rhetoric I: Inquiry and Exploratory Research English Composition I	3.0
ENGL 102 or ENGL 112	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing English Composition II	3.0
ENGL 103 or ENGL 113	Composition and Rhetoric III: Themes and Genres English Composition III	3.0
PSCI 150	International Politics	4.0

UNIV H101	The Drexel Experience	1.0
UNIV H201	Looking Forward: Academics and Careers	1.0
Two Mathematics courses		6.0-8.0
Two Science courses		6.0-8.0
<b>Global Studies Core Requirements</b>		
GST 101	Becoming Global: Language and Cultural Context	3.0
GST 102	Understanding Global: Markets and Governance	3.0
GST 103	Acting Global: Research Methods in Global Studies	3.0
Four 200+ level GST courses		12.0
GST 400	Senior Project in Global Studies	3.0
Language minor in Spanish, French, or Japanese, or minor in Asian Studies or Middle East and North Africa Studies *		24.0
Concentration (Select one from below)		95.0-91.0
<b>MBA Requirements</b>		
ACCT 510	Essentials of Financial Reporting	2.0
BLAW 510	Analyzing Legal Options in Decision-Making	1.0
ECON 601	Managerial Economics	3.0
FIN 601	Corporate Financial Management	3.0
MGMT 510	Business Problem Solving	3.0
MGMT 520	Strategy Analysis	2.0
MGMT 530	Managing and Leading the Total Enterprise	2.0
MGMT 770	MBA Capstone	2.0
MKTG 510	Marketing Strategy	2.0
ORGB 511	Leading in Dynamic Environments: A Personal, Relational, and Strategic Approach	3.0
ORGB 520	Leading High-Performance Teams	1.0
POM 510	Operations and Supply Chain Management	2.0
STAT 510	Introduction to Statistics for Business Analytics	2.0
<b>Experiential Requirements - Select one course:</b>		<b>3.0</b>
BUSN 615	Graduate Internship	
INTB 790	International Business Seminar and Residency	
MGMT 680	Leading for Innovation	
MGMT 715	Business Consulting	
MIS 652	Business Agility and IT	
ORGB 640	Negotiations for Leaders	
TAX 715	Tax Experiential Learning	
MBA Concentration Requirements (Select one concentration from the list below)		9.0
Graduate Free Electives		9.0
<b>Total Credits</b>		<b>229.0</b>

\* Students must complete at least 24.0 credits above the 103 language level to earn a language minor.

## Undergraduate Concentration: Global Justice and Human Rights

### Global Justice and Human Rights Distribution Requirements

ANTH 310	Societies In Transition: The Impact of Modernization and the Third World	3.0-4.0
or SOC 330	Development and Underdevelopment in the Global South	
ENGL 360 [WI]	Literature and Society	3.0
PHIL 335	Global Ethical Issues	3.0-4.0
or PSCI 352	Ethics and International Relations	
PSCI 120	History of Political Thought	4.0
or PSCI 229	Theories of Justice	
PSCI 353	International Human Rights	4.0
<b>Select one of the following</b>		<b>3.0-4.0</b>
PSCI 351	The United Nations in World Politics	
PSCI 357	The European Union in World Politics	
Global Justice and Human Rights Distribution Options		24.0
AFAS T280	Special Topics in Africana Studies <small>course must have a global theme</small>	
ANTH 250	Anthropology of Immigration	
ANTH 312	Approaches to Intercultural Behavior	
or COM 345	Intercultural Communication	
CJS 260	Justice in Our Community	
CJS 261	Prison, Society and You	
CJS 289	Terrorism	

CJS 320	Comparative Justice Systems
COM 360	Strategic International Communication
COM 362	International Negotiations
CULA 426	The Kitchen Garden: Summer
or CULA 427	The Kitchen Garden: Fall
ECON 301	Microeconomics
ECON 321	Macroeconomics
ECON 342	Economic Development
ECON 351	Resource and Environmental Economics
ENGL 325	Topics in World Literature
GST 221	Introduction to Global Capital and Development
GST 231	Introduction to Identities and Communities
GST 241	Introduction to Power and Resistance
GST 251	Introduction to Global Media, Arts, and Cultures
GST 261	Introduction to Global Health and Sustainability
GST 321	Advanced Studies in Global Capital and Development
GST 331	Advanced Studies in Identities and Communities
GST 341	Advanced Studies in Power and Resistance (Model Organization of American States)
GST 351	Advanced Studies in Global Media, Arts, and Cultures
GST 361	Advanced Studies in Global Health and Sustainability
GST T280	Special Topics in Global Studies
GST T380	Special Topics in Global Studies
HIST 385	Transnational History of Science, Technology and Environment
PHIL 241	Social & Political Philosophy
PHIL 335	Global Ethical Issues
PHIL 341	Environmental Philosophy
PHIL 385	Philosophy of Law
PHIL 391	Philosophy of Religion
PBHL 303	Overview of Issues in Global Health
PBHL 304	Introduction to Health & Human Rights
PSCI 229	Theories of Justice
PSCI 240	Comparative Politics II
PSCI 250	American Foreign Policy
PSCI 252	Global Governance
PSCI 255	International Political Economy
PSCI 260 [WI]	Power in Protest: Social Movements in Comparative Perspective
PSCI 305	Social Development: A Global Approach
PSCI 325	Political Theory from Below
PSCI 351	The United Nations in World Politics
PSCI 352	Ethics and International Relations
PSCI 357	The European Union in World Politics
PSCI 360	International Law
PSCI 361	The Politics of LGBT Movements and Rights
SOC 210	Race, Ethnicity and Social Inequality
SOC 220	Wealth and Power
SOC 315	HIV/AIDS and Africa
SOC 340	Globalization
SOC 346	Environmental Justice
SOC 355 [WI]	Classical Social Theory
SOC 444	Social Movements
WGST 240	Women and Society in a Global Context
WGST T280	Special Topics in Women's and Gender Studies <sup>must have a global theme</sup>

Electives 52.0-47.0

**Total Credits 96.0-94.0**

## Undergraduate Concentrations

### Global Health and Sustainability

#### Global Health and Sustainability Concentration Requirements

ANTH 360	Culture and the Environment	3.0-4.0
or SOC 244	Sociology of the Environment	

PBHL 301	Epidemiology in Public Health	3.0
PBHL 303	Overview of Issues in Global Health	3.0
PSCI 334	Politics of Environment and Health	4.0
or SOC 346	Environmental Justice	
<b>Choose one of the following English classes</b>		<b>3.0</b>
ENGL 300 [WI]	Literature & Science	
ENGL 302	Environmental Literature	
ENGL 370	Topics in Literature and Medicine	
<b>Choose one of the following Ethics courses</b>		<b>3.0</b>
PBHL 309	Public Health Ethics	
PHIL 321	Biomedical Ethics	
PHIL 340	Environmental Ethics	
<b>Global Health Distribution Options</b>		<b>24.0</b>
Students must complete at least 24.0 distribution credits from the approved list		
ANTH 210 [WI]	Worldview: Science, Religion and Magic	
ANTH 265	Health & Healing Practices in Cross-Cultural Perspective	
ANTH 310	Societies In Transition: The Impact of Modernization and the Third World	
ANTH 360	Culture and the Environment	
BIO 109	Biological Diversity, Ecology & Evolution	
BIO 264	Ethnobotany	
CJS 373	Environmental Crime	
COM 316	Campaigns for Health & Environment	
COM 317 [WI]	Environmental Communication	
COM 320 [WI]	Science Writing	
COM 375 [WI]	Grant Writing	
CULA 426	The Kitchen Garden: Summer	
CULA 427	The Kitchen Garden: Fall	
ECON 301	Microeconomics	
ECON 321	Macroeconomics	
ECON 351	Resource and Environmental Economics	
ENGL 300 [WI]	Literature & Science	
ENGL 302	Environmental Literature	
ENGL 370	Topics in Literature and Medicine	
ENSS 285	Introduction to Urban Planning	
ENSS 326	Cities and Sustainability	
ENTP 390	Energy Entrepreneurship	
ENVS 169	Environmental Science	
ENVS 247	Native Plants and Sustainability	
ENVS 275	Global Climate Change	
ENVS 289	Global Warming, Biodiversity and Your Future	
ENVS 328	Conservation Biology	
GST 221	Introduction to Global Capital and Development	
GST 231	Introduction to Identities and Communities	
GST 241	Introduction to Power and Resistance	
GST 251	Introduction to Global Media, Arts, and Cultures	
GST 261	Introduction to Global Health and Sustainability	
GST 321	Advanced Studies in Global Capital and Development	
GST 331	Advanced Studies in Identities and Communities	
GST 341	Advanced Studies in Power and Resistance	
GST 351	Advanced Studies in Global Media, Arts, and Cultures	
GST 361	Advanced Studies in Global Health and Sustainability	
GST T280	Special Topics in Global Studies	
GST T380	Special Topics in Global Studies	
HIST 287	History of Science: Ancient to Medieval	
HIST 288	History of Science: Medieval to Enlightenment	
HIST 289	History of Science: Enlightenment to Modernity	
HIST 321	Themes in Global Environmental History	
HIST 322	Empire and Environment	
HIST 385	Transnational History of Science, Technology and Environment	
HSAD 312	Development of World Health Care	
HSAD 316	Health Care across Cultures	
NFS 345	Foods and Nutrition of World Cultures	



NFS 446	Perspectives in World Nutrition
PBHL 302	Introduction to the History of Public Health
PBHL 304	Introduction to Health & Human Rights
PBHL 305	Women and Children: Health & Society
PBHL 306	Introduction to Community Health
PBHL 317	The World's Water
PBHL 320	Exploring the HIV/AIDS Pandemic
PBHL 321	Disease Outbreak Investigations
PBHL 333	Health Inequality
PHIL 321	Biomedical Ethics
PHIL 335	Global Ethical Issues
PHIL 340	Environmental Ethics
PHIL 341	Environmental Philosophy
PHIL 351	Philosophy of Technology
PHIL 361	Philosophy of Science
PSCI 252	Global Governance
PSCI 284	Environmental Politics
PSCI 305	Social Development: A Global Approach
PSCI 334	Politics of Environment and Health
PSCI 351	The United Nations in World Politics
PSCI 352	Ethics and International Relations
PSCI 353	International Human Rights
PSY 352	Psychology of Sustainability
SOC 235	Sociology of Health and Illness
SOC 315	HIV/AIDS and Africa
SOC 330	Development and Underdevelopment in the Global South
SOC 340	Globalization
WGST 240	Women and Society in a Global Context
WGST 275	Women's Health and Human Rights
<b>Electives</b>	<b>52.0-47.0</b>
<b>Total Credits</b>	<b>95.0-91.0</b>

## Global Business, Economics, and Development

### Global Business, Economics, and Development Concentration Requirements

BLAW 340	International Business Law	4.0
ECON 342	Economic Development	4.0
ENGL 308 [WI]	The Literature of Business	3.0
PHIL 301	Business Ethics	3.0
PSCI 255	International Political Economy	4.0
<b>Select one of the following</b>		<b>4.0</b>
INTB 332	Multinational Corporations	
INTB 334	International Trade	
INTB 336	International Money and Finance	

### Global Business, Economics, and Development Distribution Options **24.0**

Students must complete at least 24.0 distribution credits from the approved list

ANTH 310	Societies In Transition: The Impact of Modernization and the Third World
ANTH 312	Approaches to Intercultural Behavior
COM 270 [WI]	Business Communication
COM 345	Intercultural Communication
COM 360	Strategic International Communication
COM 362	International Negotiations
COM 375 [WI]	Grant Writing
ECON 301	Microeconomics
ECON 321	Macroeconomics
ECON 326 [WI]	Economic Ideas
ECON 331	International Macroeconomics
ECON 351	Resource and Environmental Economics
ENGL 325	Topics in World Literature
ENGL 360 [WI]	Literature and Society
ENTP 270	Social Entrepreneurship
ENTP 370	Global Entrepreneurship

ENTP 390	Energy Entrepreneurship
FIN 301	Introduction to Finance
FIN 346	Global Financial Management
GST 221	Introduction to Global Capital and Development
GST 231	Introduction to Identities and Communities
GST 241	Introduction to Power and Resistance
GST 251	Introduction to Global Media, Arts, and Cultures
GST 261	Introduction to Global Health and Sustainability
GST 321	Advanced Studies in Global Capital and Development
GST 331	Advanced Studies in Identities and Communities
GST 341	Advanced Studies in Power and Resistance
GST 351	Advanced Studies in Global Media, Arts, and Cultures
GST 361	Advanced Studies in Global Health and Sustainability
GST T280	Special Topics in Global Studies
GST T380	Special Topics in Global Studies
HIST 315	History of Capitalism
INTB 332	Multinational Corporations
INTB 334	International Trade
INTB 336	International Money and Finance
INTB 338	Regional Studies in Economic Policies and International Business
MGMT 370	For-Profit Business Consulting
MGMT 371	Nonprofit Business Consulting
MKTG 201	Introduction to Marketing Management
MKTG 322	Advertising & Integrated Marketing Communications
MKTG 351	Marketing for Non-Profit Organizations
MKTG 357	Global Marketing
PSCI 351	The United Nations in World Politics
PSCI 352	Ethics and International Relations
PSCI 357	The European Union in World Politics
SOC 220	Wealth and Power
SOC 330	Development and Underdevelopment in the Global South
SOC 340	Globalization
SOC 355 [WI]	Classical Social Theory
SOC 410	Imagining Multiple Democracies
STAT 201	Introduction to Business Statistics
STAT 202	Business Statistics II
WGST 240	Women and Society in a Global Context

<b>Electives</b>	<b>49.0-45.0</b>
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<b>Total Credits</b>	<b>95.0-91.0</b>
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## Global Media, Arts, and Cultures

### Global Studies Media, Arts, and Cultures Concentration

#### Media, Arts, and Cultures Distribution Requirements

ANTH 212 [WI]	Topics in World Ethnography	3.0
ANTH 330	Media Anthropology	3.0
ENGL 325	Topics in World Literature	3.0
WEST 100	Introduction to Digital Design Tools	3.0
PHIL 305	Ethics and the Media	3.0

<b>Select one of the following:</b>	<b>3.0</b>
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ARTH 301	Asian Art and Culture
ARTH 302	Art of India
ARTH 304	Art of Japan
ARTH 311	Twentieth Century American Art
ARTH 312	Nineteenth Century Art
ARTH 313	20th Century Art
ARTH 314	Contemporary Art
ARTH 315	African-American Art
ARTH 316	African Art
ARTH 317	Modern Art Theory and Criticism
ARTH 318	Latin American Art

<b>Media, Arts, and Cultures Distribution Options</b>	<b>Students must complete at least 24 distribution credits from the approved list</b>
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<b>24.0</b>
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ANTH 210 [WI]	Worldview: Science, Religion and Magic
ANTH 250	Anthropology of Immigration
ANTH 310	Societies In Transition: The Impact of Modernization and the Third World
ANTH 312	Approaches to Intercultural Behavior
ANTH 345	Visual Anthropology
ANTH 355	Digital Culture
ANTH 375	Digital Ethnography
ANTH 410	Cultural Theory I
ARCH 141	Architecture and Society I
COM 210	Theory and Models of Communication
COM 342	English Worldwide
COM 345	Intercultural Communication
COM 355	Ethnography of Communication
COM 360	Strategic International Communication
COM 375 [WI]	Grant Writing
COM 376	Nonprofit Communication
COM 385	Media Effects
CULA 405 [WI]	Culture and Gastronomy I
ENGL 200 [WI]	Classical to Medieval Literature
ENGL 201	Renaissance to the Enlightenment
ENGL 203 [WI]	Survey of World Literature
ENGL 204	Post-Colonial Literature
ENGL 300 [WI]	Literature & Science
ENGL 323	Literature and Other Arts
ENGL 325	Topics in World Literature
ENGL 335	Mythology
ENGL 355 [WI]	Women and Literature
ENGL 360 [WI]	Literature and Society
FMST T280	Special Topics in Film Studies
GST 221	Introduction to Global Capital and Development
GST 231	Introduction to Identities and Communities
GST 241	Introduction to Power and Resistance
GST 251	Introduction to Global Media, Arts, and Cultures
GST 261	Introduction to Global Health and Sustainability
GST 321	Advanced Studies in Global Capital and Development
GST 331	Advanced Studies in Identities and Communities
GST 341	Advanced Studies in Power and Resistance
GST 351	Advanced Studies in Global Media, Arts, and Cultures
GST 361	Advanced Studies in Global Health and Sustainability
GST T280	Special Topics in Global Studies
GST T380	Special Topics in Global Studies
MUSC 130	Introduction to Music
MUSC 331	World Musics
NFS 446	Perspectives in World Nutrition
PHIL 211	Metaphysics: Philosophy of Reality
PHIL 231	Aesthetics: Philosophy of Art
PHIL 241	Social & Political Philosophy
PHIL 335	Global Ethical Issues
PHIL 391	Philosophy of Religion
PSCI 120	History of Political Thought
PSCI 330	Public Opinion & Propaganda
PSCI 335	Political Communication
SOC 210	Race, Ethnicity and Social Inequality
SOC 340	Globalization
WGST 240	Women and Society in a Global Context
WRIT 310	Literary Editing & Publication

Electives

56.0

**Total Credits****98.0**

## MBA Concentrations

### Real Estate Management and Development

#### Required Courses

BLAW 631	Real Estate Law for Managers and Developers	3.0
REMD 675	Real Estate Finance	3.0
Select one of the following:		3.0
CMGT 535	Community Impact Analysis	
ECON 625	Urban and Real Estate Economics	
FIN 622	Financial Institutions & Markets	
MKTG 638	New Product Planning, Strategy, and Development	
ORGB 640	Negotiations for Leaders	
POM 610	Supply Chain Management I	
REAL 568	Real Estate Development	
REMD T680	Special Topics in REMD	

**Total Credits** **9.0**

### Business Analytics Concentration

#### Required Courses

STAT 632	Datamining for Managers	3.0
Select two of the following:		6.0
ECON 650	Business & Economic Strategy: Game Theory & Applications	
FIN 642	Business Conditions and Forecasting	
MIS 630	Inter-Active Decision Support Systems	
MIS 633	Predictive Business Analytics with Relational Database Data	
MKTG 606	Customer Analytics	
MKTG 607	Marketing Experiments	
OPR 601	Managerial Decision Models and Simulation	
OPR 626	System Simulation	
POM 610	Supply Chain Management I	
STAT 634	Quality & Six-Sigma	
STAT 636	Experimental Design	
STAT T680	Special Topics in STAT	

**Total Credits** **9.0**

### Finance Concentration\*

#### Required Courses

Select three of the following:		9.0
FIN 602	Advanced Financial Management	
FIN 610	Corporate Governance	
FIN 622	Financial Institutions & Markets	
FIN 624	Risk Management	
FIN 626	Investment Management	
FIN 635	Entrepreneurial Finance	
FIN 640	Mergers and Acquisitions	
FIN 642	Business Conditions and Forecasting	
FIN 648	International Financial Management	
FIN 650	Derivative Securities	
FIN 790	Seminar in Finance	
FIN 794	Seminar in Investments	
FIN T680	Special Topics in FIN	
REMD 675	Real Estate Finance	

**Total Credits** **9.0**

\* Students pursuing a Finance concentration in the MBA can use their concentration plus free electives to complete one of the following suggested focus areas:

Corporate Finance Focus: FIN 602, FIN 610, FIN 635, FIN 640, and FIN 790

Investments Focus: FIN 624, FIN 626, FIN 642, FIN 650, and FIN 794

Financial Markets Focus: FIN 622, FIN 642, FIN 648, and REMD 675

## Marketing Concentration

### Required Courses

Select three of the following, of which two MUST be from MKTG:		9.0
BLAW T680	Special Topics in BLAW	
ECON 540	Intro to Econometrics and Data Analysis	
ECON 610	Microeconomics	
FIN 642	Business Conditions and Forecasting	
FIN 648	International Financial Management	
INTB 620	International Business Management	
MGMT 655	Knowledge Management	
MIS 624	Systems Analysis & Design	
MIS 630	Inter-Active Decision Support Systems	
MIS 632	Database Analysis and Design for Business	
MKTG 606	Customer Analytics	
MKTG 607	Marketing Experiments	
MKTG 622	Buyer Behavior Theory	
MKTG 624	Channels of Distribution Management	
MKTG 627	Digital Marketing	
MKTG 630	Global Marketing	
MKTG 634	Integrated Marketing Communications Management	
MKTG 638	New Product Planning, Strategy, and Development	
MKTG 646	Services Marketing	
MKTG 652	Marketing Information Management and Research	
MKTG T680	Special Topics in MKTG	
OPR 601	Managerial Decision Models and Simulation	
POM 610	Supply Chain Management I	
POM 624	Management of Service Firms	
STAT 634	Quality & Six-Sigma	

**Total Credits**

**9.0**

## Strategic Technology & Innovation Management Concentration (STIM)

### Required Courses

MGMT 602	Innovation Management	3.0
MGMT 603	Technology Strategy	3.0
Select one of the following:		3.0
ECON 650	Business & Economic Strategy: Game Theory & Applications	
FIN 642	Business Conditions and Forecasting	
MGMT 600	Introduction to Change Management: An Integration of Macro and Micro Perspectives	
MGMT 604	Strategic Change Management	
MGMT 640	Strategic Human Resource Management	
MGMT 655	Knowledge Management	
MGMT 676	Sustainability and Value Creation	
MGMT 680	Leading for Innovation	
MGMT 686	Strategy Implementation	
MGMT 690	Change Management Experiential Capstone	
MIS 641	MIS Policy and Strategy	
MIS 652	Business Agility and IT	
MKTG 638	New Product Planning, Strategy, and Development	
OPR 601	Managerial Decision Models and Simulation	
ORGB 602	Leading and Executing Change	
ORGB 640	Negotiations for Leaders	

**Total Credits**

**9.0**

## Sample Plan of Study

### 4+1, 1 co-op (Accelerated program completed in 5 years)

Students complete undergraduate requirements in four years, then convert to graduate status in the fifth and final year.

**First Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101	3.0 ENGL 102	3.0 CIVC 101	1.0 VACATION	
GST 101	3.0 GST 102	3.0 ENGL 103	3.0	
UNIV H101	1.0 MATH 102	4.0 GST 103	3.0	
MATH 101	4.0 (UG) Language course	4.0 PSCI 150	4.0	
(UG) Language course	4.0 (UG) Free elective	3.0 (UG) Language course	4.0	
	<b>15</b>	<b>17</b>	<b>15</b>	<b>0</b>

**Second Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP 101	1.0 ECON 202	4.0 (UG) Language course	4.0 (UG) Language course	3.0
ECON 201	4.0 (UG) GST Concentration Requirement	3.0 (UG) GST Distribution option	4.0 (UG) GST Distribution option	4.0
(UG) Language course	4.0 (UG) Distribution Option	3.0 (UG) GST 200+	3.0 (UG) Free electives	6.0
(UG) Concentration Requirement	3.0 (UG) Language course	4.0 (UG) Free electives	6.0	
(UG) GST 200+	3.0 (UG) Free elective	3.0		
(UG) Free elective	3.0			
	<b>18</b>	<b>17</b>	<b>17</b>	<b>13</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
(UG) Language course	3.0 (UG) Language course	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
(UG) GST Distribution Option	3.0 (UG) GST 200+	3.0		
(UG) Concentration Requirement	3.0 (UG) Distribution Option	4.0		
(UG) Free electives	6.0 (UG) Concentration Requirement	3.0		
	(UG) Free elective	3.0		
	<b>15</b>	<b>16</b>	<b>0</b>	<b>0</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
UNIV H201	1.0 GST 400	3.0 (UG) GST Distribution option	3.0 VACATION	
(UG) GST Distribution option	3.0 (UG) Distribution option	3.0 (UG) Concentration Requirement	3.0 Student converts to Grad status	
(UG) GST 200+	3.0 (UG) GST Concentration requirement	3.0 (UG) Free electives	6.0	
(UG) Language course	3.0 (UG) Free elective	3.0 ECON 601	3.0	
(UG) Free elective	3.0 MGMT 510	3.0		
ACCT 510	2.0			
	<b>15</b>	<b>15</b>	<b>15</b>	<b>0</b>

**Fifth Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
FIN 601	3.0 BLAW 510	1.0 MGMT 520	2.0 MGMT 770	2.0
MKTG 510	2.0 ORGB 511	3.0 ORGB 520	1.0 (GR) Experiential Elective	3.0
MGMT 530	2.0 STAT 510	2.0 (GR) Graduate Elective	3.0 (GR) Graduate Elective	3.0
POM 510	2.0 (GR) Graduate elective	3.0 (GR) Concentration Requirement	6.0 (GR) Concentration Requirement	3.0
	<b>9</b>	<b>9</b>	<b>12</b>	<b>11</b>

Total Credits 229

## Global Studies BA / Strategic & Digital Communication MS

Major: Global Studies and Strategic and Digital Communication

Degree Awarded: Bachelor of Arts (BA) and Master of Science (MS)

Calendar Type: Quarter

Total Credit Hours: 225.0

Co-op Options: One Co-op (Five years)

Classification of Instructional Programs (CIP) code: 30.2001

*Standard Occupational Classification (SOC) code: 19-3094*

## About the Program

The accelerated BA in Global Studies provides students with an interdisciplinary, intercultural, and interactive program with four concentrations: media, arts and cultures; justice and human rights; business, economics, and development; and health and sustainability. Global Studies students develop the critical skills to understand global political, social, and economic trends, while the MS in Strategic and Digital Communication addition will further deepen students' practical and professional experience in the communications field.

Drexel University is committed to building a strong foundation through the accelerated Global Studies/Communication degree, which enables academically qualified students to earn both a bachelor's and master's degree—graduating sooner than they would in traditional programs. Graduates of the accelerated degree enter the workforce one year sooner with the benefits of a Master's degree in Strategic and Digital Communication, using the year saved to gain full-time experience and earn a salary in the field.

Drexel's Master of Science in Strategic and Digital Communication requires 45.0 credits, and prepares students for careers in a wide range of professional activities relating to communication in both media environments and communication contexts that are characterized by advanced digitization.

With a robust core curriculum consisting of seven courses (21.0 credits), the program provides a strong foundation in theoretical approaches to communication, ethics and media/communication policy. This theoretical basis is designed to ensure that, as the field changes, students will continue to have an intellectual framework for evaluating and implementing new technology and changing media environments. Furthermore, the program trains students in leadership skills that will help them to lead teams to be innovative communication professionals in digitized media environments and different organizational communication contexts.

The program emphasizes flexibility, encouraging each student, in consultation with a faculty advisor, to craft an individual course of study tailored to the student's individual interests and career goals. Throughout the curriculum students use four Communication electives (12.0 credits) to increase communication skills or to further develop areas of specialization. An additional four free elective courses (12.0 credits) can be taken in Communication or in other departments across the university. This allows students to continue to tailor their plan of study, to add on a graduate minor, or to complete a certificate program.

The program specializes in two areas:

- Strategic Communication (public relations)
- Digital and Social Media Communication

## Strategic Communication

Strategic Communication has much to offer for those looking to work in public relations as well as for-profit and nonprofit organizations. Students typically choose from courses such as PR Writing and Planning courses, Crisis Communication, Media Relations, Nonprofit Communication, and others.

## Digital Communication

With Communication being an area characterized by ongoing digitization, the program offers courses such as Strategic Social Media Communication, Digital Publishing, Digital Media Environments, Social Media Concepts That Matter, and others.

## Additional Information

For more information, visit the MS in Strategic and Digital Communication webpage (<https://drexel.edu/coas/academics/graduate-programs/communication/>).

Contact Julia May, Director of the MS in Strategic and Digital Communication program, at [julia.may@drexel.edu](mailto:julia.may@drexel.edu) for more information.

## Admission Requirements

Both incoming freshmen and current GST students are eligible to apply for this program. Students who are already matriculated may apply after completing a minimum of 90.0 credits but no more than 120.0 credits. Applicants must have a minimum 3.0 GPA and maintain this GPA throughout the program.

In addition to formally applying and getting all the signatures required on the Accelerated Degree Program Admission form, applicants must provide:

- A 500-word statement of goals that explains why they want to enroll in the accelerated degree program
- The name of a faculty reference who can speak to the applicant's academic qualifications and preparedness for graduate studies

## Additional Information

Contact Julia May, Director of the MS in Strategic and Digital Communication program, at [julia.may@drexel.edu](mailto:julia.may@drexel.edu) for more information.

## Degree Requirements

CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development	1.0
ECON 201	Principles of Microeconomics	4.0
ECON 202	Principles of Macroeconomics	4.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
PSCI 150	International Politics	4.0
Two Math courses		6.0-8.0
Two Science courses		6.0-8.0
UNIV H101	The Drexel Experience	1.0
UNIV H201	Looking Forward: Academics and Careers	1.0
<b>Global Studies Core Courses</b>		
GST 101	Becoming Global: Language and Cultural Context	3.0
GST 102	Understanding Global: Markets and Governance	3.0
GST 103	Acting Global: Research Methods in Global Studies	3.0
Four 200+ level GST courses		12.0
GST 400	Senior Project in Global Studies	3.0
<b>Language minor in French, Spanish or Japanese, or minor in Asian Studies, or Middle East and North Africa Studies</b>		<b>24.0</b>
Students must complete at least 24.0 credits above the 103 language level to earn a language minor.		
<b>Global Health and Sustainability Concentration Requirements</b>		
ANTH 360	Culture and the Environment	3.0
PBHL 301	Epidemiology in Public Health	3.0
PBHL 303	Overview of Issues in Global Health	3.0
PSCI 334	Politics of Environment and Health	4.0
or SOC 346	Environmental Justice	
<b>Choose one of the following ethics courses</b>		<b>3.0</b>
PHIL 321	Biomedical Ethics	
PHIL 340	Environmental Ethics	
PBHL 309	Public Health Ethics	
<b>Choose one of the following English courses</b>		<b>3.0</b>
ENGL 300 [WI]	Literature & Science	
ENGL 302	Environmental Literature	
ENGL 370	Topics in Literature and Medicine	
<b>Global Health and Sustainability Distribution Requirements</b>		<b>24.0</b>
Students must complete 24.0 credits from the approved list:		
ANTH 210 [WI]	Worldview: Science, Religion and Magic	
ANTH 265	Health & Healing Practices in Cross-Cultural Perspective	
ANTH 310	Societies In Transition: The Impact of Modernization and the Third World	
ANTH 360	Culture and the Environment	
BIO 109	Biological Diversity, Ecology & Evolution	
BIO 264	Ethnobotany	
CJS 373	Environmental Crime	
COM 316	Campaigns for Health & Environment	
COM 317 [WI]	Environmental Communication	
COM 320 [WI]	Science Writing	
COM 375 [WI]	Grant Writing	
ECON 301	Microeconomics	
ECON 321	Macroeconomics	
ECON 351	Resource and Environmental Economics	
ENGL 300 [WI]	Literature & Science	
ENGL 302	Environmental Literature	
ENGL 370	Topics in Literature and Medicine	
ENSS 326	Cities and Sustainability	
ENSS 285	Introduction to Urban Planning	
ENTP 390	Energy Entrepreneurship	
ENVS 169	Environmental Science	



ENVS 247	Native Plants and Sustainability	
ENVS 275	Global Climate Change	
ENVS 289	Global Warming, Biodiversity and Your Future	
ENVS 328	Conservation Biology	
GST 221	Introduction to Global Capital and Development	
GST 231	Introduction to Identities and Communities	
GST 241	Introduction to Power and Resistance	
GST 251	Introduction to Global Media, Arts, and Cultures	
GST 261	Introduction to Global Health and Sustainability	
GST 321	Advanced Studies in Global Capital and Development	
GST 331	Advanced Studies in Identities and Communities	
GST 341	Advanced Studies in Power and Resistance	
GST 351	Advanced Studies in Global Media, Arts, and Cultures	
GST 361	Advanced Studies in Global Health and Sustainability	
GST T280	Special Topics in Global Studies	
GST T380	Special Topics in Global Studies	
HIST 287	History of Science: Ancient to Medieval	
HIST 288	History of Science: Medieval to Enlightenment	
HIST 289	History of Science: Enlightenment to Modernity	
HIST 321	Themes in Global Environmental History	
HIST 322	Empire and Environment	
HIST 385	Transnational History of Science, Technology and Environment	
HSAD 312	Development of World Health Care	
HSAD 316	Health Care across Cultures	
NFS 345	Foods and Nutrition of World Cultures	
NFS 446	Perspectives in World Nutrition	
PBHL 302	Introduction to the History of Public Health	
PBHL 304	Introduction to Health & Human Rights	
PBHL 305	Women and Children: Health & Society	
PBHL 306	Introduction to Community Health	
PBHL 317	The World's Water	
PBHL 320	Exploring the HIV/AIDS Pandemic	
PBHL 321	Disease Outbreak Investigations	
PBHL 333	Health Inequality	
PHIL 321	Biomedical Ethics	
PHIL 335	Global Ethical Issues	
PHIL 340	Environmental Ethics	
PHIL 341	Environmental Philosophy	
PHIL 351	Philosophy of Technology	
PHIL 361	Philosophy of Science	
PSCI 305	Social Development: A Global Approach	
PSCI 334	Politics of Environment and Health	
PSCI 351	The United Nations in World Politics	
PSCI 352	Ethics and International Relations	
PSCI 353	International Human Rights	
PSY 352	Psychology of Sustainability	
SOC 315	HIV/AIDS and Africa	
SOC 330	Development and Underdevelopment in the Global South	
SOC 340	Globalization	
WGST 275	Women's Health and Human Rights	
WGST 240	Women and Society in a Global Context	
Free electives		52.0-48.0
<b>MS Strategic &amp; Digital Communication</b>		
<b>Required Core Courses</b>		
COM 500	Reading & Research in Communication	3.0
COM 574	Organizational Communication in Project Management	3.0
COM 610	Theories of Communication and Persuasion	3.0
COM 613	Ethics for Professional Communication	3.0
COM 615	Media Environments in a Digital World	3.0
COM 651	Media and Communication Policy in a Digitized World	3.0
COM 698	Managing Communication Professional Identities in a Digital Age	3.0
<b>Program Electives</b>		<b>12.0</b>

Choose four of the following courses:

COM 516	Campaigns for Health and Environment
COM 518	Communicating Health and Risk in a 'Fake News' World
COM 520	Science Writing
COM 525	Document Design and Usability
COM 533	Modern Desktop Publishing
COM 535	Digital Publishing
COM 536	Strategic Social Media Communication
COM 541	Foundations of Public Relations
COM 542	Public Relations Writing
COM 543	Public Relations Planning
COM 544	Media Relations in a Digital Age
COM 551	Creative Content Production
COM 561	Fundamentals of Journalism & Newswriting
COM 562	International Negotiations
COM 563	Event Planning
COM 570	Technical, Science and Health Editing
COM 575	Grant Writing
COM 576	Nonprofit Communications
COM 577	Communication for Civic Engagement
COM 578	Focus Groups
COM 586	Strategic International Communication
COM 600	Graduate Seminar in Communication
COM 614	Social Media Concepts that Matter
COM 660	Investigative Journalism
COM 670	Medical Writing
COM 673	Medical Journalism
COM I599	Independent Study in COM
COM I699	Independent Study in COM
COM T580	Special Topics in Communication
COM T680	Special Topics in Communication

**Graduate Electives \*** **12.0**

**Total Credits** **225.0**

\* Students can select up to 12.0 credits of graduate-level electives (500-799) in the following subject areas (AADM, AAML, ACCT, BUSN, CCM, CHP, COM, CRTV, CW, DIGM, ECON, EDAM, EDHE, EDLT, EDUC, ENTP, ENVP, ENV5, EOH, HMP, HRM, LING, MGMT, MGMT, MKTG, MUSL, NPM, ORGB, PBHL, PLCY, PROJ, PRST, RMER, SCRP, SCTS, SMT, TVMN). Other graduate courses outside these areas might be taken pending approval from the graduate advisor or program director.

## Sample Plan of Study

### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 ENGL 102 or 112	3.0 CIVC 101	1.0 VACATION	
GST 101	3.0 GST 102	3.0 ENGL 103 or 113	3.0	
MATH 101	4.0 MATH 102	4.0 GST 103	3.0	
UNIV H101	1.0 (UG) Language *	4.0 PSCI 150	4.0	
(UG) Language *	4.0	(UG) Language *	4.0	
	<b>15</b>	<b>14</b>	<b>15</b>	<b>0</b>

### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP 101**	1.0 (UG) GST Concentration Requirement	3.0 ECON 201	4.0 ECON 202	4.0
(UG) GST Concentration Requirement	3.0 (UG) GST Distribution Options	6.0 (UG) Language *	4.0 (UG) Language *	3.0
(UG) GST Distribution Option	3.0 (UG) Language *	4.0 (UG) GST 200+ Level Course	3.0 (UG) GST Concentration Requirement	3.0
(UG) Language *	4.0 (UG) Free Elective	3.0 (UG) GST Concentration Requirement	3.0 (UG) GST Distribution Option	3.0

(UG) Free Electives	6.0	(UG) Free Elective	3.0 (UG) Free Elective	3.0
	<b>17</b>	<b>16</b>	<b>17</b>	<b>16</b>
<b>Third Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
(UG) Language*	3.0 (UG) Language*	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
(UG) GST 200+ Level Course	3.0 (UG) GST 200+ Level Course	3.0	COM 574	3.0
(UG) GST Distribution Options	7.0 (UG) GST Concentration Requirement	4.0		
(UG) Free Elective	3.0 (UG) GST Distribution Option	3.0		
COM 500	3.0 (UG) Free Elective	3.0		
	COM 610	3.0		
	<b>19</b>	<b>19</b>	<b>0</b>	<b>3</b>
<b>Fourth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
UNIV H201	1.0 GST 400	3.0 (UG) Free Electives	9.0 VACATION	
(UG) GST Concentration Requirement	4.0 (UG) Free Electives	9.0 (UG) GST Distribution Option	3.0 Student converts to Graduate Status	
(UG) GST 200+ Level Course	3.0 COM 651	3.0 COM 615	3.0	
(UG) Free Electives	6.0 (GR) SDC Program Elective	3.0 (GR) SDC Program Elective	3.0	
COM 613	3.0			
	<b>17</b>	<b>18</b>	<b>18</b>	<b>0</b>
<b>Fifth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>	
(GR) SDC Program Elective	3.0 (GR) SDC Program Elective	3.0 COM 698	3.0	
(GR) Grad Electives	6.0 (GR) Graduate Elective	3.0 (GR) Graduate Elective	3.0	
	<b>9</b>	<b>6</b>	<b>6</b>	

**Total Credits 225**

\* Language minor in French, Spanish or Japanese, or minor in Asian Studies, or Middle East and North Africa Studies.

\*\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.  
COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

## Global Studies BA / Public Health MPH

*Major: Global Studies and Public health*

*Degrees Awarded: Bachelor of Arts (BA) and Master of Public Health (MPH)*

*Calendar Type: Quarter*

*Total Credit Hours: 237.0*

*Co-op Options: One Co-op (Five Years)*

*Classification of Instructional Programs (CIP) code: 30.2001*

*Standard Occupational Classification (SOC) code: 19-3094*

### About the Program

To further prepare students for careers in the international sphere, Drexel University now offers an accelerated degree that allows students to complete an accelerated Bachelor's Degree (BA) in Global Studies and a Master's in Public Health (MPH). Students apply in their third year to Drexel's Dornsife School of Public Health; those accepted begin working on their MPH as they complete their BA, getting their MPH a year earlier than if they had done the two degrees separately. They also have a chance to complete an undergraduate co-op and gain valuable work experience as they go.

The Drexel BA degree prepares students for exciting international careers or at home working with diverse international populations. It prepares them by giving them foreign language fluency and offers a wide variety of courses in the social sciences, humanities, philosophy, hard sciences, cultural studies, and many other fields. While working on their Global Studies degree, students also are encouraged to study abroad, adding to their global perspective as well as perfecting their foreign language skills. There are also many opportunities for doing co-op abroad: a chance to live overseas for six months while gaining valuable work experience and getting a chance to truly be part of the culture of the place where they are working. Study abroad

opportunities exist in many countries in Europe, Africa, Latin America, and across Asia; co-op abroad employers can also be found in almost any part of the world.

Added to this is the chance to get an accelerated degree in Public Health, a much-in-demand professional degree with many uses. Students interested in global public health, for example, can gain skills that make them attractive to international development agencies like the US Agency for International Development, the UN, or many international charitable organization. Students who want to work domestically can use their language and cultural skills in a wide variety of settings here, working with the diverse population within the US. A degree in public health allows people to make a real impact on society, improving the lives of people around the world.

Drexel Global Studies students have won a wide variety of international fellowships including Fulbright, Boren, and other US government programs. They have studied abroad in countries as diverse as France, Senegal, Equatorial Guinea, Argentina, Costa Rica, China, Japan, and Korea. They have gone on to work with the US State Department and other government agencies, with large Silicon Valley tech firms, and with private corporations around the world. Adding an MPH will open even more doors for students interested in really making a difference at home and abroad.

## Additional Information

For more information, contact:

Rogelio Miñana, PhD  
 Department Head and Professor of Spanish  
 Department of Global Studies and Modern Languages  
 MacAlister Hall 3031  
 rogelio.minana@drexel.edu  
 Phone: 215.571.3194

## Admission Requirements

Undergraduate admissions are determined by Enrollment Management/Admissions (<http://drexel.edu/admissions/overview/>).

MPH requirements are set by the School of Public Health. Eligible students must:

- Be enrolled in the 4COP undergraduate program
- Maintain a minimum overall GPA of at least 3.25
- Be able to take undergraduate and graduate coursework during their senior year
- Complete the pre-requisite courses necessary for admission (determined by the School of Public Health) into the MPH program with no lower than a "C" grade
- Obtain one written recommendation from a faculty member and one from an advisor, supervisor or mentor
- Complete the online School of Public Health application to the MPH program at the Dornsife School of Public Health in their junior year
- Complete an interview with a Dornsife faculty member

## Degree Requirements

CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development	1.0
ECON 201	Principles of Microeconomics	4.0
ECON 202	Principles of Macroeconomics	4.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
PSCI 150	International Politics	4.0
UNIV H101	The Drexel Experience	1.0
UNIV H201	Looking Forward: Academics and Careers	1.0
Two mathematics courses *		6.0-8.0
Two science courses **		6.0-8.0
<b>Global Studies Core Courses</b>		
GST 101	Becoming Global: Language and Cultural Context	3.0
GST 102	Understanding Global: Markets and Governance	3.0
GST 103	Acting Global: Research Methods in Global Studies	3.0
Four 200+ level GST courses		12.0
GST 400	Senior Project in Global Studies	3.0

<b>Language minor, or minor in Asian Studies, or Middle East and North African Studies</b>		<b>24.0</b>
Students must complete at least 24.0 credits above the 103 language level to earn a language minor.		
Concentration (Select one from the list below)		95.0-91.0
<b>Graduate Coursework</b>		
BST 571	Introduction to Biostatistics	3.0
EPI 570	Introduction to Epidemiology	3.0
HMP 505	Qualitative Data and Mixed Methods Analysis	2.0
PBHL 500	Practical Experience for the Master of Public Health	0.0
PBHL 510	Public Health Foundations and Systems I	4.0
PBHL 511	Public Health Foundations and Systems II	4.0
MPH Discipline Specific Foundation Courses †		15.0
MPH Integrative Learning Experience †		4.0-6.0
CHP 750 & CHP 751	Integrative Learning Experience in Community Health & Prevention I and Integrative Learning Experience in Community Health & Prevention II	
EOH 750 & EOH 751	Integrative Learning Experience: Environmental and Occupational Health I and Integrative Learning Experience: Environmental and Occupational Health II	
EPI 750 & EPI 751	Integrative Learning Experience in Epidemiology I and Integrative Learning Experience in Epidemiology II	
HMP 750 & HMP 751	Integrative Learning Experience and Integrative Learning Experience II	
MPH Electives/Graduate Minor courses †		21.0
<b>Total Credits</b>		<b>236.0-238.0</b>

- \* Recommended Math Sequences (Select one).
- MATH 101, MATH 102, MATH 239
  - MATH 121, MATH 122, MATH 123

Note that these sequences are 12.0 credits. Students should use 3.0 credits of Free Electives to complete sequence.

- \*\* Recommended Science courses: BIO 107 & BIO 108, BIO 109 & BIO 110

- \*\*\* Recommended for this accelerated program: BIO 133 and PBHL 101, which is a pre-requisite for several PBHL courses.

- † The Discipline Specific Foundation Courses, Integrated Learning Experience, and MPH Electives are determined based on the type of MPH chosen.

## Global Media, Arts and Cultures Concentration

### Media, Arts, and Cultures Distribution Requirements

ANTH 212 [WI]	Topics in World Ethnography	3.0
ANTH 330	Media Anthropology	3.0
ENGL 325	Topics in World Literature	3.0
PHIL 305	Ethics and the Media	3.0
WEST 100	Introduction to Digital Design Tools	3.0
Select one of the following:		3.0

ARTH 301	Asian Art and Culture	
ARTH 302	Art of India	
ARTH 303	Art of China	
ARTH 304	Art of Japan	
ARTH 311	Twentieth Century American Art	
ARTH 312	Nineteenth Century Art	
ARTH 313	20th Century Art	
ARTH 314	Contemporary Art	
ARTH 315	African-American Art	
ARTH 316	African Art	
ARTH 317	Modern Art Theory and Criticism	
ARTH 318	Latin American Art	

### Media, Arts, and Cultures Distribution Options **24.0**

Students must complete at least 24.0 distribution credits from the approved list:

ANTH 210 [WI]	Worldview: Science, Religion and Magic	
ANTH 250	Anthropology of Immigration	
ANTH 310	Societies In Transition: The Impact of Modernization and the Third World	
ANTH 312	Approaches to Intercultural Behavior	
ANTH 345	Visual Anthropology	
ANTH 355	Digital Culture	
ANTH 375	Digital Ethnography	

ANTH 410	Cultural Theory I
ARCH 141	Architecture and Society I
COM 210	Theory and Models of Communication
COM 342	English Worldwide
COM 345	Intercultural Communication
COM 355	Ethnography of Communication
COM 360	Strategic International Communication
COM 375 [W]	Grant Writing
COM 376	Nonprofit Communication
COM 385	Media Effects
CULA 405 [W]	Culture and Gastronomy I
ENGL 200 [W]	Classical to Medieval Literature
ENGL 201	Renaissance to the Enlightenment
ENGL 203 [W]	Survey of World Literature
ENGL 204	Post-Colonial Literature
ENGL 300 [W]	Literature & Science
ENGL 323	Literature and Other Arts
ENGL 325	Topics in World Literature
ENGL 335	Mythology
ENGL 355 [W]	Women and Literature
ENGL 360 [W]	Literature and Society
FMST T280	Special Topics in Film Studies
GST 221	Introduction to Global Capital and Development
GST 231	Introduction to Identities and Communities
GST 241	Introduction to Power and Resistance
GST 251	Introduction to Global Media, Arts, and Cultures
GST 261	Introduction to Global Health and Sustainability
GST 321	Advanced Studies in Global Capital and Development
GST 331	Advanced Studies in Identities and Communities
GST 341	Advanced Studies in Power and Resistance
GST 351	Advanced Studies in Global Media, Arts, and Cultures
GST 361	Advanced Studies in Global Health and Sustainability
GST T280	Special Topics in Global Studies
GST T380	Special Topics in Global Studies
MUSC 130	Introduction to Music
MUSC 331	World Musics
NFS 446	Perspectives in World Nutrition
PHIL 211	Metaphysics: Philosophy of Reality
PHIL 231	Aesthetics: Philosophy of Art
PHIL 241	Social & Political Philosophy
PHIL 335	Global Ethical Issues
PHIL 391	Philosophy of Religion
PSCI 120	History of Political Thought
PSCI 330	Public Opinion & Propaganda
PSCI 335	Political Communication
SOC 210	Race, Ethnicity and Social Inequality
SOC 340	Globalization
WGST 240	Women and Society in a Global Context
WRIT 210 [W]	The Peer Reader in Context

<b>Electives</b>	<b>53.0-49.0</b>
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<b>Total Credits</b>	<b>95.0-91.0</b>
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## Global Business, Economics, and Development Concentration

### Required Courses

BLAW 340	International Business Law	4.0
ECON 342	Economic Development	4.0
ENGL 308 [W]	The Literature of Business	3.0
PHIL 301	Business Ethics	3.0
PSCI 255	International Political Economy	4.0

<b>Select one of the following:</b>	<b>4.0</b>
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INTB 332	Multinational Corporations	
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INTB 334	International Trade	
INTB 336	International Money and Finance	
Global Business, Economics, and Development Distribution Options		24.0
Students must complete at least 24.0 distribution credits from the approved list below:		
ANTH 310	Societies In Transition: The Impact of Modernization and the Third World	
ANTH 312	Approaches to Intercultural Behavior	
COM 270 [WI]	Business Communication	
COM 345	Intercultural Communication	
COM 360	Strategic International Communication	
COM 362	International Negotiations	
COM 375 [WI]	Grant Writing	
ECON 301	Microeconomics	
ECON 321	Macroeconomics	
ECON 326 [WI]	Economic Ideas	
ECON 331	International Macroeconomics	
ECON 351	Resource and Environmental Economics	
ENGL 325	Topics in World Literature	
ENGL 360 [WI]	Literature and Society	
ENTP 270	Social Entrepreneurship	
ENTP 370	Global Entrepreneurship	
ENTP 390	Energy Entrepreneurship	
FIN 301	Introduction to Finance	
FIN 346	Global Financial Management	
GST 221	Introduction to Global Capital and Development	
GST 231	Introduction to Identities and Communities	
GST 241	Introduction to Power and Resistance	
GST 251	Introduction to Global Media, Arts, and Cultures	
GST 261	Introduction to Global Health and Sustainability	
GST 321	Advanced Studies in Global Capital and Development	
GST 331	Advanced Studies in Identities and Communities	
GST 341	Advanced Studies in Power and Resistance	
GST 351	Advanced Studies in Global Media, Arts, and Cultures	
GST 361	Advanced Studies in Global Health and Sustainability	
GST T280	Special Topics in Global Studies	
GST T380	Special Topics in Global Studies	
HIST 315	History of Capitalism	
INTB 332	Multinational Corporations	
INTB 334	International Trade	
INTB 336	International Money and Finance	
INTB 338	Regional Studies in Economic Policies and International Business	
MGMT 370	For-Profit Business Consulting	
MGMT 371	Nonprofit Business Consulting	
MKTG 201	Introduction to Marketing Management	
MKTG 322	Advertising & Integrated Marketing Communications	
MKTG 351	Marketing for Non-Profit Organizations	
MKTG 357	Global Marketing	
PSCI 351	The United Nations in World Politics	
PSCI 352	Ethics and International Relations	
PSCI 357	The European Union in World Politics	
SOC 220	Wealth and Power	
SOC 330	Development and Underdevelopment in the Global South	
SOC 340	Globalization	
SOC 355 [WI]	Classical Social Theory	
SOC 410	Imagining Multiple Democracies	
STAT 201	Introduction to Business Statistics	
STAT 202	Business Statistics II	
WGST 240	Women and Society in a Global Context	
<b>Electives</b>		<b>49.0-45.0</b>
<b>Total Credits</b>		<b>95.0-91.0</b>

## Global Health and Sustainability Concentration Requirements

### Required Courses

ANTH 360	Culture and the Environment	3.0-4.0
or SOC 244	Sociology of the Environment	
PBHL 301	Epidemiology in Public Health	3.0
PBHL 303	Overview of Issues in Global Health	3.0
PSCI 334	Politics of Environment and Health	4.0
or SOC 346	Environmental Justice	
<b>Choose one of the following English classes</b>		<b>3.0</b>
ENGL 300 [WI]	Literature & Science	
ENGL 302	Environmental Literature	
ENGL 370	Topics in Literature and Medicine	
<b>Choose one of the following Ethics courses</b>		
PBHL 309	Public Health Ethics	
PHIL 321	Biomedical Ethics	
PHIL 340	Environmental Ethics	
<b>Global Health and Sustainability Distribution Options</b>		<b>24.0</b>

Students must complete at least 24.0 distribution credits from the approved list:

ANTH 210 [WI]	Worldview: Science, Religion and Magic
ANTH 265	Health & Healing Practices in Cross-Cultural Perspective
ANTH 310	Societies In Transition: The Impact of Modernization and the Third World
ANTH 360	Culture and the Environment
BIO 109	Biological Diversity, Ecology & Evolution
BIO 264	Ethnobotany
CJS 373	Environmental Crime
COM 316	Campaigns for Health & Environment
COM 317 [WI]	Environmental Communication
COM 320 [WI]	Science Writing
COM 375 [WI]	Grant Writing
CULA 426	The Kitchen Garden: Summer
CULA 427	The Kitchen Garden: Fall
ECON 301	Microeconomics
ECON 321	Macroeconomics
ECON 351	Resource and Environmental Economics
ENGL 300 [WI]	Literature & Science
ENGL 302	Environmental Literature
ENGL 370	Topics in Literature and Medicine
ENSS 285	Introduction to Urban Planning
ENSS 326	Cities and Sustainability
ENTP 390	Energy Entrepreneurship
ENVS 169	Environmental Science
ENVS 247	Native Plants and Sustainability
ENVS 275	Global Climate Change
ENVS 289	Global Warming, Biodiversity and Your Future
ENVS 328	Conservation Biology
GST 221	Introduction to Global Capital and Development
GST 231	Introduction to Identities and Communities
GST 241	Introduction to Power and Resistance
GST 251	Introduction to Global Media, Arts, and Cultures
GST 261	Introduction to Global Health and Sustainability
GST 321	Advanced Studies in Global Capital and Development
GST 331	Advanced Studies in Identities and Communities
GST 241	Introduction to Power and Resistance
GST 251	Introduction to Global Media, Arts, and Cultures
GST 361	Advanced Studies in Global Health and Sustainability
GST T280	Special Topics in Global Studies
GST T380	Special Topics in Global Studies
HIST 287	History of Science: Ancient to Medieval
HIST 288	History of Science: Medieval to Enlightenment
HIST 289	History of Science: Enlightenment to Modernity
HIST 321	Themes in Global Environmental History



HIST 322	Empire and Environment	
HIST 385	Transnational History of Science, Technology and Environment	
HSAD 312	Development of World Health Care	
HSAD 316	Health Care across Cultures	
NFS 345	Foods and Nutrition of World Cultures	
NFS 446	Perspectives in World Nutrition	
PBHL 302	Introduction to the History of Public Health	
PBHL 304	Introduction to Health & Human Rights	
PBHL 305	Women and Children: Health & Society	
PBHL 306	Introduction to Community Health	
PBHL 317	The World's Water	
PBHL 320	Exploring the HIV/AIDS Pandemic	
PBHL 321	Disease Outbreak Investigations	
PBHL 333	Health Inequality	
PHIL 321	Biomedical Ethics	
PHIL 335	Global Ethical Issues	
PHIL 340	Environmental Ethics	
PHIL 341	Environmental Philosophy	
PHIL 351	Philosophy of Technology	
PHIL 361	Philosophy of Science	
PSCI 252	Global Governance	
PSCI 284	Environmental Politics	
PSCI 305	Social Development: A Global Approach	
PSCI 334	Politics of Environment and Health	
PSCI 351	The United Nations in World Politics	
PSCI 352	Ethics and International Relations	
PSCI 353	International Human Rights	
PSY 352	Psychology of Sustainability	
SOC 235	Sociology of Health and Illness	
SOC 315	HIV/AIDS and Africa	
SOC 330	Development and Underdevelopment in the Global South	
SOC 340	Globalization	
WGST 240	Women and Society in a Global Context	
WGST 275	Women's Health and Human Rights	
<b>Electives</b>		<b>52.0-47.0</b>
<b>Total Credits</b>		<b>92.0-88.0</b>

## Global Justice and Human Rights Concentration Requirements

### Distribution Requirements

ANTH 310	Societies In Transition: The Impact of Modernization and the Third World	3.0-4.0
or SOC 330	Development and Underdevelopment in the Global South	
ENGL 360 [WI]	Literature and Society	3.0
PHIL 335	Global Ethical Issues	3.0-4.0
or PSCI 352	Ethics and International Relations	
PSCI 120	History of Political Thought	4.0
or PSCI 229	Theories of Justice	
PSCI 353	International Human Rights	4.0
<b>Select one of the following:</b>		<b>3.0-4.0</b>
PSCI 351	The United Nations in World Politics	
PSCI 357	The European Union in World Politics	

### Distribution Options

24.0

Students must complete at least 24.0 credits from the list below:

AFAS T280	Special Topics in Africana Studies (Must have global theme)	
ANTH 250	Anthropology of Immigration	
ANTH 312	Approaches to Intercultural Behavior	
or COM 345	Intercultural Communication	
CJS 260	Justice in Our Community	
CJS 261	Prison, Society and You	
CJS 289	Terrorism	
CJS 320	Comparative Justice Systems	
COM 360	Strategic International Communication	

COM 362	International Negotiations
COM 375 [WI]	Grant Writing
CULA 426	The Kitchen Garden: Summer
or CULA 427	The Kitchen Garden: Fall
ECON 301	Microeconomics
ECON 321	Macroeconomics
ECON 342	Economic Development
ECON 351	Resource and Environmental Economics
ENGL 325	Topics in World Literature
GST 221	Introduction to Global Capital and Development
GST 231	Introduction to Identities and Communities
GST 241	Introduction to Power and Resistance
GST 251	Introduction to Global Media, Arts, and Cultures
GST 261	Introduction to Global Health and Sustainability
GST 321	Advanced Studies in Global Capital and Development
GST 331	Advanced Studies in Identities and Communities
GST 341	Advanced Studies in Power and Resistance
GST 351	Advanced Studies in Global Media, Arts, and Cultures
GST 361	Advanced Studies in Global Health and Sustainability
GST T280	Special Topics in Global Studies
GST T380	Special Topics in Global Studies
HIST 385	Transnational History of Science, Technology and Environment
PHIL 241	Social & Political Philosophy
PHIL 335	Global Ethical Issues
PHIL 341	Environmental Philosophy
PHIL 385	Philosophy of Law
PHIL 391	Philosophy of Religion
PBHL 303	Overview of Issues in Global Health
PBHL 304	Introduction to Health & Human Rights
PSCI 229	Theories of Justice
PSCI 240	Comparative Politics II
PSCI 250	American Foreign Policy
PSCI 252	Global Governance
PSCI 255	International Political Economy
PSCI 260 [WI]	Power in Protest: Social Movements in Comparative Perspective
PSCI 305	Social Development: A Global Approach
PSCI 325	Political Theory from Below
PSCI 351	The United Nations in World Politics
PSCI 352	Ethics and International Relations
PSCI 357	The European Union in World Politics
PSCI 360	International Law
PSCI 361	The Politics of LGBT Movements and Rights
SOC 210	Race, Ethnicity and Social Inequality
SOC 220	Wealth and Power
SOC 315	HIV/AIDS and Africa
SOC 340	Globalization
SOC 346	Environmental Justice
SOC 355 [WI]	Classical Social Theory
SOC 444	Social Movements
WGST 240	Women and Society in a Global Context
WGST T280	Special Topics in Women's and Gender Studies (Course must have a global theme)

Electives 51.0-44.0

**Total Credits 95.0-91.0**

## Sample Plan of Study

### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 ENGL 102 or 112	3.0 CIVC 101	1.0 VACATION	
GST 101	3.0 GST 102	3.0 ENGL 103 or 113	3.0	
MATH 101	4.0 MATH 102	4.0 GST 103	3.0	
UNIV H101	1.0 PBHL 101	3.0 MATH 239	4.0	

(UG) Language course <sup>*</sup>	4.0 (UG) Language course <sup>*</sup>	4.0 (UG) Language course <sup>*</sup>	4.0	
		(UG) Free elective	3.0	
	<b>15</b>	<b>17</b>	<b>18</b>	<b>0</b>
<b>Second Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
BIO 107	3.0 BIO 109	3.0 BIO 133	4.0 ECON 202	4.0
BIO 108	1.0 BIO 110	1.0 ECON 201	4.0 (UG) GST Concentration requirement	3.0
COOP 101**	1.0 (UG) GST Concentration requirement	3.0 (UG) GST Concentration requirement	3.0 (UG) GST Distribution option	3.0
PSCI 150	4.0 (UG) GST Distribution options	6.0 (UG) GST 200+ level course	3.0 (UG) Free elective	3.0
(UG) GST Concentration requirement	3.0 (UG) Language course <sup>*</sup>	4.0 (UG) Language course <sup>*</sup>	4.0 (UG) Language course <sup>*</sup>	3.0
(UG) GST Distribution option	3.0			
(UG) Language course <sup>*</sup>	4.0			
	<b>19</b>	<b>17</b>	<b>18</b>	<b>16</b>
<b>Third Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
COOP EXPERIENCE	COOP EXPERIENCE	(UG) GST 200+ course	3.0 (UG) Free elective	3.0
EPI 570	3.0 EPI 571	3.0 (UG) GST Distribution option	3.0 (UG) GST 200+ course	3.0
		(UG) Free elective	3.0 (UG) GST Concentration requirement	3.0
		(UG) Language course <sup>*</sup>	3.0 (UG) Language <sup>*</sup>	3.0
		HMP 505	2.0	
	<b>3</b>	<b>3</b>	<b>14</b>	<b>12</b>
<b>Fourth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits Summer</b>	<b>Credits</b>
UNIV H201	1.0 GST 400	3.0 (UG) Free electives	6.0 VACATION	
(UG) GST Distribution option	3.0 (UG) Distribution option	3.0 (UG) GST Distribution option	3.0 Student converts to Grad status	
(UG) Free electives	6.0 (UG) GST Concentration requirement	3.0 (UG) GST 200+ course	3.0	
(UG) Language <sup>*</sup>	3.0 (UG) Free elective	3.0 PBHL 500	0.0	
PBHL 510	4.0 PBHL 511	4.0 (GR) MPH Elective	3.0	
		(GR) MPH Discipline specific course	4.0	
	<b>17</b>	<b>16</b>	<b>19</b>	<b>0</b>
<b>Fifth Year</b>				
<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>	
(GR) MPH Discipline specific course	3.0 (GR) MPH Electives	6.0 (GR) MPH Discipline Specific courses	6.0	
(GR) MPH Electives	6.0 (GR) MPH Discipline Specific course	3.0 (GR) MPH elective	3.0	
(GR) Integrative Learning Experience I	3.0 (GR) Integrative Learning Experience II	3.0		
	<b>12</b>	<b>12</b>	<b>9</b>	
<b>Total Credits 237</b>				

\* Language minor in French, Spanish or Japanese, or minor in Asian Studies, or Middle East and North Africa Studies.

\*\* Co-op cycle may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

# Mathematics BS / Mathematics MS

Major: Mathematics

Degree Awarded: Bachelor of Science (BS) and Master of Science (MS)

Calendar Type: Quarter

Total Credit Hours: 226.0

Co-op Options: One Co-op (Five years)

Classification of Instructional Programs (CIP) code: 27.0101

Standard Occupational Classification (SOC) code: 15-2021

## About the Program

The accelerated BSMS program in mathematics is an exciting opportunity for highly motivated math students to take full advantage of the academic resources that Drexel University, as a research university with a graduate program, has to offer. Graduates from this program have a more in-depth, richer understanding of the concepts introduced in the undergraduate courses, as well as, more complex topics introduced at an advanced level.

The combined degree offers our graduates a competitive advantage over students who have only obtained an undergraduate degree, allowing them to stand out when they start their professional careers. In addition, the program is highly recommended for students who intend to apply to doctoral programs in mathematics as well as related areas (such as statistics, biostatistics, public health, graduate actuarial studies, mathematical finance). Many of our BSMS students have been accepted in some of the country's most elite and competitive graduate mathematics programs.

## Admission Requirements

Students may apply to the combined BS/MS Mathematics program when they have attained 90.0 credits. To gain entry into the Mathematics BS/MS program, it is necessary, though not sufficient, to satisfy the following conditions:

Complete two of the following: MATH 331, MATH 332, MATH 401 and MATH 402, with an average GPA of at least 3.75 total in the two or more of these courses taken.

Have an overall GPA of at least 3.5

Have a GPA of at least 3.8 in the mathematics major

Applicant should meet with their adviser to determine eligibility and to create a plan of study to be reviewed by the graduate advisor. The graduate committee will make the final decision. If accepted, the student must fill out the Accelerated Degree Program Application Form to obtain permission from all necessary approving parties.

Students with multiple majors may apply to the Accelerated Math degree program as long as one of their undergraduate majors is Mathematics; however, they will need to obtain signatures of the Mathematics department advisers for their BS/MS Accelerated degree paperwork, not advisers from their other major(s).

## Degree Requirements

### General Education Requirements

CIVC 101	Introduction to Civic Engagement	1.0
COM 230	Techniques of Speaking	3.0
COOP 101	Career Management and Professional Development	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
UNIV S101	The Drexel Experience	1.0
UNIV S201	Looking Forward: Academics and Careers	1.0

### Computer Science sequence: 9.0

CS 150	Computer Science Principles	
or CS 164	Introduction to Computer Science	
CS 171	Computer Programming I	
CS 172	Computer Programming II	
Any Biology (BIO) course		3.0-4.0
Any Chemistry (CHEM) course		3.0-4.0
Any Physics (PHYS) course		3.0-4.0
Humanities electives		6.0

Social sciences electives		15.0
International studies or studies in diversity electives		6.0
Free electives		40.0
<b>Mathematics Requirements</b>		
MATH 121	Calculus I **	4.0
MATH 122	Calculus II	4.0
MATH 123	Calculus III	4.0
MATH 200	Multivariate Calculus	4.0
MATH 201	Linear Algebra	4.0
MATH 210	Differential Equations	4.0
MATH 220 [WI]	Introduction to Mathematical Reasoning	3.0
MATH 331	Abstract Algebra I	4.0
MATH 332	Abstract Algebra II	3.0
MATH 401	Elements of Modern Analysis I	3.0
MATH 402	Elements of Modern Analysis II	3.0
<b>Math Major Electives</b>		<b>40.0</b>
Select a minimum of 40 credits from the following:		
MATH 222 [WI]	Combinatorics	
MATH 235	Math Competition Problem Solving Seminar	
MATH 250	Mathematics of Investment and Credit	
MATH 285	Differential Equations II	
MATH 300	Numerical Analysis I	
MATH 301	Numerical Analysis II	
MATH 305	Introduction to Optimization Theory	
MATH 311	Probability and Statistics I	
MATH 312	Probability and Statistics II	
MATH 313	Probability and Statistics III	
MATH 316	Mathematical Applications of Symbolic Software	
MATH 318 [WI]	Mathematical Applications of Statistical Software	
MATH 319	Techniques of Data Analysis	
MATH 320	Actuarial Mathematics	
MATH 321	Vector Calculus	
MATH 322	Complex Variables	
MATH 323	Partial Differential Equations	
MATH 387	Linear Algebra II	
MATH 422	Introduction to Topology	
MATH 449	Mathematical Finance	
MATH 450	Introduction to Graph Theory	
MATH 475	Cryptography	
MATH 483	Introduction to Monte Carlo Methods	
MATH 489	Tensor Calculus	
<b>MS required courses</b>		
MATH 504	Linear Algebra & Matrix Analysis	3.0
MATH 505	Principles of Analysis I	3.0
MATH 506	Principles of Analysis II	3.0
MATH 533	Abstract Algebra I	3.0
MATH 630	Complex Variables I	3.0
MATH 633	Real Variables I	3.0
<b>MS electives ***</b>		<b>27.0</b>
Select a minimum of 27 credits from the following:		
MATH 507	Applied Mathematics I	
MATH 508	Applied Mathematics II	
MATH 509	Applied Mathematics III	
MATH 510	Applied Probability and Statistics I	
MATH 511	Applied Probability and Statistics II	
MATH 512	Applied Probability and Statistics III	
MATH 520	Numerical Analysis I	
MATH 521	Numerical Analysis II	
MATH 522	Numerical Analysis III	
MATH 523	Computer Simulation I	
MATH 524	Computer Simulation II	
MATH 525	Topics in Computer Simulation	

MATH 526	Mathematics for Data Science
MATH 530	Combinatorial Mathematics I
MATH 531	Combinatorial Mathematics II
MATH 532	Topics in Combinatorial Math
MATH 534	Abstract Algebra II
MATH 535	Topics in Abstract Algebra
MATH 536	Topology I
MATH 537	Topology II
MATH 538	Manifolds
MATH 540	Numerical Computing
MATH 553	Sci Comp & Visualization I
MATH 554	Sci Comp & Visualization II
MATH 555	Topics in Sci Comp & Visualiz
MATH 572	Financial Mathematics: Fixed Income Securities
MATH 610	Probability Theory I
MATH 611	Probability Theory II
MATH 612	Topics in Probability Theory
MATH 613	Stochastic Processes I
MATH 614	Stochastic Processes II
MATH 615	Topics in Stochastic Processes
MATH 620	Partial Differential Equations I
MATH 621	Partial Differential Equations II
MATH 622	Partial Differential Equations III
MATH 623	Ordinary Differential Equations I
MATH 624	Ordinary Differential Equations II
MATH 625	Ordinary Differential Equations III
MATH 631	Complex Variables II
MATH 632	Topics in Complex Variables
MATH 634	Real Variables II
MATH 635	Real Variables III
MATH 640	Functional Analysis
MATH 641	Harmonic Analysis
MATH 642	Operator Theory
MATH 643	Integral Equations I
MATH 645	Transform Theory I
MATH 646	Transform Theory II
MATH 660	Lie Groups and Lie Algebras I
MATH 661	Lie Groups and Lie Algebras II
MATH 662	Lie Groups/Algebras III
MATH 670	Methods of Optimization I
MATH 671	Methods of Optimization II
MATH 672	Methods of Optimization III
MATH 673	Calculus of Variations
MATH 701	Algebraic Combinatorics
MATH 723	Mathematical Neuroscience

**Total Credits****226.0-229.0**

- \* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major. COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.
- \*\* Math majors must pass MATH 121 (<http://catalog.drexel.edu/search/?P=MATH%20121>) with a grade of B or higher.
- \*\*\* In some cases, course substitutions may be made with courses from other departments. Elective courses taken outside the department must receive prior departmental approval in order to be counted toward the degree.

## Sample Plan of Study

### 4+1, 1 co-op (Accelerated program completed in 5 years)

*Students complete undergraduate requirements in four years, then convert to graduate status in the fifth and final year.*

**First Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CS 150 or 164	3.0 CIVC 101	1.0 CS 172	3.0 VACATION	
ENGL 101 or 111	3.0 CS 171	3.0 ENGL 103 or 113	3.0	
MATH 121	4.0 ENGL 102 or 112	3.0 MATH 123	4.0	
UNIV S101	1.0 MATH 122	4.0 MATH 200	4.0	
(UG) Any Biology (BIO) Course	3.0-4.0 (UG) Any Chemistry (CHEM) Course	3.0 (UG) Any Physics (PHYS) Course	3.0	
	<b>14-15</b>	<b>14</b>	<b>17</b>	<b>0</b>

**Second Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COM 230	3.0 MATH 210	4.0 (UG) Free Elective	3.0 COOP 101	1.0
MATH 201	4.0 (UG) International/Diversity Studies Elective*	3.0 (UG) Humanities Elective*	3.0 (UG) Free Electives	9.0
MATH 220	3.0 (UG) Mathematics (MATH) Electives**	7.0 (UG) Mathematics (MATH) Electives**	7.0 (UG) Humanities Elective*	4.0
(UG) International/Diversity Studies Elective*	3.0 (UG) Social Science Elective*	3.0 (UG) Social Science Elective*	3.0 (UG) Social Science Elective*	3.0
(UG) Social Science Elective*	3.0			
	<b>16</b>	<b>17</b>	<b>16</b>	<b>17</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
MATH 331	4.0 MATH 332	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
MATH 401	3.0 MATH 402	3.0		
(UG) Free Electives	6.0 UNIV S201	1.0		
(UG) Mathematics (MATH) Elective**	4.0 (UG) Free Electives	6.0		
	(UG) Social Science Elective*	3.0		
	<b>17</b>	<b>16</b>	<b>0</b>	<b>0</b>

**Fourth Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
(UG) Free Electives	6.0 (UG) Free Electives	6.0 (UG) Free Electives	6.0 VACATION	
(UG) Mathematics (MATH) Electives**	7.0 (UG) Mathematics (MATH) Electives**	6.0 (UG) Mathematics (MATH) Electives**	6.0	
MATH 504	3.0 MATH 506	3.0 (GR) Graduate Mathematics (MATH) Electives	6.0	
MATH 505	3.0 MATH 533	3.0		
	<b>19</b>	<b>18</b>	<b>18</b>	<b>0</b>

**Fifth Year**

Fall	Credits Winter	Credits Spring	Credits
(GR) Graduate Mathematics (MATH) Electives	9.0 (GR) Graduate Mathematics (MATH) Electives	9.0 MATH 630	3.0
		MATH 633	3.0
		(GR) Graduate Mathematics (MATH) Elective	3.0
	<b>9</b>	<b>9</b>	<b>9</b>

**Total Credits 226-227**

\* See degree requirements (<http://catalog.drexel.edu/undergraduate/collegeofartsandsciences/mathematics/#degreerequirementsbatext>).

\*\* Select from MATH 222 [WI], MATH 235, MATH 250, MATH 285, MATH 300, MATH 301, MATH 305, MATH 311, MATH 312, MATH 316, MATH 318 [WI], MATH 319, MATH 320, MATH 321, MATH 322, MATH 323, MATH 387, MATH 422, MATH 449, MATH 450, MATH 475, MATH 483, MATH 489. MATH special topics courses may be substituted for Mathematics Electives with departmental permission.

**Mathematics Faculty**

David M. Ambrose, PhD (*Duke University*) *Associate Department Head, Mathematics*. Professor. Applied analysis and computing for systems of nonlinear partial differential equations, especially free-surface problems in fluid dynamics.

Jason Aran, MS (*Drexel University*). Associate Teaching Professor.

Jonah D. Blasiak, PhD (*University of California at Berkeley*). Associate Professor. Algebraic combinatorics, representation theory, and complexity theory.

Yasmine Boolakee-Pant, MS (*University of Freiburg*). Instructor.

Robert P. Boyer, PhD (*University of Pennsylvania*). Professor. Functional analysis,  $C^*$ -algebras and the theory of group.

Fernando Carreon, PhD (*University of Texas at Austin*). Teaching Professor.

Patrick Clarke, PhD (*University of Miami*). Associate Professor. Homological mirror symmetry, Landau-Ginzburg models, algebraic geometry, symplectic geometry.

Daryl Falco, MS (*Drexel University*). Associate Teaching Professor. Discrete mathematics and automata theory.

Raymond Favocci, MS (*Drexel University*). Associate Teaching Professor.

Darij Grinberg, PhD (*Massachusetts Institute of Technology*). Assistant Professor. Algebraic Combinatorics, Noncommutative Algebra, Symmetric Functions, Hopf Algebras, Enumerative Combinatorics, Invariant Theory

Pavel Grinfeld, PhD (*Massachusetts Institute of Technology*). Associate Professor. Intersection of physics, engineering, applied mathematics and computational science.

Anatolii Grinshpan, PhD (*University of California at Berkeley*). Associate Teaching Professor. Function theory and operator theory, harmonic analysis, matrix theory.

Yixin Guo, PhD (*University of Pittsburgh*). Associate Professor. Biomathematics, dynamical systems, ordinary and partial differential equations and math education.

R. Andrew Hicks, PhD (*University of Pennsylvania*). Professor. Geometry; optics; computer vision.

Pawel Hitczenko, PhD (*Warsaw University*). Professor. Probability theory and its applications to analysis, combinatorics, wavelets, and the analysis of algorithms.

Jeffrey LaComb, PhD (*Duke University*). Assistant Teaching Professor. Rare Event Simulation, Dynamical Systems, Numerical Analysis and Mathematical Biology

Georgi S. Medvedev, PhD (*Boston University*). Professor. Ordinary and partial differential equations, mathematical neuroscience.

Cecilia Mondaini, PhD (*Federal University of Rio de Janeiro*). Assistant Professor. Analysis of Partial Differential Equations, Fluid Dynamics, Stochastic Processes

Shari Moskow, PhD (*Rutgers University*) *Department Head*. Professor. Partial differential equations and numerical analysis, including homogenization theory, numerical methods for problems with rough coefficients, and inverse problems.

Oksana P. Odintsova, PhD (*Omsk State University*). Teaching Professor. Math education; geometrical modeling.

Dimitrios Papadopoulos, MS (*Drexel University*). Assistant Teaching Professor.

Joel Pereira, PhD (*University of North Carolina*). Assistant Teaching Professor. Commutative Algebra

Ronald K. Perline, PhD (*University of California at Berkeley*) *Undergraduate Adviser*. Associate Professor. Applied mathematics, numerical analysis, symbolic computation, differential geometry, mathematical physics.

Marci A. Perlstadt, PhD (*University of California at Berkeley*). Associate Professor. Applied mathematics, computed tomography, numerical analysis of function reconstruction, signal processing, combinatorics.

Adam C. Rickert, MS (*Drexel University*). Associate Teaching Professor.

Eric Schmutz, PhD (*University of Pennsylvania*). Professor. Probabilistic combinatorics, asymptotic enumeration.

Li Sheng, PhD (*Rutgers University*). Associate Professor. Discrete optimization, combinatorics, operations research, graph theory and its application in molecular biology, social sciences and communication networks, biostatistics.

Gideon Simpson, PhD (*Columbia University*). Associate Professor. Partial differential equations, scientific computing and applied mathematics.

Xiaoming Song, PhD (*University of Kansas*). Associate Professor. Stochastic Calculus, Large Deviation Theory, Theoretical Statistics, Data Network Modeling and Numerical Analysis.



Jeanne M. Steuber, MS (*Boston University*). Associate Teaching Professor.

Kenneth P. Swartz, PhD (*Harvard University*). Assistant Teaching Professor. Applied statistics, data analysis, calculus, discrete mathematics, biostatistics.

K. Shwetketu Virbhadra, PhD (*Physical Research Laboratory*). Instructor.

Richard D. White, MS (*Penn State University*). Assistant Teaching Professor.

Hugo J. Woerdeman, PhD (*Vrije Universiteit, Amsterdam*). Professor. Matrix and operator theory, systems theory, signal and image processing, and harmonic analysis.

J. Douglas Wright, PhD (*Boston University*) *Associate Department Head*. Professor. Partial differential equations, specifically nonlinear waves and their interactions.

Dennis G. Yang, PhD (*Cornell University*). Associate Teaching Professor. Dynamical systems, neurodynamics.

Thomas (Pok-Yin) Yu, PhD (*Stanford University*). Professor. Multiscale mathematics, wavelets, applied harmonic analysis, subdivision algorithms, nonlinear analysis, applied differential geometry and data analysis.

Matthew Ziemke, PhD (*University of South Carolina*). Assistant Teaching Professor. Functional Analysis, Operator Algebras, Semigroups, Mathematical Physics

## Emeritus Faculty

Howard Anton, PhD (*Polytechnic Institute of Brooklyn*). Professor Emeritus.

Loren N. Argabright, PhD (*University of Washington*). Professor Emeritus. Functional analysis, wavelets, abstract harmonic analysis, the theory of group representations.

Robert C. Busby, PhD (*University of Pennsylvania*). Professor Emeritus. Functional analysis, C\*-algebras and group representations, computer science.

Ewaugh Finney Fields, EdD (*Temple University*) *Dean Emeritus*. Professor Emeritus. Mathematics education, curriculum and instruction, minority engineering education.

William M.Y. Goh, PhD (*Ohio State University*). Associate Professor Emeritus. Number theory, approximation theory and special functions, combinatorics, asymptotic analysis.

Patricia Henry Russell, MS (*Drexel University*). Teaching Professor Emerita.

Bernard Kolman, PhD (*University of Pennsylvania*). Professor Emeritus. Lie algebras; theory, applications, and computational techniques; operations research.

Charles J. Mode, PhD (*University of California at Davis*). Professor Emeritus. Probability and statistics, biostatistics, epidemiology, mathematical demography, data analysis, computer-intensive methods.

Chris Rorres, PhD (*Courant Institute, New York University*). Professor Emeritus. Applied mathematics, scattering theory, mathematical modeling in biological sciences, solar-collection systems.

Justin R. Smith, PhD (*Courant Institute, New York University*). Professor Emeritus. Homotopy theory, operad theory, quantum mechanics, quantum computing.

Jet Wimp, PhD (*University of Edinburgh*). Professor Emeritus. Applied mathematics, special factors, approximation theory, numerical techniques, asymptotic analysis.

## Psychology BS / Psychology MS

*Major: Psychology*

*Degree Awarded: Bachelor of Science (BS) & Master of Science (MS)*

*Calendar Type: Quarter*

*Total Credit Hours: 225.0*

*Co-op Options: One Co-op (Five years)*

Classification of Instructional Programs (CIP) code: 42.2799

Standard Occupational Classification (SOC) code: 19-3031

## About the Program

The Accelerated Master of Science in Psychology (BS/MS) program provides an opportunity for select undergraduate students to complete their undergraduate education and psychology MS curriculum classes in an accelerated fashion. Through this program, potential BS/MS students may be identified when first admitted as entering freshmen psychology majors. Students may also enter as transfers or up until the spring of their junior year.

During the course of their undergraduate study, students will need to seek out and establish a faculty member to serve as their mentor and program advisor, and with whom they wish to continue working during their graduate training and completion of their graduate thesis.

The Accelerated Master of Science in Psychology program allows accelerated entry into graduate level courses during the student's fourth undergraduate year with planned entry into graduate school upon completion of their BS degree at the end of year 4. Because students have received a "head start" by completing a structured curriculum in their senior year, their graduate coursework for the MS degree can be completed in one year post-BS. The BS/MS curriculum is designed to include a 4-year undergraduate or 4-year undergraduate co-op program. Students in the program cannot be enrolled in a 5-year co-op.

## Admission Requirements

Prospective freshman criteria:

- Combined SAT score of 1300 (Quantitative and Verbal scores only)
- High school GPA of at least 3.5
- Top 10% of graduating class
- If these admission requirements are met, an additional application essay is requested via email and evaluated by the program director for final admission decisions.

Third year Psychology student criteria:

- Cumulative GPA of 3.5 or higher with no grade lower than a "C" in any class
- Enrollment in a 4-year, 1 co-op or 4-year, no co-op (some exceptions may apply)
- Completion of Graduate Record Examination (GRE) with a minimum score of 302 (Quantitative and Verbal scores)
- Identification of and commitment from Psychology faculty mentor to advise student's MS research

## Degree Requirements

### College Requirements

CIVC 101	Introduction to Civic Engagement	1.0
COM 230	Techniques of Speaking	3.0
COOP 101	Career Management and Professional Development *	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
Select one of the following:		8.0
MATH 101 & MATH 102	Introduction to Analysis I and Introduction to Analysis II	
MATH 121 & MATH 122	Calculus I and Calculus II	
UNIV H101	The Drexel Experience	1.0
UNIV H201	Looking Forward: Academics and Careers	1.0
Anthropology (ANTH) elective **		3.0
Business elective		4.0
English (ENGL) electives, 200-level or above		6.0
Fine Arts elective		3.0
History (HIST) electives		8.0
Philosophy (PHIL) elective		3.0
Political Science (PSCI) elective		4.0
Sociology (SOC) elective		3.0-4.0
Select one of the following sequences:		8.0
Biology		
BIO 107	Cells, Genetics & Physiology	
BIO 108	Cells, Genetics and Physiology Laboratory	
BIO 109	Biological Diversity, Ecology & Evolution	
BIO 110	Biological Diversity, Ecology and Evolution Laboratory	
Chemistry		

CHEM 111	General Chemistry I	
CHEM 112	General Chemistry II	
<b>Physics</b>		
PHYS 170	Electricity and Motion	
PHYS 171	Computational Lab for Electricity and Motion	
PHYS 175	Light and Sound	
PHYS 176	Computational Lab for Light and Sound	
Free electives		48.0
<b>Departmental Requirements</b>		
<b>General Psychology Requirements</b>		
PSY 111	Pre-Professional General Psychology I ***	3.0
PSY 112	Pre-Professional General Psychology II ***	3.0
<b>100-Level Requirements</b>		
Select two of the following:		6.0
PSY 120	Developmental Psychology	
PSY 140	Approaches to Personality	
PSY 150	Introduction to Social Psychology	
<b>Required Psychology Courses</b>		
PSY 212	Physiological Psychology	3.0
PSY 240 [WI]	Abnormal Psychology	3.0
PSY 264	Computer-Assisted Data Analysis I	3.0
PSY 265	Computer-Assisted Data Analysis II	3.0
PSY 280	Psychological Research	3.0
PSY 290	History and Systems of Psychology	3.0
PSY 325	Psychology of Learning	3.0
PSY 330	Cognitive Psychology	3.0
PSY 360 [WI]	Experimental Psychology	3.0
PSY 380	Psychological Testing and Assessment	3.0
<b>Advanced Psychology Electives</b> 12.0		
Any non-required PSY course at the 200-level or above.		
<b>Senior Seminar Sequence OR Psychology Electives †</b>		
PSY 490 [WI]	Psychology Senior Thesis I	4.0
PSY 491 [WI]	Psychology Senior Thesis II	4.0
PSY 492 [WI]	Psychology Senior Thesis III	4.0
<b>Psychology Master's Requirements</b>		
PSY 510	Research Methods I	3.0
PSY 511	Research Methods II	3.0
PSY 512	Cognitive Psychology	3.0
PSY 610	Data Analysis in Psychology	3.0
PSY 624	Behavior Analysis	3.0
PSY 710	Data Analysis II	3.0
PSY 898	Master's Thesis in Psychology	9.0
<b>Additional Electives ††</b>		18.0
<b>Total Credits</b>		<b>225.0-226.0</b>

\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

\*\* GST 100 may be used as a substitute for ANTH 101

\*\*\* Students with AP psychology, or transfer students with PSY 101 credit, should check the AP Student Placement Exam Crosswalk ([http://www.drexel.edu/provost/policies/pdf/supporting/ap\\_crosswalk.pdf](http://www.drexel.edu/provost/policies/pdf/supporting/ap_crosswalk.pdf)) or check with their advisor.

† Students who do not wish to complete the research seminar sequence are required to complete 12.0 credits of additional advanced Psychology electives instead.

Students are required to complete all undergraduate credit requirements by end of the fourth year.

†† Electives can be any graduate Psychology (PSY) course. Other graduate courses outside of Psychology might be taken pending approval from the graduate advisor or program director.

Note the following for planning purposes: PSY 711, while not required, is often taken as an elective during Spring Term of Year 1, as it is the third course in the PSY MS data analysis sequence.

## Sample Plan of Study

### 4 + 1 (5 years), 1 coop

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 CIVC 101	1.0 COOP 101*	1.0 VACATION	
MATH 121 or 101	4.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
PSY 111	3.0 MATH 102 or 122	4.0 PSY 120, 140, or 150	3.0	
UNIV H101	1.0 PSY 112	3.0 PSY 240	3.0	
Select one of the following:	4.0 PSY 120, 140, or 150	3.0 UNIV H201	1.0	
BIO 107 & BIO 108	Select one of the following:	4.0 (UG) Anthropology (ANTH) Elective	3.0	
CHEM 111	BIO 109 & BIO 110	(UG) Fine Arts Elective	3.0	
PHYS 170	CHEM 112			
	PHYS 175			
	<b>15</b>	<b>18</b>	<b>17</b>	<b>0</b>

#### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
PSY 264	3.0 COM 230	3.0 PSY 212	3.0 PSY 325	3.0
PSY 290	3.0 PSY 265	3.0 PSY 280	3.0 PSY 380	3.0
(UG) English (ENGL) elective, 200-level or above	3.0 PSY 330	3.0 PSY 360	3.0 (UG) Free Elective	3.0
(UG) Political Science (PSCI) elective	4.0 (UG) English (ENGL) elective, 200-level or above	3.0 (UG) Business Elective	4.0 (UG) History Elective	4.0
(UG) Sociology (SOC) elective***	3.0-4.0 (UG) Philosophy (PHIL) elective	3.0 (UG) Psychology Elective	3.0 (UG) Psychology Elective	3.0
	<b>16-17</b>	<b>15</b>	<b>16</b>	<b>16</b>

#### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
(UG) Free Electives	6.0 (UG) Free electives	12.0 COOP EXPERIENCE	COOP EXPERIENCE	
(UG) History Elective	4.0			
(UG) Psychology Electives**	6.0			
	<b>16</b>	<b>12</b>	<b>0</b>	<b>0</b>

#### Fourth Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
PSY 490†	4.0 PSY 491†	4.0 PSY 492†	4.0 Student Classified as Graduate Status	
(UG) Free Electives	9.0 (UG) Free Electives	9.0 (UG) Free Electives	9.0	
PSY 610††	3.0 PSY 510††	3.0 PSY 511††	3.0	
(GR) Psychology Master's-Level Elective††	3.0 PSY 710††	3.0 (GR) Psychology Master's-Level Elective††	3.0	
	<b>19</b>	<b>19</b>	<b>19</b>	<b>0</b>

#### Fifth Year

Fall	Credits Winter	Credits Spring	Credits
PSY 898	3.0 PSY 624	3.0 PSY 898	3.0
(GR) Psychology Master's-Level Electives	6.0 PSY 898	3.0 (GR) Psychology Master's-Level Electives	6.0
	(GR) Psychology Master's-Level Elective	3.0	
	<b>9</b>	<b>9</b>	<b>9</b>

**Total Credits 225-226**

\* Co-op cycles may vary. Students are assigned a co-op cycle (fall/winter, spring/summer, summer-only) based on their co-op program (4-year, 5-year) and major.

COOP 101 registration is determined by the co-op cycle assigned and may be scheduled in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

\*\* See degree requirements (p. 172).

- \*\*\* If a student selects a 4.0 credit SOC elective, the Free electives in this term will be 11.0 credits.
- † Students who do not wish to complete the research seminar sequence are instead required to complete 12.0 credits of additional advanced Psychology electives.  
BS/MS students are advised against taking senior seminar credits. Because students complete a master's thesis while enrolled in the BS/MS program, it is not feasible to also complete a senior thesis/research project. Consult with your advisor if you have any questions.
- †† Graduate-level credits for master's program may not count toward any part of the bachelor's degree requirements.

## Psychology Faculty

Meghan Butryn, PhD (*Drexel University*). Associate Professor. Treatment and prevention of obesity and eating disorders, behavioral treatment, acceptance and commitment therapy.

Dorothy Charbonnier, PhD (*State University of New York at Stony Brook*). Associate Teaching Professor. The nature of the creative process and writing.

Evangelia Chrysikou, PhD (*Temple University*). Associate Professor. Cognitive neuroscience, neuropsychology, neural basis of language, memory, and executive functions, neurocognitive processes associated with problem solving and flexible thought

Brian Daly, PhD (*Loyola University, Chicago*) *Interim Department Head*. Associate Professor. Pediatric neuropsychology, intervention with at-risk youth.

David DeMatteo, PhD, JD (*MCP Hahnemann University; Villanova University School of Law*) *Director of the JD-PhD Program in Law and Psychology*. Professor. Psychopathy, forensic mental health assessment, drug policy; offender diversion.

Evan M. Forman, PhD (*University of Rochester*) *Director WELL Center*. Professor. Clinical psychology: mechanisms and measurement of psychotherapy outcome, cognitive-behavioral and acceptance based psychotherapies, the development and evaluation of acceptance-based interventions for health behavior change (for problems of obesity and cardiac disease) as well as mood and anxiety disorders; neurocognition of eating.

Pamela Geller, PhD (*Kent State University*) *Director, Clinical Training*. Associate Professor. Stressful life events and physical and mental health outcomes, particularly in the area of women's reproductive health (e.g. pregnancy, pregnancy loss, infertility, medical education).

Maureen Gibney, PsyD (*Widener University*). Teaching Professor. Clinical psychopathology; neuropsychological evaluation and intervention with the elderly.

Naomi Goldstein, PhD (*University of Massachusetts*) *Co-Director of the JD-PhD Program; Stoneleigh Foundation Fellow*. Professor. Forensic psychology; juvenile justice; Miranda rights comprehension; false confessions; juvenile justice treatment outcome research; anger management intervention development; child and adolescent behavior problems.

Kirk Heilbrun, PhD (*University of Texas at Austin*). Professor. Forensic psychology, juvenile and adult criminality, violence risk assessment, forensic psychological assessment, treatment of mentally disordered offenders, academic-sports mentoring.

Adrienne Juarascio, PhD (*Drexel University*) *Director, Practicum Training*. Assistant Professor. Enhancing treatment outcomes for eating disorders and obesity; Acceptance-based behavioral treatments; Evaluating mechanisms of action in behavioral treatments

Marlin Killen, PhD (*Trident University International*). Teaching Professor. Authentic teaching methods in Psychology as well as student persistence behavior.

John Kounios, PhD (*University of Michigan*) *Director, PhD Program in Applied Cognitive and Brain Sciences*. Professor. Cognitive neuroscience, especially creativity, problem solving, and cognitive enhancement.

David Kutzik, PhD (*Temple University*). Professor. Social and cultural theory, political economy, gerontology, materialisms, activity theory, reflection theories, communities of practice and labor theories of culture.

Michael Lowe, PhD (*Boston College*). Professor. Prevention and treatment of eating disorders and obesity; effects of appetitive responsiveness and dietary restraint on eating regulation; psychobiology of obesity-proneness; empirical foundations of unconscious processes.

John Medaglia, PhD (*The Pennsylvania State University*). Assistant Professor. Applying models and methods developed in neuropsychology, cognitive neuroscience and graph theory to understand and treat brain dysfunction and enhance healthy functioning

Megan Meyer, PhD (*Temple University*). Assistant Teaching Professor. Influences on preferred body type; changes in body image, self-esteem, and self-efficacy in females as a function of strength training; Sensation and Perception

Danette Morrison, PhD (*University of Maryland - College Park*). Assistant Teaching Professor. Social and academic motivation within school context; Social relationships and identity development; Educational attainment of ethnic minorities

Arthur Nezu, PhD, DHLL, ABPP (*State University of New York at Stony Brook*). Distinguished University Professor of Psychology, Professor of Medicine, Professor of Community Health and Prevention. Behavioral medicine applications of problem-solving therapy and other cognitive-behavior therapies

(e.g., to decrease emotional and psychosocial risk factors; improve adherence), particularly with regard to patients with cardiovascular disease; assessment.

Christine Maguth Nezu, PhD (*Fairleigh Dickinson University*). Professor of Psychology, Professor of Medicine. Cognitive-behavioral assessment and treatment for mood, anxiety, personality disorders, and coping with chronic illness; mind/body studies; stress and coping; developmental disabilities and comorbid behavioral and emotional disorders; spirituality and psychology.

Nancy Raitano Lee, PhD (*University of Denver*) *Director of MS and BS/MS Programs*. Associate Professor. Neuropsychological and neuroanatomic correlates of intellectual and developmental disabilities; Verbal memory and language difficulties in Down syndrome and other genetic disorders; Comorbid autism spectrum disorder symptoms in youth with genetic disorders; Neuroanatomic correlates of individual differences in typical and atypical cognition

Diana Robins, PhD (*University of Connecticut*) *Interim Director, AJ Drexel Autism Institute*. Professor. Autism screening, early detection of autism

Ludo Scheffer, PhD (*University of Pennsylvania*) *Director of Undergraduate Studies*. Teaching Professor. Meta-cognitive development, writing, and computers; Language and literacy development in the early years in the context of family and schooling; Youth-at-risk; School violence and bullying; Program/intervention effectiveness

Maria Schultheis, PhD (*Drexel University*) *Vice Provost of Research, Office of Research and Innovation*. Professor. Clinical Neuropsychology and rehabilitation following neurological compromise (brain injury, stroke, multiple sclerosis), application of technologies in psychology. Specialization in the use of virtual reality (VR) simulation, and evaluation of the demands of driving after disability.

Jennifer Schwartz, PhD (*Idaho State University*) *Director of Psychological Services Center*. Teaching Professor. Adult psychopathology; evidence-based clinical practice; competency-based training; competency-based clinical supervision.

Julia Sluzenski, PhD (*Temple University*). Assistant Teaching Professor. Spatial and episodic memory, memory loss across the lifespan, developmental psychology.

Fengqing (Zoe) Zhang, PhD (*Northwestern University*). Associate Professor. Neuroimaging data analysis; Data mining; Bayesian inference; High dimensional data analysis

Eric A Zillmer, PsyD (*Florida Institute of Technology*) *Carl R. Pacifico Professor of Neuropsychology and the Director of Athletics*. Professor. Psychological assessment (neuropsychological, cognitive, personality), psychiatric and neurological disorders, behavioral medicine, neurogerontology, mathematical modeling, sports psychology, psychology of genocide.

## Emeritus Faculty

Donald Bersoff, JD, PhD (*Yale University, New York University*). Professor Emeritus. Law and psychology; mental health law.

James Calkins, PhD. Professor Emeritus.

Douglas L. Chute, PhD (*University of Missouri*) *Louis and Bessie Stein Fellow*. Professor Emeritus. Neuropsychology and rehabilitation; technological applications for the cognitively compromised and those with acquired brain injuries.

Myrna Shure, PhD (*Cornell University*). Professor Emeritus. Child development, problem-solving interventions with children, prevention programs.

Mary Spiers, PhD (*University of Alabama at Birmingham*). Professor Emeritus. Clinical neuropsychology and medical psychology; memory and practical applications for memory disorders in the elderly; cognitive health of women.

## Sociology BA / Urban Strategy MS

*Major: Sociology and Urban Strategy*

*Degree Awarded: Bachelor of Arts (BA) and Master of Science (MS)*

*Calendar Type: Quarter*

*Total Credit Hours: 229.0*

*Co-op Options: One Co-op (Five years)*

*Classification of Instructional Programs (CIP) code: 45.1101*

*Standard Occupational Classification (SOC) code: 19-3041*

## About the Program

The BA in Sociology with a concentration in urban sociology (180.0 credits) and MS in Urban Strategy (48.0 credits) is a combined BA/MS cross-disciplinary degree that focuses on the sociological analysis of cities, the communities that comprise them, and the social processes that organize and transform them. Students in the urban sociology concentration learn to apply sociological concepts and methods to analyze urban issues and

problems including gentrification, revitalization, suburbanization, and urban decline; concepts of space, place, community and neighborhood; and urban challenges such as poverty, affordable housing, global warming, policing and incarceration.

The BA portion of the degree prepares students to be leaders in urban issues, populations and challenges, whether through careers in urban policy, planning, social work, community nonprofits, government, or industry. This leads directly into the MS in Urban Strategy, a program designed to prepare students to become 21st century urbanists equipped to collaboratively and creatively solve complex multifaceted urban challenges on all levels: locally, nationally, and globally. The program boasts a cross-disciplinary curriculum focused on strategy, problem solving, and collaboration in the domains of urban planning, design, health, engineering, policy, community and economic development, and sociology. Master's in Urban Strategy students will benefit from the strong grounding in theory and methods of urban sociology, while urban sociology undergraduate students will gain from extending their training into a highly marketable master's degree.

## Admission Requirements

Students who meet the standard eligibility requirement for accelerated programs should consult with their advisor and work on an individual plan of study to submit with the Change of Curriculum form.

## Degree Requirements

### General Education Requirements

CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development	1.0
ENGL 101 or ENGL 111	Composition and Rhetoric I: Inquiry and Exploratory Research English Composition I	3.0
ENGL 102 or ENGL 112	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing English Composition II	3.0
ENGL 103 or ENGL 113	Composition and Rhetoric III: Themes and Genres English Composition III	3.0
UNIV H101	The Drexel Experience	1.0
UNIV H201	Looking Forward: Academics and Careers	1.0
Three Humanities Courses		9.0
Two Mathematics Courses		8.0
Two Science Courses		8.0
Two Consecutive Foreign Language Courses		8.0
Three Social and Behavioral Science Electives		9.0
Two International Studies Courses		6.0
Two Studies in Diversity		6.0

### Sociology Requirements

SOC 101	Introduction to Sociology	3.0
SOC 240	Urban Sociology	4.0
SOC 241	Research Design: Qualitative Methods	4.0
SOC 242	Research Design: Quantitative Methods	4.0
SOC 355 [WI]	Classical Social Theory	4.0
SOC 356 [WI]	Contemporary Social Theory	4.0
SOC 450	Capstone in Sociology	4.0

### Required Sociology Electives

Select at least 9 of the following: (At least two must be at the 300 or 400 level).		36.0
SOC 115	Social Problems	
SOC 207	Medicine and Society	
SOC 210	Race, Ethnicity and Social Inequality	
SOC 215	Sociology of Work	
SOC 220	Wealth and Power	
SOC 221	Sociology of the Family	
SOC 222	Sex and Society	
SOC 230	Gender and Society	
SOC 235	Sociology of Health and Illness	
SOC 238	Sociology of Health Professions	
SOC 244	Sociology of the Environment	
SOC 268	Sociology of Sport	
SOC 271	Sociology of Aging	
SOC 276	Global Climate Change	
SOC 313	Sociology of Global Health	
SOC 315	HIV/AIDS and Africa	
SOC 318	Social Networks and Health	

SOC 320	Sociology of Deviance
SOC 330	Development and Underdevelopment in the Global South
SOC 335	Sociology of Education
SOC 340	Globalization
SOC 341	Global Environmental Movements
SOC 346	Environmental Justice
SOC 349	Sociology of Disasters
SOC 370	Practicum in Applied and Community Sociology
SOC 405	Medicine, Technology and Science
SOC 410	Imagining Multiple Democracies
SOC 420	Love, Rage & Debt: The Debt Society
SOC 430	Politics of Life
SOC 444	Social Movements
SOC T380	Special Topics in SOC

**Urban Sociology Electives**

Select two urban sociology electives.		8.0
SOC 261	Sex and The City	
SOC 406	Housing and Homelessness	
SOC T280	Special Topics in Sociology ((Gentrification and Neighborhood Change))	

Free Electives 43.0

**MS Urban Strategy Requirements**

ECON 616	Public Finance and Cost Benefit Analysis	3.0
URBS 510	History of Urban Space (Shared Course)	3.0
URBS 520	What is a City	3.0
URBS 530	Quantitative Methods & Reasoning for Urban Strategists	3.0
URBS 610	Civic Engagement & Participatory Methods	3.0
URBS 620	City of Systems	3.0
URBS 630	Spatial Reasoning for Urbanists, Architects & Designers	3.0
URBS 650	Urbanism, Health & the Built Environment	3.0
URBS 670	Thesis I: Research Inquiry & Design	3.0
URBS 675	Thesis Seminar I	1.5
URBS 680	Thesis II: Fieldwork	3.0
URBS 685	Thesis Seminar II	1.5
URBS 690	Thesis III: Documentation	3.0

Four Graduate Free Electives 12.0

**Total Credits 229.0**

## Sample Plan of Study

**First Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 CIVC 101	1.0 COOP 101	1.0 VACATION	
SOC 101	3.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
UNIV H101	1.0 SOC 240	4.0 Sociology Elective	4.0	
Foreign Language 1	4.0 Foreign Language 2	4.0 Diversity Elective	3.0	
Math Seq Course	4.0 Science Elective	4.0 SBS Elective	3.0	
SBS Elective	3.0	Free Elective	3.0	
	<b>18</b>	<b>16</b>	<b>17</b>	<b>0</b>

**Second Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
SOC 241	4.0 SOC 355	4.0 SOC 242	4.0 UNIV H201	1.0
Math Seq Course	4.0 Sociology Elective	4.0 SBS Elective	3.0 Free Elective	3.0
Sociology Elective	4.0 Free Elective	3.0 Sociology Elective	4.0 Sociology Urban Elective	4.0
Sociology Elective	4.0 Science Elective	4.0 Free Elective	3.0 Sociology Elective 300-400	4.0
	Diversity Elective	3.0 Free Elective	3.0 Sociology Elective 300-400	4.0
	<b>16</b>	<b>18</b>	<b>17</b>	<b>16</b>

**Third Year**

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
Soc Urban Elective	4.0 SOC 356	4.0 COOP EXPERIENCE	COOP EXPERIENCE	



UG Humanities Elective	3.0 URBS 610 (GR URBS)	3.0		
UG International Elective	3.0 UG Humanities Elective	3.0		
UG Free Elective	3.0 UG Free Electives	6.0		
URBS 510 (GR URBS)	3.0			
	<b>16</b>	<b>16</b>	<b>0</b>	<b>0</b>

**Fourth Year**

<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>
URBS 530 (GR URBS)	3.0 SOC 450	4.0 ECON 616 (GR URBS)	3.0
URBS 520 (GR URBS)	3.0 URBS 620 (GR URBS)	3.0 URBS 650 (GR URBS)	3.0
UG Sociology Electives	8.0 URBS 630 (GR URBS)	3.0 UG Free Electives	12.0
UG Free Electives	4.0 UG International Elective	3.0 Note: BA Degree Awarded	
	UG Humanities Elective	3.0	
	UG Free Elective	3.0	
	<b>18</b>	<b>19</b>	<b>18</b>

**Fifth Year**

<b>Fall</b>	<b>Credits Winter</b>	<b>Credits Spring</b>	<b>Credits</b>
URBS 670 (GR URBS)	3.0 URBS 675 (GR URBS)	1.5 URBS 685 (GR URBS)	1.5
GR URBS Electives	6.0 URBS 680 (GR URBS)	3.0 URBS 690 (GR URBS)	3.0
	GR URBS Elective	3.0 GR URBS Elective	3.0
	<b>9</b>	<b>7.5</b>	<b>7.5</b>

**Total Credits 229**

## English BA / Law JD

Major: English and Law

Degree Awarded: Bachelor of Arts (BA) and Juris Doctor (JD)

Calendar Type: Quarter and semester

Total Credit Hours: 180.0 quarter credits & 85.0 semester credits

Co-op Options: No Co-op (Six years)

Classification of Instructional Programs (CIP) code: 23.9999

Standard Occupational Classification (SOC) code: 19-3094

### About the Program

This accelerated degree program combines the BA in English in the College of Arts and Sciences and the JD offered by the Kline School of Law. It is a "3+3" program, allowing qualified students to earn both their BA in English and their JD in six years. The study of English provides a strong foundation for success in law school.

### Admission Requirements

For the BA: Standard for all Drexel undergraduate programs

To be admitted to Drexel's Kline School of Law, students must:

- Maintain a minimum cumulative undergraduate GPA of 3.45
- Earn a LSAT score that meets or exceeds the Kline School of Law's current LSAT median (as determined by point of entry into the undergraduate program) no later than December of year 3 of undergraduate program
- Actively participate in pre-law and BAJD activities
- Meet regularly with academic advisor and the pre-law advisor
- Maintain satisfactory progress towards completing required undergraduate coursework as set out in the plan of study in three years
- File complete, binding application to the Kline School of Law by December 31 of year 3 of undergraduate program
- Comply with all admission and seat deposit requirements of the Kline School of Law
- Comply with all character and fitness requirements of the Kline School of Law

Students who do not meet these qualifications may still be granted admission if space is available.

### Degree Requirements

#### General Education Requirements

CIVC 101	Introduction to Civic Engagement	1.0
ENGL 101 or ENGL 111	Composition and Rhetoric I: Inquiry and Exploratory Research English Composition I	3.0
ENGL 102 or ENGL 112	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing English Composition II	3.0
ENGL 103 or ENGL 113	Composition and Rhetoric III: Themes and Genres English Composition III	3.0
UNIV H101	The Drexel Experience	1.0
UNIV H201	Looking Forward: Academics and Careers	1.0
Two Math courses		6.0
Two Science courses		6.0
Studies in Diversity electives		6.0
Foreign Language Requirement		8.0
Humanities/Fine Arts electives		6.0
Social Science electives		12.0
International Studies electives		6.0

#### Core English Major Requirements

ENGL 195	English Freshman Seminar	3.0
ENGL 207 [WI]	African American Literature	3.0
ENGL 301	English Major Colloquium **	3.0
ENGL 315 [WI]	Shakespeare	3.0
ENGL 325	Topics in World Literature	3.0
ENGL 355 [WI]	Women and Literature	3.0
ENGL 495	Senior Project in Literature	3.0
WRIT 195	Threshold Concepts in Writing	3.0

WRIT 200	Language Puzzles and Word Games: Issues in Modern Grammar	3.0
WRIT 225 [WI]	Creative Writing	3.0
<b>Additional ENGL courses</b>		<b>36.0</b>
Select four of the following courses:		
ENGL 200 [WI]	Classical to Medieval Literature	
ENGL 201	Renaissance to the Enlightenment	
ENGL 202 [WI]	Romanticism to Modernism	
ENGL 203 [WI]	Survey of World Literature	
ENGL 204	Post-Colonial Literature	
ENGL 205 [WI]	American Literature I	
ENGL 206 [WI]	American Literature II	
ENGL 211 [WI]	British Literature I	
ENGL 212	British Literature II	
Authors and Periods - Select 1 for a minimum of 3 credits		
ENGL 310 [WI]	Period Studies	
ENGL 320 [WI]	Major Authors	
Literary Impacts - Select 1 for a minimum of 3 credits		
ENGL 300 [WI]	Literature & Science	
ENGL 323	Literature and Other Arts	
ENGL 360 [WI]	Literature and Society	
Literary Traditions - Select 1 for a minimum of 3 credits		
ENGL 330	The Bible as Literature	
ENGL 335	Mythology	
Literary Theory - 3 credits		
ENGL 380	Literary Theory	
Literature Seminars - Take both for a minimum of 6 credits		
ENGL 490	Seminar in English and American Literature	
ENGL 492	Seminar in World Literature	
English electives - minimum of 6 credits in ENGL or WRIT		
<b>Free undergraduate electives from any discipline</b>		<b>19.0</b>
<b>Free electives fulfilled by 22.0 semester credits from first-year law courses (Law School Requirements)</b>		<b>33.0</b>
Law School Requirements ***		
LAW 550S	Torts	
LAW 552S	Contracts	
LAW 554S	Civil Procedure	
LAW 555S	Legislation and Regulation	
LAW 556S	Property	
LAW 558S	Criminal Law	
LAW 560S	Constitutional Law (Law Reqts/Electives)	
LAW 565S	Legal Methods I	
LAW 566S	Legal Methods II	
LAW 830S	Professional Responsibility	
Electives and Menu Requirements including:		
One Upper Level Writing Course (WUL). See list below.		
One Statutory Course		
One Professional Practice Course		
<b>Total Credits</b>		<b>180.0</b>

\* 2 consecutive courses, reaching at least 103-level

\*\* ENGL 301 is a 1-credit course, repeat twice for 3.0 total credits

\*\*\* A minimum of 61.0 credits must be "in-class" credits. See Student Handbook for definitions.

Students must also complete a minimum of 50 hours of eligible pro bono work, documented with the Law School's Experiential Learning Office.

## Law School Courses

Upper-Level Writing (WUL) Courses (may also be used as electives once requirement is fulfilled):

LAW 610S	Reproductive Rights & Justice	2.0-3.0
LAW 611S	Sex, Gender, & the Law	2.0-3.0
LAW 614S	Supreme Court Seminar	3.0
LAW 647S	The Rights of Children	2.0
LAW 656S	Justice Lawyering Sem	1.0-3.0
LAW 673S	Crime and Community	2.0

LAW 790S	Toxic Torts	2.0-3.0
LAW 791S	Regulating Patient Safety	2.0-3.0
LAW 793S	Mental Health Law	2.0-3.0
LAW 827S	Immigration Litigation	2.0
LAW 828S	International Business Transactions	2.0-3.0
LAW 832S	Contract Theory Seminar	2.0-3.0
LAW 836S	Legal History	2.0-3.0
LAW 838S	Foundations of Legal Analysis	2.0
LAW 840S	Literature and The Law Seminar	2.0-3.0
LAW 842S	Law and Mind Sciences	2.0-3.0
LAW 844S	Law and Social Movements	2.0-3.0
LAW 910S	Appellate Advocacy	2.0
LAW 920S	Drexel Law Review ((if WUL option))	1.0-6.0
LAW T880S	Special Topics in LAW	1.0-5.0
Statutory Courses (may also be used as electives once requirement is fulfilled):		
LAW 620S	Administrative Law	3.0-4.0
LAW 622S	Employment Discrimination	3.0
LAW 623S	Election Law	3.0-4.0
LAW 624S	Environmental Law	3.0
LAW 674S	Health Care Fraud and Abuse	2.0-3.0
LAW 675S	Federal Criminal Law	2.0-3.0
LAW 676S	White Collar Crime	2.0-3.0
LAW 700S	Business Organizations	3.0-4.0
LAW 701S	Federal Income Tax	3.0-4.0
LAW 702S	Enterprise Tax	3.0-4.0
LAW 706S	Secured Transactions	3.0
LAW 708S	Payment Systems	3.0
LAW 710S	Bankruptcy	3.0-4.0
LAW 711S	Sales	3.0
LAW 714S	Securities Regulation	3.0
LAW 740S	Trusts and Estates	3.0-4.0
LAW 760S	Copyright	3.0
LAW 764S	Trademarks & Unfair Competition	3.0
LAW 792S	Food and Drug Law	2.0-3.0
LAW 796S	Insurance Law	2.0-3.0
LAW 820S	Immigration Law	3.0-4.0
LAW 821S	European Union Law	2.0-3.0
LAW 826S	Refugee and Asylum Law	2.0-3.0
Professional Practice Courses (may also be used as electives once requirement is fulfilled):		
LAW 931S & LAW 654S	Law Co-op and Lawyering Practice Seminar	5.0-11.0
LAW 933S & LAW 654S	Co-op Intensive and Lawyering Practice Seminar	11.0-12.0
LAW 941S & LAW 944S & LAW 656S	Criminal Litigation Clinic I and Civil Litigation Clinic II and Justice Lawyering Sem	11.0-15.0
LAW 943S & LAW 944S & LAW 656S	Civil Litigation Clinic I and Civil Litigation Clinic II and Justice Lawyering Sem	11.0-15.0
LAW 947S & LAW 948S & LAW 656S	Federal Litigation and Appeals Clinic and Federal Litigation and Appeals Clinic II and Justice Lawyering Sem	11.0-15.0
LAW 950S & LAW 951S & LAW 656S	Community Lawyering Clinic I and Community Lawyering Clinic II and Justice Lawyering Sem	11.0-15.0
LAW 924S & LAW 653S	Entrepreneurial Law Clinic and Entrepreneurial Law Clinic Seminar	6.0-7.0
Free Electives (may require permission to enroll)		

Any other unspecified LAW course numbered 550S and above may count as a JD elective

## Sample Plan of Study

### Undergraduate course credits are quarter credits

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101	3.0 CIVC 101	1.0 ENGL 103	3.0 VACATION	
ENGL 195	3.0 ENGL 102	3.0 ENGL 204	3.0	
UNIV H101	1.0 ENGL 203	3.0 ENGL 301	1.0	
WRIT 195	3.0 WRIT 200	3.0 WRIT 225	3.0	
Language course	4.0 Language course	4.0 Math course	3.0	
Undergraduate elective	3.0 Undergraduate elective	3.0 Undergraduate elective	3.0	
	<b>17</b>	<b>17</b>	<b>16</b>	<b>0</b>

#### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 211	3.0 ENGL 212	3.0 ENGL 301	1.0 VACATION	
ENGL 207	3.0 ENGL 301	1.0 ENGL 355	3.0	
Social Science elective	3.0 ENGL 325	3.0 WRIT 310	3.0	
Math course	3.0 Diversity elective	3.0 Social Science elective	3.0	
Undergraduate elective	4.0 Social Science elective	3.0 Science elective	3.0	
	Undergraduate elective	3.0 Undergraduate elective	3.0	
	<b>16</b>	<b>16</b>	<b>16</b>	<b>0</b>

#### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 335	3.0 ENGL 360	3.0 ENGL 315	3.0 Student transitions to First Year of Law School	
ENGL 490	3.0 ENGL 380	3.0 Science elective	3.0	
UNIV H201	1.0 ENGL 492	3.0 Social Science elective	3.0	
ENGL or WRIT Elective - 1 of 2	3.0 ENGL 495	3.0 Humanities elective	3.0	
Diversity Elective	3.0 ENGL or WRIT Elective - 2 of 2	3.0 International Studies elective	3.0	
International Studies Elective	3.0 Humanities elective	3.0		
	<b>16</b>	<b>18</b>	<b>15</b>	<b>0</b>

Total Credits 147

### Law School course credits are semester credits

First Year Law course credits (22 semester credits) are counted toward the English BA.

#### Fourth Year

Fall	Credits Spring	Credits
LAW 550S (Counts toward UG free elective)	4.0 LAW 555S (Counts toward UG free elective)	3.0
LAW 552S (Counts toward UG free elective)	4.0 LAW 556S (Counts toward UG free elective)	4.0
LAW 554S (Counts toward UG free elective)	4.0 LAW 558S	4.0
LAW 565S (Counts toward UG free elective)	3.0 LAW 566S	3.0
	<b>15</b>	<b>14</b>

#### Fifth Year

Fall	Credits Spring	Credits
LAW 560S	4.0 LAW 830S	2.0
LAW Requirements/Electives	10.0 Law Requirements/Electives	12.0
	<b>14</b>	<b>14</b>

#### Sixth Year

Fall	Credits Spring	Credits
Law Requirements/Electives	14.0 Law Requirements/Electives	14.0
	<b>14</b>	<b>14</b>

Total Credits 85

## History BA / Law JD

Major: History and Law

*Degree Awarded: Bachelor of Arts (BA) and Juris Doctor (JD)*  
*Calendar Type: Quarter and semester*  
*Total Credit Hours: 181.0 quarter credits & 85.0 semester credits*  
*Co-op Options: No Co-op (Six years)*  
*Classification of Instructional Programs (CIP) code: 54.0101*  
*Standard Occupational Classification (SOC) code: 19-3093*

## About the Program

This accelerated degree program combines the BA in History in the College of Arts and Sciences and the JD offered by the Kline School of Law. It is a "3+3" program, allowing qualified students to earn both their BA in History and their JD in six years. The study of history provides a strong foundation for success in law school.

## Admission Requirements

For the BA: Standard admission requirements (<https://drexel.edu/admissions/overview/>) for all Drexel undergraduate programs

To be admitted to Drexel's Kline School of Law, students must:

- Maintain a minimum cumulative undergraduate GPA of 3.45
- Earn a LSAT score that meets or exceeds the Kline School of Law's current LSAT median (as determined by point of entry into the undergraduate program) no later than December of year 3 of undergraduate program
- Actively participate in pre-law and BAJD activities
- Meet regularly with academic advisor and the pre-law advisor
- Maintain satisfactory progress towards completing required undergraduate coursework as set out in the plan of study in three years
- File complete, binding application to the Kline School of Law by December 31 of year 3 of undergraduate program
- Comply with all admission and seat deposit requirements of the Kline School of Law
- Comply with all character and fitness requirements of the Kline School of Law

Students who do not meet these qualifications may still be granted admission if space is available.

## Degree Requirements

### General Education Requirements

ENGL 101 or ENGL 111	Composition and Rhetoric I: Inquiry and Exploratory Research English Composition I	3.0
ENGL 102 or ENGL 112	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing English Composition II	3.0
ENGL 103 or ENGL 113	Composition and Rhetoric III: Themes and Genres English Composition III	3.0
UNIV H101	The Drexel Experience	1.0
UNIV H201	Looking Forward: Academics and Careers	1.0
CIVC 101	Introduction to Civic Engagement	1.0
Math courses		6.0-8.0
Science courses **		6.0-8.0

### Foundation Requirements

Studies in Diversity electives		6.0
Two Consecutive Foreign Language courses (must complete level 201) ***		8.0
Humanities/Fine Arts electives		12.0
Social Science electives		12.0
International Studies electives		6.0

### Core History Requirements

HIST 101	Introductory Seminar in History I †	
HIST 102	Introductory Seminar in History II †	
HIST 296	Research Methods in History I †	
HIST 301	The Study of History †	
HIST 396	Research Methods in History II †	
HIST 490 [WI]	Senior Seminar I †	
HIST 491 [WI]	Senior Seminar II †	
Any 1 Advanced History Seminar (Topics will vary)		
HIST 380	Advanced History Seminar	
History Distribution Courses (Only 200-level and above HIST courses will fulfill this requirement)		20.0
Any 2 non-U.S. History courses		

Any 1 U.S. History Course	
Any 1 History course covering pre-1700 history (May not be HIST 201)	
Any 1 History of Science, Technology, and Environment course	
History Concentration courses or any 7 History courses (at least four must be 200-level and above)	28.0
Free electives fulfilled by 22 semester credits from first-year law courses	33.0

**Law School Requirements**

LAW 550S	Torts	
LAW 552S	Contracts	
LAW 554S	Civil Procedure	
LAW 555S	Legislation and Regulation	
LAW 556S	Property	
LAW 558S	Criminal Law	
LAW 560S	Constitutional Law	
LAW 565S	Legal Methods I	
LAW 566S	Legal Methods II	
LAW 830S	Professional Responsibility	
Electives and Menu Requirements including:		49.0-50.0
One Upper-Level Writing Course (WUL)		
One Statutory Course		
One Professional Practice Course		

\*\* Any Biology (BIO), Chemistry (CHEM), Geoscience (GEO), Nutrition (NFS), Physics (PHYS) or Environmental Science (ENVS) course, or Physics-Environmental Science (PHEV)

\*\*\* University requirement is two consecutive courses; the third language course, though listed here, is a departmental requirement.

† HIST 101 - HIST 491 [WI] must be taken in sequence.

Upper-Level Writing (WUL) Courses (may also be used as electives once requirement is fulfilled):

LAW 610S	Reproductive Rights & Justice	2.0-3.0
LAW 611S	Sex, Gender, & the Law	3.0
LAW 614S	Supreme Court Seminar	3.0
LAW 647S	The Rights of Children	2.0
LAW 656S	Justice Lawyering Sem (if full-year paper)	1.0-3.0
LAW 673S	Crime and Community	2.0
LAW 790S	Toxic Torts	2.0
LAW 791S	Regulating Patient Safety	2.0
LAW 793S	Mental Health Law (if paper option)	3.0
LAW 827S	Immigration Litigation	2.0
LAW 828S	International Business Transactions	2.0-3.0
LAW 832S	Contract Theory Seminar	2.0-3.0
LAW 836S	Legal History	2.0-3.0
LAW 838S	Foundations of Legal Analysis	2.0
LAW 840S	Literature and The Law Seminar	2.0
LAW 842S	Law and Mind Sciences	2.0
LAW 844S	Law and Social Movements	3.0
LAW 848S	Courts and Public Policy	2.0-3.0
LAW 882S	Litigation Drafting	2.0
LAW 884S	Contract Drafting	2.0
LAW 910S	Appellate Advocacy	2.0
LAW 920S	Drexel Law Review (if WUL option)	1.0-6.0
LAW T880S	Special Topics in LAW	1.0-5.0

Statutory Courses (may also be used as electives once requirement is fulfilled):

LAW 620S	Administrative Law	4.0
LAW 622S	Employment Discrimination	3.0
LAW 623S	Election Law	3.0
LAW 624S	Environmental Law	3.0
LAW 642S	Special Education Law	2.0-3.0
LAW 674S	Health Care Fraud and Abuse	2.0
LAW 675S	Federal Criminal Law	2.0-3.0
LAW 676S	White Collar Crime	2.0-3.0
LAW 700S	Business Organizations	3.0-4.0
LAW 701S	Federal Income Tax	4.0
LAW 702S	Enterprise Tax	4.0

LAW 706S	Secured Transactions	3.0
LAW 708S	Payment Systems	3.0
LAW 710S	Bankruptcy	3.0-4.0
LAW 711S	Sales	3.0
LAW 714S	Securities Regulation	3.0
LAW 740S	Trusts and Estates	3.0
LAW 760S	Copyright	3.0
LAW 764S	Trademarks & Unfair Competition	3.0
LAW 792S	Food and Drug Law	3.0
LAW 796S	Insurance Law	2.0
LAW 820S	Immigration Law	3.0-4.0
LAW 821S	European Union Law	2.0-3.0
LAW 826S	Refugee and Asylum Law	2.0
Professional Practice Courses (may also be used as electives once requirement is fulfilled):		
LAW 924S & LAW 653S	Entrepreneurial Law Clinic and Entrepreneurial Law Clinic Seminar	7.0
LAW 931S & LAW 654S	Law Co-op and Lawyering Practice Seminar	8.0-9.0
LAW 941S & LAW 942S & LAW 656S	Criminal Litigation Clinic I and Criminal Litigation Clinic II and Justice Lawyering Sem	14.0-15.0
LAW 943S & LAW 944S & LAW 656S	Civil Litigation Clinic I and Civil Litigation Clinic II and Justice Lawyering Sem	14.0-15.0
LAW 947S & LAW 948S & LAW 656S	Federal Litigation and Appeals Clinic and Federal Litigation and Appeals Clinic II and Justice Lawyering Sem	14.0-15.0
LAW 950S & LAW 951S & LAW 656S	Community Lawyering Clinic I and Community Lawyering Clinic II and Justice Lawyering Sem	14.0-15.0
Free Electives (may require permission to enroll)		
Any other unspecified LAW course numbered 550S and above may count as JD elective		

## Sample Plan of Study

### Undergraduate course credits are quarter credits

First Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101	3.0 CIVC 101	1.0 ENGL 103	3.0 VACATION	
HIST 101	4.0 ENGL 102	3.0 Math	3.0-4.0	
UNIV H101	1.0 HIST 102	4.0 U.S. History course	4.0	
Non-U.S. History course	4.0 Math	3.0-4.0 History electives	8.0	
Language (103-level or higher)	4.0 Language	3.0-4.0		
	<b>16</b>	<b>14-16</b>	<b>18-19</b>	<b>0</b>
Second Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
HIST 296	4.0 HIST 396	4.0 Non-U.S. History course	4.0 VACATION	
HIST 301	4.0 History of Science, Technology, and Environment course	4.0 International Studies elective	3.0	
Science	3.0-4.0 Humanities/Fine arts elective	3.0 Social Science	3.0	
History course covering pre-1700 history	4.0 Social Science	3.0 Humanities/Fine arts elective	3.0	
	Science	3.0-4.0 History Elective	4.0	
	<b>15-16</b>	<b>17-18</b>	<b>17</b>	<b>0</b>
Third Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
HIST 490	4.0 HIST 380	4.0 History Electives	8.0 VACATION	
UNIV H201	1.0 HIST 491	4.0 Humanities / Fine Arts Elective	3.0 Student transitions to First Year of Law School	
History Elective	4.0 Humanities/Fine arts elective	3.0 Diversity Elective	3.0	



Social Science elective	3.0 History Electives	8.0 Social Science Elective	3.0
International Studies Elective	3.0		
	15	19	17
			0

Total Credits 148-153

## Law School course credits are semester credits

First Year Law course credits (22 semester credits) are counted toward the History BA.

### Fourth Year

Fall	Credits Spring	Credits
LAW 550S (Counts toward UG free elective)	4.0 LAW 555S (Counts toward UG free elective)	3.0
LAW 552S (Counts toward UG free elective)	4.0 LAW 556S (Counts toward UG free elective)	4.0
LAW 554S (Counts toward UG free elective)	4.0 LAW 558S	4.0
LAW 565S (Counts toward UG free elective)	3.0 LAW 566S	3.0
	15	14

### Fifth Year

Fall	Credits Spring	Credits
LAW 560S	4.0 LAW 830S	2.0
LAW Reqs/Electives	10.0 LAW Reqs/Electives	12.0
	14	14

### Sixth Year

Fall	Credits Spring	Credits
LAW Reqs/Electives	14.0 LAW Reqs/Electives	14.0
	14	14

Total Credits 85

## Political Science BA / Law JD

Major: Political Science and Law

Degree Awarded: Bachelor of Arts (BA) and Juris Doctor (JD)

Calendar Type: Quarter and semester

Total Credit Hours: 180.0 quarter credits & 85.0 semester credits

Co-op Options: No Co-op (Six years)

Classification of Instructional Programs (CIP) code: 45.1001

Standard Occupational Classification (SOC) code: 19-3094

## About the Program

This accelerated degree program combines the BA in Political Science in the College of Arts and Sciences and the JD offered by the Kline School of Law. It is a "3+3" program, allowing qualified students to earn both their BA in Political Science and their JD in six years. The study of government and politics provides a strong foundation for success in law school.

## Admission Requirements

For the BA: Standard admission requirements (<https://drexel.edu/admissions/overview/>) for all Drexel undergraduate programs

To be admitted to Drexel's Kline School of Law, students must:

- Maintain a minimum cumulative undergraduate GPA of 3.45
- Earn a LSAT score that meets or exceeds the Kline School of Law's current LSAT median (as determined by point of entry into the undergraduate program) no later than December of year 3 of undergraduate program
- Actively participate in pre-law and BAJD activities
- Meet regularly with academic advisor and the pre-law advisor
- Maintain satisfactory progress towards completing required undergraduate coursework as set out in the plan of study in three years
- File complete, binding application to the Kline School of Law by December 31 of year 3 of undergraduate program
- Comply with all admission and seat deposit requirements of the Kline School of Law
- Comply with all character and fitness requirements of the Kline School of Law

## Degree Requirements

### General Education Requirements

CIVC 101	Introduction to Civic Engagement	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
UNIV H101	The Drexel Experience	1.0
UNIV H201	Looking Forward: Academics and Careers	1.0
Two Math courses		6.0
Two Science courses		6.0

### Foundation Requirements

Studies in Diversity electives		6.0
Three Consecutive Foreign Language courses (must complete level 201) **		12.0
Humanities/Fine Arts electives		12.0
Social Science electives		12.0
International Studies electives		6.0

### Core Political Science Requirements

PSCI 110	American Government	4.0
PSCI 120	History of Political Thought	4.0
PSCI 140	Comparative Politics I	4.0
PSCI 150	International Politics	4.0

### Political Science Research Methods Sequence

PSCI 131 [WI]	Research Design for Political Science	4.0
PSCI 231	Qualitative and Mixed-Methods Research in Political Science	4.0
PSCI 232	Quantitative Research Methods in Political Science	4.0

### Intermediate Courses

Select four of the following courses:		16.0
PSCI 210	American Political Development	
PSCI 220	Constitutional Law I	
PSCI 223	Comparative Political Thought	
PSCI 229	Theories of Justice	
PSCI 240	Comparative Politics II	
PSCI 250	American Foreign Policy	
PSCI 252	Global Governance	
PSCI 260 [WI]	Power in Protest: Social Movements in Comparative Perspective	
PSCI 330	Public Opinion & Propaganda	
PSCI 363	Constitutional Law II	

### Political Science Electives

Choose up to eight 200-level of above PSCI courses		32.0
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### Free electives fulfilled by 22.0 semester credits from first-year law courses (Law School Requirements)

Law School required courses		33.0
LAW 550S	Torts	3.0-5.0
LAW 552S	Contracts	3.0-5.0
LAW 554S	Civil Procedure	3.0-5.0
LAW 555S	Legislation and Regulation	3.0
LAW 556S	Property	3.0-5.0
LAW 558S	Criminal Law	3.0-5.0
LAW 560S	Constitutional Law	3.0-5.0
LAW 565S	Legal Methods I	2.0-4.0
LAW 566S	Legal Methods II	2.0-4.0
LAW 830S	Professional Responsibility	2.0-3.0
Electives and Menu Requirements including:		49.0-50.0

One Upper-Level Writing Course (WUL). See list below.

One Statutory Course. See list below.

One Professional Practice Course. See list below.

\* Any Biology (BIO), Chemistry (CHEM), Geoscience (GEO), Nutrition (NFS), Physics (PHYS) or Environmental Science (ENVS) course.

\*\* University requirement is two consecutive courses; the third language course, though listed here, is a departmental requirement.

## Law School Electives and Menu Requirements:

Upper-level writing (WUL) courses may also be used as electives once requirement is fulfilled

LAW 610S	Reproductive Rights & Justice
LAW 611S	Sex, Gender, & the Law
LAW 614S	Supreme Court Seminar
LAW 647S	The Rights of Children
LAW 656S	Justice Lawyering Sem
LAW 673S	Crime and Community
LAW 790S	Toxic Torts
LAW 791S	Regulating Patient Safety
LAW 793S	Mental Health Law
LAW 827S	Immigration Litigation
LAW 828S	International Business Transactions
LAW 832S	Contract Theory Seminar
LAW 836S	Legal History
LAW 838S	Foundations of Legal Analysis
LAW 840S	Literature and The Law Seminar
LAW 842S	Law and Mind Sciences
LAW 844S	Law and Social Movements
LAW 910S	Appellate Advocacy
LAW 920S	Drexel Law Review
LAW T880S	Special Topics in LAW

Statutory Courses (may also be used as electives once requirement is fulfilled):

LAW 620S	Administrative Law
LAW 622S	Employment Discrimination
LAW 623S	Election Law
LAW 624S	Environmental Law
LAW 674S	Health Care Fraud and Abuse
LAW 675S	Federal Criminal Law
LAW 676S	White Collar Crime
LAW 700S	Business Organizations
LAW 701S	Federal Income Tax
LAW 702S	Enterprise Tax
LAW 706S	Secured Transactions
LAW 708S	Payment Systems
LAW 710S	Bankruptcy
LAW 711S	Sales
LAW 714S	Securities Regulation
LAW 740S	Trusts and Estates
LAW 760S	Copyright
LAW 764S	Trademarks & Unfair Competition
LAW 792S	Food and Drug Law
LAW 796S	Insurance Law
LAW 820S	Immigration Law
LAW 821S	European Union Law
LAW 826S	Refugee and Asylum Law

Professional Practice Courses (may also be used as electives once requirement is fulfilled):

LAW 931S	Law Co-op
or LAW 654S	Lawyering Practice Seminar
LAW 933S	Co-op Intensive
or LAW 654S	Lawyering Practice Seminar
LAW 941S	Criminal Litigation Clinic I
or LAW 944S	Civil Litigation Clinic II
or LAW 656S	Justice Lawyering Sem
LAW 943S	Civil Litigation Clinic I
or LAW 944S	Civil Litigation Clinic II
or LAW 656S	Justice Lawyering Sem
LAW 947S	Federal Litigation and Appeals Clinic

or LAW 948S	Federal Litigation and Appeals Clinic II
or LAW 656S	Justice Lawyering Sem
LAW 950S	Community Lawyering Clinic I
or LAW 951S	Community Lawyering Clinic II
or LAW 656S	Justice Lawyering Sem
LAW 924S	Entrepreneurial Law Clinic
or LAW 653S	Entrepreneurial Law Clinic Seminar
Free Electives (may require permission to enroll)	
Any other unspecified LAW course numbered 550S and above may count as JD elective	

## Sample Plan of Study

### Undergraduate course credits are quarter credits

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0 VACATION	
PSCI 110	4.0 PSCI 150	4.0 PSCI 131	4.0	
PSCI 140	4.0 PSCI 120	4.0 Math course	3.0	
UNIV H101	1.0 CIVC 101	1.0 Language course	4.0	
Language course	4.0 Language course	4.0 Social Science elective	3.0	
	<b>16</b>	<b>16</b>	<b>17</b>	<b>0</b>

#### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
PSCI 220	4.0 PSCI 229	4.0 PSCI 250	4.0 VACATION	
PSCI 231	4.0 PSCI 232	4.0 PSCI 363	4.0	
PSCI 310	4.0 Social Science elective	3.0 Social Science elective	3.0	
Math course	3.0 Diversity elective	3.0 Science course	3.0	
	Humanities elective	3.0 Humanities elective	3.0	
	<b>15</b>	<b>17</b>	<b>17</b>	<b>0</b>

#### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
PSCI 351	4.0 PSCI 240	4.0 PSCI 353	4.0 VACATION	
PSCI 363	4.0 PSCI 252	4.0 Science	3.0 Student transitions to First Year of Law School	
PSCI T380	4.0 PSCI 284	4.0 Humanities	3.0	
UNIV H201	1.0 International Studies Elective	3.0 Social Science	3.0	
Diversity Elective	3.0 Humanities	3.0 International Studies Elective	3.0	
	<b>16</b>	<b>18</b>	<b>16</b>	<b>0</b>

Total Credits 148

### Law School course credits are semester credits

First Year Law course credits (22 semester credits) are counted toward the Political Science BA.

#### Fourth Year

Fall	Credits Spring	Credits
LAW 550S (Counts toward UG free elective)	4.0 LAW 555S (Counts toward UG free elective)	3.0
LAW 552S (Counts toward UG free elective)	4.0 LAW 556S (Counts toward UG free elective)	4.0
LAW 554S (Counts toward UG free elective)	4.0 LAW 558S	4.0
LAW 565S (Counts toward UG free elective)	3.0 LAW 566S	3.0
	<b>15</b>	<b>14</b>

#### Fifth Year

Fall	Credits Spring	Credits
LAW 560S	4.0 LAW 830S	2.0
Law Requirements/Electives	10.0 Law Requirements/Electives	12.0
	<b>14</b>	<b>14</b>

**Sixth Year**

Fall	Credits Spring	Credits
Law Requirements/Electives	14.0 Law Requirements/Electives	14.0
	<b>14</b>	<b>14</b>

Total Credits 85

## Psychology BS / Law JD

Major: Psychology and Law

Degree Awarded: Bachelor of Science (BS) and Juris Doctor (JD)

Calendar Type: Quarter and semester

Total Credit Hours: 180.0 quarter credits &amp; 85.0 semester credits

Co-op Options: No Co-op (Six years)

Classification of Instructional Programs (CIP) code: 42.2799

Standard Occupational Classification (SOC) code: 19-3031

### About the Program

This accelerated degree program combines the BS in Psychology within the College of Arts and Sciences with the JD in Law within Thomas Kline School of Law. Through this program, potential BS/JD students may be identified when first admitted as entering freshman psychology majors. Finally, this is a "3+3" program allowing qualified students to earn their BS and JD in six years.

### Admission Requirements

For the BS: Standard admission requirements (<https://drexel.edu/admissions/overview/>) for all Drexel undergraduate programs.

To be admitted to Drexel's Kline School of Law, students must:

- Maintain a minimum cumulative undergraduate GPA of 3.45
- Earn a LSAT score that at least meets the Kline School of Law's current LSAT median (as determined by point of entry into the undergraduate program) no later than December of year 3 of undergraduate program
- Actively participate in pre-law and BSJD activities
- Meet regularly with academic advisor and the pre-law advisor
- Maintain satisfactory progress towards completing required undergraduate coursework as set out in the plan of study in three years
- File complete, binding application to the Kline School of Law by December 31 of year 3 of undergraduate program
- Comply with all admission and seat deposit requirements of the Kline School of Law
- Comply with all character and fitness requirements of the Kline School of Law

### Degree Requirements

**College Requirements**

CIVC 101	Introduction to Civic Engagement	1.0
COM 230	Techniques of Speaking	3.0
ENGL 101 or ENGL 111	Composition and Rhetoric I: Inquiry and Exploratory Research English Composition I	3.0
ENGL 102 or ENGL 112	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing English Composition II	3.0
ENGL 103 or ENGL 113	Composition and Rhetoric III: Themes and Genres English Composition III	3.0
Select one of the following:		8.0
MATH 101 & MATH 102	Introduction to Analysis I and Introduction to Analysis II	
MATH 121 & MATH 122	Calculus I and Calculus II	
UNIV H101	The Drexel Experience	1.0
UNIV H201	Looking Forward: Academics and Careers	1.0
Business elective		4.0
Fine Arts elective		3.0
Anthropology (ANTH) elective		3.0
English (ENGL) electives, 200-level or above		6.0
History (HIST) electives		8.0
Philosophy (PHIL) elective		3.0

Political Science (PSCI) elective		4.0
Sociology (SOC) elective		3.0-4.0
Select one of the following sequences:		8.0
Biology		
BIO 107	Cells, Genetics & Physiology	
BIO 108	Cells, Genetics and Physiology Laboratory	
BIO 109	Biological Diversity, Ecology & Evolution	
BIO 110	Biological Diversity, Ecology and Evolution Laboratory	
Chemistry		
CHEM 111	General Chemistry I	
CHEM 112	General Chemistry II	
Physics		
PHYS 170	Electricity and Motion	
PHYS 171	Computational Lab for Electricity and Motion	
PHYS 175	Light and Sound	
PHYS 176	Computational Lab for Light and Sound	
Free electives		6.0
<b>Departmental Requirements</b>		
<b>General Psychology Requirements</b>		
PSY 111	Pre-Professional General Psychology I *	3.0
PSY 112	Pre-Professional General Psychology II *	3.0
<b>100-Level Requirements</b>		
Select two of the following:		6.0
PSY 120	Developmental Psychology	
PSY 140	Approaches to Personality	
PSY 150	Introduction to Social Psychology	
<b>Required Psychology Courses</b>		
PSY 212	Physiological Psychology	3.0
PSY 240 [WI]	Abnormal Psychology	3.0
PSY 264	Computer-Assisted Data Analysis I	3.0
PSY 265	Computer-Assisted Data Analysis II	3.0
PSY 280	Psychological Research	3.0
PSY 290	History and Systems of Psychology	3.0
PSY 325	Psychology of Learning	3.0
PSY 330	Cognitive Psychology	3.0
PSY 360 [WI]	Experimental Psychology	3.0
PSY 370	Forensic Psychology	3.0
PSY 371	Law and Psychology	3.0
PSY 380	Psychological Testing and Assessment	3.0
<b>Advanced Psychology Electives</b>		
Any non-required PSY course at the 200-level or above.		18.0
Free electives fulfilled by 29 semester credits from first-year law courses		43.5
<b>Law School Requirements</b>		
LAW 550S	Torts	
LAW 552S	Contracts	
LAW 554S	Civil Procedure	
LAW 555S	Legislation and Regulation	
LAW 556S	Property	
LAW 558S	Criminal Law	
LAW 560S	Constitutional Law	
LAW 565S	Legal Methods I	
LAW 566S	Legal Methods II	
LAW 830S	Professional Responsibility	
Electives and Menu Requirements including:		49.0-50.0
One Upper-Level Writing Course (WUL)		
One Statutory Course		
One Professional Practice Course		

\* Students with AP psychology, or transfer students with PSY 101 credit, should check the AP Student Placement Exam Crosswalk ([http://www.drexel.edu/provost/policies/pdf/supporting/ap\\_crosswalk.pdf](http://www.drexel.edu/provost/policies/pdf/supporting/ap_crosswalk.pdf)) or check with their advisor.

## Upper-Level Writing (WUL) Courses (may also be used as elective once requirement is filled)

LAW 610S	Reproductive Rights & Justice	2.0-3.0
LAW 611S	Sex, Gender, & the Law	2.0-3.0
LAW 614S	Supreme Court Seminar	3.0
LAW 647S	The Rights of Children	2.0
LAW 656S	Justice Lawyering Sem	1.0-3.0
LAW 673S	Crime and Community	2.0
LAW 790S	Toxic Torts	2.0-3.0
LAW 791S	Regulating Patient Safety	2.0-3.0
LAW 793S	Mental Health Law	2.0-3.0
LAW 827S	Immigration Litigation	2.0
LAW 828S	International Business Transactions	2.0-3.0
LAW 832S	Contract Theory Seminar	2.0-3.0
LAW 836S	Legal History	2.0-3.0
LAW 838S	Foundations of Legal Analysis	2.0
LAW 840S	Literature and The Law Seminar	2.0-3.0
LAW 842S	Law and Mind Sciences	2.0-3.0
LAW 844S	Law and Social Movements	2.0-3.0
LAW 848S	Courts and Public Policy	2.0-3.0
LAW 882S	Litigation Drafting	2.0
LAW 884S	Contract Drafting	2.0
LAW 910S	Appellate Advocacy	2.0
LAW 920S	Drexel Law Review	1.0-6.0
LAW T880S	Special Topics in LAW	1.0-5.0

## Statutory Courses (may also be used as electives once requirement is filled)

LAW 620S	Administrative Law	3.0-4.0
LAW 622S	Employment Discrimination	3.0
LAW 623S	Election Law	3.0-4.0
LAW 624S	Environmental Law	3.0
LAW 642S	Special Education Law	2.0-3.0
LAW 674S	Health Care Fraud and Abuse	2.0-3.0
LAW 675S	Federal Criminal Law	2.0-3.0
LAW 676S	White Collar Crime	2.0-3.0
LAW 678S	Juvenile Justice Law	2.0-3.0
LAW 700S	Business Organizations	3.0-4.0
LAW 701S	Federal Income Tax	3.0-4.0
LAW 702S	Enterprise Tax	3.0-4.0
LAW 706S	Secured Transactions	3.0
LAW 708S	Payment Systems	3.0
LAW 710S	Bankruptcy	3.0-4.0
LAW 711S	Sales	3.0
LAW 714S	Securities Regulation	3.0
LAW 740S	Trusts and Estates	3.0-4.0
LAW 760S	Copyright	3.0
LAW 764S	Trademarks & Unfair Competition	3.0
LAW 792S	Food and Drug Law	2.0-3.0
LAW 796S	Insurance Law	2.0-3.0
LAW 820S	Immigration Law	3.0-4.0
LAW 821S	European Union Law	2.0-3.0
LAW 826S	Refugee and Asylum Law	2.0-3.0

## Professional Practice Courses (may also be used as electives once requirement is fulfilled)

LAW 924S & LAW 653S	Entrepreneurial Law Clinic and Entrepreneurial Law Clinic Seminar	7.0
LAW 931S & LAW 654S	Law Co-op and Lawyering Practice Seminar	8.0-9.0
LAW 941S & LAW 942S & LAW 656S	Criminal Litigation Clinic I and Criminal Litigation Clinic II and Justice Lawyering Sem	14.0-15.0
LAW 943S & LAW 944S & LAW 656S	Civil Litigation Clinic I and Civil Litigation Clinic II and Justice Lawyering Sem	14.0-15.0

LAW 947S & LAW 948S & LAW 656S	Federal Litigation and Appeals Clinic and Federal Litigation and Appeals Clinic II and Justice Lawyering Sem	14.0-15.0
LAW 950S & LAW 951S & LAW 656S	Community Lawyering Clinic I and Community Lawyering Clinic II and Justice Lawyering Sem	14.0-15.0

Free Electives (may require permission to enroll)

Any other unspecified LAW course numbered 550S and above may count as JD elective

## Sample Plan of Study

### Undergraduate course credits are quarter credits

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
PSY 111	3.0 PSY 112	3.0 UNIV H201	1.0 VACATION	
UNIV H101	1.0 PSY 120, 140, or 150	3.0 ENGL 103 or 113	3.0	
ENGL 101 or 111	3.0 CIVC 101	1.0 PSY 240	3.0	
MATH 121 or 101	4.0 MATH 102 or 122	4.0 PSY 120, 140, or 150	3.0	
Select one of the following:	4.0 ENGL 102 or 112	3.0 Anthropology (ANTH) Elective	3.0	
CHEM 111	Select one of the following:	4.0 Fine Arts Elective	3.0	
BIO 107 & BIO 108	BIO 109 & BIO 110			
PHYS 170 & PHYS 171	CHEM 112			
	PHYS 175 & PHYS 176			
	<b>15</b>	<b>18</b>	<b>16</b>	<b>0</b>

#### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
PSY 264	3.0 COM 230	3.0 PSY 280	3.0 VACATION	
PSY 290	3.0 PSY 265	3.0 PSY 360	3.0	
Psychology Elective	3.0 PSY 212	3.0 Psychology Elective	3.0	
Sociology (SOC) elective	3.0-4.0 PSY 371	3.0 English (ENGL) elective, 200-level or above	3.0	
Free Electives	3.0 English (ENGL) elective, 200-level or above	3.0 Psychology Elective	3.0	
	<b>15-16</b>	<b>15</b>	<b>15</b>	<b>0</b>

#### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
PSY 325	3.0 PSY 330	3.0 Psychology Elective	3.0 VACATION	
PSY 380	3.0 PSY 370	3.0 Business Elective	4.0 Student transitions to First Year of Law School	
History Elective	4.0 PSCI Elective	4.0 History Elective	4.0	
Philosophy Elective	3.0 Psychology Elective	3.0 Free Elective	3.0	
	Psychology Elective	3.0		
	<b>13</b>	<b>16</b>	<b>14</b>	<b>0</b>

Total Credits 137-138

### Law School course credits are semester credits

First Year Law course credits (29 semester credits) are counted toward the Psychology BS.

#### Fourth Year

Fall	Credits Spring	Credits
LAW 550S (Counts toward UG Free Elective)	4.0 LAW 555S (Counts toward UG Free Elective)	3.0
LAW 552S (Counts toward UG Free Elective)	4.0 LAW 556S (Counts toward UG Free Elective)	4.0
LAW 554S (Counts toward UG Free Elective)	4.0 LAW 558S (Counts toward UG Free Elective)	4.0
LAW 565S (Counts toward UG Free Elective)	3.0 LAW 566S (Counts toward UG Free Elective)	3.0
	<b>15</b>	<b>14</b>



Fifth Year		
Fall	Credits Spring	Credits
LAW 560S	4.0 LAW 830S	2.0
LAW Reqs/Electives	10.0 LAW Reqs/Electives	12.0
	<b>14</b>	<b>14</b>
Sixth Year		
Fall	Credits Spring	Credits
LAW Reqs/Electives	14.0 LAW Reqs/Electives	14.0
	<b>14</b>	<b>14</b>
<b>Total Credits 85</b>		

## Sociology BA / Law JD

Major: Sociology and Law

Degree Awarded: Bachelor of Arts (BA) and Juris Doctor (JD)

Calendar Type: Quarter and semester

Total Credit Hours: 180.0 quarter credits & 85.0 semester credits

Co-op Options: No Co-op (Six years)

Classification of Instructional Programs (CIP) code: 45.1101

Standard Occupational Classification (SOC) code: 19-3041

### About the Program

This accelerated degree program combines the BA in Sociology in the College of Arts and Sciences and the JD offered by the Kline School of Law. It is a "3+3" program, allowing qualified students to earn both their BA in Sociology and their JD in six years. The study of sociology provides a strong foundation for success in law school.

### Admission Requirements

For the BA: Standard admission requirements (<https://drexel.edu/admissions/overview/>) for all Drexel undergraduate programs.

To be admitted to Drexel's Kline School of Law, students must:

- Maintain a minimum cumulative undergraduate GPA of 3.45
- Earn a LSAT score that at least meets the Kline School of Law's current LSAT median (as determined by point of entry into the undergraduate program) no later than December of year 3 of undergraduate program
- Actively participate in pre-law and BSJD activities
- Meet regularly with academic advisor and the pre-law advisor
- Maintain satisfactory progress towards completing required undergraduate coursework as set out in the plan of study in three years
- File complete, binding application to the Kline School of Law by December 31 of year 3 of undergraduate program
- Comply with all admission and seat deposit requirements of the Kline School of Law
- Comply with all character and fitness requirements of the Kline School of Law

### Degree Requirements

#### General Education Requirements

CIVC 101	Introduction to Civic Engagement	1.0
ENGL 101 or ENGL 111	Composition and Rhetoric I: Inquiry and Exploratory Research English Composition I	3.0
ENGL 102 or ENGL 112	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing English Composition II	3.0
ENGL 103 or ENGL 113	Composition and Rhetoric III: Themes and Genres English Composition III	3.0
UNIV H101	The Drexel Experience	1.0
UNIV H201	Looking Forward: Academics and Careers	1.0
Four Humanities Courses		12.0
Two Mathematics Courses		6.0
Two Science Courses		6.0
Two Consecutive Foreign Language Courses		8.0
Three Social and Behavioral Science Electives		9.0
Two International Studies Courses		6.0
Two Studies in Diversity		6.0

<b>Sociology Core Requirements</b>		<b>3.0</b>
SOC 101	Introduction to Sociology	
<b>Required Major Capstone</b>		<b>4.0</b>
SOC 450	Capstone in Sociology	
<b>Theory Sequence</b>		<b>8.0</b>
SOC 355 [WI]	Classical Social Theory ([WI])	
SOC 356 [WI]	Contemporary Social Theory ([WI])	
<b>Methods Sequence</b>		<b>8.0</b>
SOC 241	Research Design: Qualitative Methods	
SOC 242	Research Design: Quantitative Methods	
<b>Required Sociology Electives</b>		<b>40.0</b>
Select at least 10 of the following: (At least four must be at the 300 or 400 level; and at least one must be at the 400-level.)		
SOC 115	Social Problems	
SOC 207	Medicine and Society	
SOC 210	Race, Ethnicity and Social Inequality	
SOC 215	Sociology of Work	
SOC 220	Wealth and Power	
SOC 221	Sociology of the Family	
SOC 222	Sex and Society	
SOC 230	Gender and Society	
SOC 235	Sociology of Health and Illness	
SOC 238	Sociology of Health Professions	
SOC 240	Urban Sociology	
SOC 244	Sociology of the Environment	
SOC 268	Sociology of Sport	
SOC 271	Sociology of Aging	
SOC 276	Global Climate Change	
SOC 313	Sociology of Global Health	
SOC 315	HIV/AIDS and Africa	
SOC 318	Social Networks and Health	
SOC 320	Sociology of Deviance	
SOC 330	Development and Underdevelopment in the Global South	
SOC 335	Sociology of Education	
SOC 340	Globalization	
SOC 341	Global Environmental Movements	
SOC 346	Environmental Justice	
SOC 349	Sociology of Disasters	
SOC 370	Practicum in Applied and Community Sociology	
SOC 405	Medicine, Technology and Science	
SOC 406	Housing and Homelessness	
SOC 410	Imagining Multiple Democracies	
SOC 420	Love, Rage & Debt: The Debt Society	
SOC 430	Politics of Life	
SOC 444	Social Movements	
SOC T380	Special Topics in SOC	
UG Free Electives		19.0
Additional Free Electives fulfilled by 22 semester credits from first-year law courses		33.0
<b>Law School Requirements</b>		
LAW 550S	Torts	
LAW 552S	Contracts	
LAW 554S	Civil Procedure	
LAW 555S	Legislation and Regulation	
LAW 556S	Property	
LAW 558S	Criminal Law	
LAW 560S	Constitutional Law	
LAW 565S	Legal Methods I	
LAW 566S	Legal Methods II	
LAW 830S	Professional Responsibility	
Electives and Menu Requirements including:		49.0-50.0
One upper level writing course (WUL)		
One Statutory course		
One professional practice course		

Upper level writing (WUL) courses (may also be used as electives once requirement is fulfilled):

LAW 610S	Reproductive Rights & Justice	2.0-3.0
LAW 611S	Sex, Gender, & the Law	3.0
LAW 614S	Supreme Court Seminar	3.0
LAW 647S	The Rights of Children	2.0
LAW 656S	Justice Lawyering Sem ((if full year paper))	1.0-3.0
LAW 673S	Crime and Community	2.0
LAW 790S	Toxic Torts	2.0
LAW 791S	Regulating Patient Safety	2.0
LAW 793S	Mental Health Law	3.0
LAW 827S	Immigration Litigation	2.0
LAW 828S	International Business Transactions	2.0-3.0
LAW 832S	Contract Theory Seminar	2.0-3.0
LAW 836S	Legal History	2.0-3.0
LAW 838S	Foundations of Legal Analysis	2.0
LAW 840S	Literature and The Law Seminar	2.0
LAW 842S	Law and Mind Sciences	2.0
LAW 844S	Law and Social Movements	3.0
LAW 848S	Courts and Public Policy	2.0-3.0
LAW 882S	Litigation Drafting	2.0
LAW 884S	Contract Drafting	2.0
LAW 910S	Appellate Advocacy	2.0
LAW 920S	Drexel Law Review ((if WUL option))	1.0-6.0
LAW T880S	Special Topics in LAW	1.0-5.0

Statutory Courses (may also be used as electives once requirement is fulfilled):

LAW 620S	Administrative Law	4.0
LAW 622S	Employment Discrimination	3.0
LAW 623S	Election Law	3.0
LAW 624S	Environmental Law	3.0
LAW 642S	Special Education Law	2.0-3.0
LAW 674S	Health Care Fraud and Abuse	2.0
LAW 675S	Federal Criminal Law	2.0-3.0
LAW 676S	White Collar Crime	2.0-3.0
LAW 700S	Business Organizations	3.0-4.0
LAW 701S	Federal Income Tax	4.0
LAW 702S	Enterprise Tax	4.0
LAW 706S	Secured Transactions	3.0
LAW 708S	Payment Systems	3.0
LAW 710S	Bankruptcy	3.0-4.0
LAW 711S	Sales	3.0
LAW 714S	Securities Regulation	3.0
LAW 740S	Trusts and Estates	3.0
LAW 760S	Copyright	3.0
LAW 764S	Trademarks & Unfair Competition	3.0
LAW 792S	Food and Drug Law	3.0
LAW 796S	Insurance Law	2.0
LAW 820S	Immigration Law	3.0-4.0
LAW 821S	European Union Law	2.0-3.0
LAW 826S	Refugee and Asylum Law	2.0

Professional Practice Courses (may also be used as electives once requirement is fulfilled):

LAW 924S & LAW 653S	Entrepreneurial Law Clinic and Entrepreneurial Law Clinic Seminar	7.0
LAW 931S & LAW 654S	Law Co-op and Lawyering Practice Seminar	8.0-9.0
LAW 941S & LAW 942S & LAW 656S	Criminal Litigation Clinic I and Criminal Litigation Clinic II and Justice Lawyering Sem	14.0-15.0
LAW 943S & LAW 944S & LAW 656S	Civil Litigation Clinic I and Civil Litigation Clinic II and Justice Lawyering Sem	14.0-15.0
LAW 947S & LAW 948S & LAW 656S	Federal Litigation and Appeals Clinic and Federal Litigation and Appeals Clinic II and Justice Lawyering Sem	14.0-15.0

LAW 950S & LAW 951S & LAW 656S	Community Lawyering Clinic I and Community Lawyering Clinic II and Justice Lawyering Sem	14.0-15.0
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Free Electives (may require permission to enroll)

Any other unspecified LAW courses numbered 550s and above may count as JD elective

\* At least one foreign language course must be at the 200-level. In addition, the department recommends students take 2 additional foreign language courses as free electives.

## Sample Plan of Study

### Undergraduate course credits are quarter credits

#### First Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ENGL 101 or 111	3.0 CIVC 101	1.0 ENGL 103 or 113	3.0 VACATION	
SOC 101	3.0 ENGL 102 or 112	3.0 Diversity Studies Elective	3.0	
UNIV H101	1.0 SOC 241	4.0 Humanities Elective	3.0	
Foreign Language Course	4.0 Foreign Language Course	4.0 Sociology Required Elective	4.0	
Mathematics Course	3.0 Science Elective	3.0 Social and Behavioral Science Elective	3.0	
Free Elective	3.0			
	<b>17</b>	<b>15</b>	<b>16</b>	<b>0</b>

#### Second Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
SOC 242	4.0 Diversity Studies Elective	3.0 SOC 355	4.0 VACATION	
Mathematics Course	3.0 Free Elective	4.0 Free Elective	3.0	
Sociology Required Elective	4.0 Humanities Elective	3.0 Sociology Required Elective	4.0	
Sociology Required Elective	4.0 Science Elective	3.0 Social and Behavioral Science Elective	3.0	
	Sociology Required Elective	4.0 Social and Behavioral Science Elective	3.0	
	<b>15</b>	<b>17</b>	<b>17</b>	<b>0</b>

#### Third Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
SOC 356	4.0 SOC 450	4.0 UNIV H201	1.0 VACATION	
Free Elective	3.0 Humanities Elective	3.0 Free Elective	3.0 Student transitions to first year of law school	
Humanities Elective	3.0 International Elective	3.0 Sociology Required 300/400 Elective	4.0	
International Elective	3.0 Sociology Required 300/400 Elective	4.0 Sociology Required 300/400 Elective	4.0	
Sociology Required 300/400 Elective	4.0 Free Elective	3.0 Sociology Required Elective	4.0	
	<b>17</b>	<b>17</b>	<b>16</b>	<b>0</b>

Total Credits 147

### Law School course credits are semester credits

First Year Law course credits (22 semester credits) are counted toward the Sociology BA.

#### Fourth Year

Fall	Credits Spring	Credits
LAW 550S (Counts toward UG free elective)	4.0 LAW 555S (Counts toward UG free elective)	3.0
LAW 552S (Counts toward UG free elective)	4.0 LAW 556S (Counts toward UG free elective)	4.0
LAW 554S (Counts toward UG free elective)	4.0 LAW 558S	4.0
LAW 565S (Counts toward UG free elective)	3.0 LAW 566S	3.0
	<b>15</b>	<b>14</b>

<b>Fifth Year</b>		
<b>Fall</b>	<b>Credits Spring</b>	<b>Credits</b>
LAW 560S	4.0 LAW 830S	2.0
Law Requirements/Electives	10.0 Law Requirements/Electives	12.0
	<b>14</b>	<b>14</b>
<b>Sixth Year</b>		
<b>Fall</b>	<b>Credits Spring</b>	<b>Credits</b>
Law Requirements/Electives	14.0 Law Requirements/Electives	14.0
	<b>14</b>	<b>14</b>
<b>Total Credits 85</b>		

## Minor in Actuarial Science

### About the Minor

The minor in actuarial science is designed to provide students with the quantitative and analytical skills required to obtain an entry level position in the actuarial sciences profession. The coursework will help prepare students for the first two actuarial exams (probability and financial mathematics) and can be applied towards VEE (Validation by Education Experience) credit requirements from professional actuarial societies in the areas of Mathematical Statistics, Accounting and Finance, and Economics. Additional elective coursework will introduce students to appropriate statistical software or more advanced topics relevant to the actuarial sciences profession.

No more than 9.0 credits required by a student's major may be counted towards this minor.

A grade of "C" (2.0) or better must be earned for each course in this minor for it to be counted.

Students should check the prerequisites of all classes when selecting electives. It is the responsibility of the student to know pre-requisites.

### Program Requirements

<b>Required Courses</b>		<b>11.0</b>
MATH 250	Mathematics of Investment and Credit	
MATH 311	Probability and Statistics I	
MATH 312	Probability and Statistics II	
MATH 313	Probability and Statistics III	
<b>Choose one track</b>		<b>8.0</b>
Accounting and Finance Track		
ACCT 110	Accounting for Professionals	
FIN 301	Introduction to Finance **	
OR		
Economics Track		
ECON 201	Principles of Microeconomics	
ECON 202	Principles of Macroeconomics	
<b>Actuarial Science Electives</b>		
Select 2 of the following *		<b>6.0</b>
FIN 321	Investment Securities & Markets **	
MATH 318 [WI]	Mathematical Applications of Statistical Software	
MATH 320	Actuarial Mathematics	
MATH 449	Mathematical Finance	
<b>Total Credits</b>		<b>25.0</b>

\* Students may apply any course(s) from the unused track towards the electives requirement.

\*\* Students may substitute MATH 311 and MATH 312 for the STAT 201 and STAT 202 pre-requisite requirements for these courses.

## Minor in Africana Studies

### About the Minor

The minor in Africana studies was created to provide the opportunity for undergraduate students throughout the University to gain an understanding of and background in the history and cultures of peoples of African descent in North and South America, the Caribbean, and Africa.

This interdisciplinary minor includes courses in anthropology, history, literature, music, political science, and sociology, and provides an opportunity for directed study in areas of particular interest to the students. The Africana studies minor has intrinsic intellectual value and helps prepare individuals to become contributors to an increasingly pluralistic society. At the same time, this minor allows students interested in business, the sciences, engineering, government, and social services to present to prospective employers a unique academic background.

All prospective students should meet with an advisor from the College as soon as possible.

### Program Requirements

<b>Required Courses</b>		
AFAS 101	Introduction to Africana Studies	3.0
AFAS 201	Cross Currents in Africana Studies	3.0
Students must complete a minimum of 18 credits from the list provided: *		<b>18.0</b>
AFAS 210	Topics in Africana Arts	
AFAS 220	Topics in Africana Society	

AFAS 230	Topics in African History
AFAS 240	Topics in Africana Current Events
AFAS 255	Gender & Black Popular Culture
AFAS 260	Race, Politics and Religion
AFAS 301	Politics of Hip Hop
AFAS 385	Rum, Rice and Revolution: Caribbean History
AFAS 401	Urban Social Justice Practicum I
AFAS 402	Urban Social Justice Practicum II
AFAS I299	Independent Study in AFAS
AFAS T280	Special Topics in Africana Studies
AFAS T380	Special Topics in Africana Studies
ANTH 101	Introduction to Cultural Diversity
ANTH 310	Societies In Transition: The Impact of Modernization and the Third World
ARTH 315	African-American Art
ARTH 316	African Art
DANC 109	African Dance Technique I
ENGL 203 [WI]	Survey of World Literature (WI)
ENGL 204	Post-Colonial Literature
ENGL 207 [WI]	African American Literature
ENGL 325	Topics in World Literature **
ENGL 492	Seminar in World Literature
HIST 215	American Slavery
HIST 216	Freedom in America
MUSC 107	Jazz Ensembles
MUSC 331	World Musics
MUSC 333	Afro-American Music USA
MUSC 336	History of Jazz
PSCI 372	City in United States Political Development
SOC 210	Race, Ethnicity and Social Inequality
SOC 240	Urban Sociology
WGST 240	Women and Society in a Global Context
WGST T280	Special Topics in Women's and Gender Studies ***

Total Credits

24.0

\* Students must check with the Program Director for approval prior to making substitutions.

\*\* With a focus on the Caribbean, Latin America or the Diaspora.

\*\*\* With a focus on race or the Diaspora.

## Minor in Anthropology

### About the Minor

In today's globalized marketplace, Anthropology, the study of human cultural and biological diversity, is more vital than ever. Fields as varied as medicine, law, government, and business, make use of the insights of anthropologists to reach and communicate with a broad audience. The anthropology minor provides students with a cross-cultural awareness and understanding that will give them an edge up no matter what field they go into. It challenges them to think beyond their own experience and imagine the perspectives of other people and other societies. Anthropology minors graduate as cosmopolitan and engaged global citizens, with in-demand skills in researching, and making sense of, diverse human behavior.

All prospective students should meet with an advisor from the College as soon as possible.

#### Required (Core) Courses

ANTH 101	Introduction to Cultural Diversity	3.0
or GST 100	Introduction to Cultural Diversity	

#### ANTH Electives \*

21.0

Examples include:

ANTH 112	Language, Culture & Cognition
ANTH 117	Introduction to World Religions
ANTH 205	Imagining Africa
ANTH 210 [WI]	Worldview: Science, Religion and Magic
ANTH 212 [WI]	Topics in World Ethnography
ANTH 215	Anthropology of Gender
ANTH 240	Urban Anthropology

ANTH 250	Anthropology of Immigration
ANTH 255	Psychological Anthropology
ANTH 265	Health & Healing Practices in Cross-Cultural Perspective
ANTH 270	Comparative Religious Ethics
ANTH 310	Societies In Transition: The Impact of Modernization and the Third World
ANTH 330	Media Anthropology
ANTH 345	Visual Anthropology
ANTH 350	Anthropology of Language
ANTH 363	Sacred Traditions of the East
ANTH 375	Digital Ethnography
ANTH T380	Special Topics in Anthropology

**Total Credits****24.0**

\* Students must complete six additional ANTH courses

## Minor in Asian Studies

### About the Minor

This minor offers an interdisciplinary look at the East, Southeast, and South Asia regions, which hold a critically important geopolitical position in terms of not only business and security, but also in terms of political, religious, cultural, and gender studies. Together with content courses in English offered through a variety of departments, this minor also includes 12.0 credits of instruction in one of our three Asian languages (Chinese, Korean, or Japanese).

All prospective students should meet with an advisor from the College as soon as possible.

### Program Requirements

Students must complete 12 credits of language study in Chinese, Japanese, or Korean

**12.0**

Students must complete a minimum of 12 credits of elective courses

**12.0-14.0**

ANTH 363	Sacred Traditions of the East
ARTH 301	Asian Art and Culture
ARTH 302	Art of India
ARTH 303	Art of China
ARTH 304	Art of Japan
ENGL 325	Topics in World Literature *
FMST 293	Japanese Cinema: Kurosawa
HIST 239	The Pacific War
HIST 261	Making of Modern South Asia
HIST 263	The World and China
HIST 264	East Asia in Modern Times
HIST 322	Empire and Environment
PHIL 102	Introduction to Eastern Philosophy

**Total Credits****24.0-26.0**

\* South Asian Literature

Study abroad, Global Studies (GST) courses at the 200 and 300 levels, and special topics courses focused on Asia will be considered for elective credit. Students must receive permission from the department.

Students who complete a minimum of 8 language credits in one language, including CHIN 202, KOR 202, or JAPN 202, are eligible to receive an intermediate language certificate.

## Minor in Astrophysics

### About the Minor

Astrophysics brings together many disparate areas of physics—gravitational physics govern the evolution of galaxies and clusters, nuclear physics dominates the cores of stars, electromagnetism governs the radiation that we use to observe these objects. Students majoring in mathematics and computer science, as well as other disciplines, are often fascinated by the questions raised by astrophysics.

Because of the overlap in requirements between the astrophysics minor and the physics minor, (p. 315) students cannot minor in both. Additionally, a physics major cannot minor in astrophysics.



## Admission Requirements

Consultation with the Physics Department.

## Program Requirements

### Required Prerequisite Courses

PHYS 113  
& PHYS 114  
& PHYS 115

Contemporary Physics I  
and Contemporary Physics II  
and Contemporary Physics III

OR

PHYS 101  
& PHYS 102  
& PHYS 201

Fundamentals of Physics I  
and Fundamentals of Physics II  
and Fundamentals of Physics III

### Required Courses

PHYS 217	Thermodynamics	4.0
PHYS 231	Introductory Astrophysics	3.0
PHYS 232	Observational Astrophysics	3.0
PHYS 311	Classical Mechanics I	4.0
PHYS 321	Electromagnetic Fields I	4.0
PHYS 431	Galactic Astrophysics	3.0
PHYS 432	Cosmology	3.0

### Total Credits

**24.0**

## Minor in Bioinformatics

### About the Minor

The Bioinformatics minor examines the application of computer technology and programming to biological fields such as genomics or proteomics. This multidisciplinary program is designed for science, engineering, math, and computer and information science majors who have a deep interest in biological data science. The minor is divided among courses in biology, programming and computation, information science and computer technology, and statistics.

### Program Requirements

- A grade of C or better must be earned for each course in this minor for it to be counted.
- Students should check all pre-requisites of all classes when selecting courses. It is the responsibility of the student to know the pre-requisites.
- Students must complete a minimum of 25-26 credits of coursework as follows:

<b>Biology</b>		
BIO 218 or BIO 211	Principles of Molecular Biology Cell, Molecular & Developmental Biology II	4.0
BIO 331	Bioinformatics I	3.0
BIO 413	Genomics	3.0
<b>Programming and Computation</b>		
CS 171	Computer Programming I	3.0
CS 172	Computer Programming II	3.0
<b>Information Science and Computer Technology</b>		
INFO 101	Introduction to Computing and Security Technology	3.0
INFO 210	Database Management Systems	3.0
<b>Statistics (select 1 course)</b>		<b>3.0-4.0</b>
MATH 310	Probability and Statistics	
MATH 311	Probability and Statistics I	
MATH 410	Scientific Data Analysis I	
<b>Total Credits</b>		<b>25.0-26.0</b>

### Additional Information

Please contact Leanne Sweppenheiser (lmt38@drexel.edu) for more information.

## Minor in Biological Sciences

### About the Minor

The minor in Biological Sciences is designed for students who wish to become acquainted with the life sciences while pursuing a major in another area. This option should be particularly useful for students majoring in areas such as chemistry, engineering, physics, or psychology who are interested in admission to medical schools or graduate programs. Students interested in the minor should consult with an academic advisor in the department for help with course selections.

### Program Requirements

#### Required Courses \*

BIO 131	Cells and Biomolecules **	4.0
BIO 134	Cells and Biomolecules Lab **	1.0
BIO 132	Genetics and Evolution	4.0
BIO 135	Genetics and Evolution Lab	1.0
BIO 133	Physiology and Ecology	4.0
BIO 136	Anatomy and Ecology Lab	1.0
BIO 218	Principles of Molecular Biology	4.0
or BIO 209	Cell, Molecular & Developmental Biology I	
BIO 224	Form, Function & Evolution of Vertebrates	4.0
or BIO 201	Human Physiology I	
BIO ELECTIVE OR ENVS 212 ***		3.0

#### Total Credits

26.0

\* A grade of "C" or better must be earned for each course in this minor for the course to meet the requirement.

\*\* BIO 131 and BIO 134 can be substituted with BIO 122.

\*\*\* The Biology Elective can be selected from any of the regularly offered Biology department lecture courses 200-level and above according to your specific interests. BIO 200, BIO 204, BIO 205, BIO 207, BIO 208, BIO 212 and BIO 226 will not count towards the Biology elective. Note that existing course prerequisites may affect which courses may be selected.

## Minor in Biophysics

### About the Minor

Biophysics is the study of the complexity of life using tools provided by physics. It attempts to construct mathematical frameworks that explain, among many other topics, how organisms obtain energy from the environment, how complex structures appear in the cell, and how these relate to function. In essence, biophysics looks for principles that describe observed patterns and propose predictions based on these principles.

### Admission Requirements

Consultation and approval of the program director and completion of one of the prerequisite sequences. Students who have completed the PHYS 152 , PHYS 153 , and PHYS 154 sequence will also be accepted into the minor provided they have an A- average in those courses and have completed MATH 121 and MATH 122 .

### Program Requirements

#### Required Pre-requisites

PHYS 113	Contemporary Physics I	
PHYS 114	Contemporary Physics II	
PHYS 115	Contemporary Physics III	
OR		
PHYS 101	Fundamentals of Physics I	
PHYS 102	Fundamentals of Physics II	
PHYS 201	Fundamentals of Physics III	

#### Core Requirements

PHYS 217	Thermodynamics	3.0-4.0
or CHEM 253	Thermodynamics and Kinetics	
or ENGR 210	Introduction to Thermodynamics	
PHYS 262	Introduction to Biophysics	3.0
PHYS 317	Statistical Mechanics	3.0
PHYS 321	Electromagnetic Fields I	4.0
PHYS 461	Biophysics	3.0

PHYS 462	Computational Biophysics	3.0
<b>One course from the following:</b>		<b>4.5</b>
BIO 122	Cells and Genetics	
BIO 141	Essential Biology	
<b>One course from the following:</b>		<b>3.0-4.0</b>
BIO 209	Cell, Molecular & Developmental Biology I	
BIO 214	Principles of Cell Biology	
BIO 218	Principles of Molecular Biology	
CHEM 371	Chemistry of Biomolecules	
<b>Total Credits</b>		<b>26.5-28.5</b>

## Minor in Bioscience and Society

### About the Minor

Designed for non-majors, the minor in Bioscience and Society is accessible to all students with an interest in biology. The minor includes a list of topical courses from which students can choose freely depending upon interest.

Please contact Leanne Sweppenheiser at [Imt38@drexel.edu](mailto:Imt38@drexel.edu) for additional information.

A grade of "C" or better must be earned for each course in this minor for the course to meet the requirement.

#### Required Courses

Select one of the following options:		3.0-4.0
BIO 100	Applied Cells, Genetics & Physiology	
or		
BIO 107 & BIO 108	Cells, Genetics & Physiology and Cells, Genetics and Physiology Laboratory	
Select one of the following options:		3.0-4.0
BIO 101	Applied Biological Diversity, Ecology & Evolution	
or		
BIO 109 & BIO 110	Biological Diversity, Ecology & Evolution and Biological Diversity, Ecology and Evolution Laboratory	
ENVS 212	Evolution	4.0
Select four of the following: *		14.0
BIO 114	Climate Change and Human Health	
BIO 116	How Your Body Works-Or Not	
BIO 118	Basics of Cancer	
BIO 264	Ethnobotany	
BIO 284	Biology of Stress	
ENVS 260	Environmental Science and Society	
<b>Total Credits</b>		<b>24.0-26.0</b>

\* Other courses may be substituted depending on yearly course offerings after consultation with an academic advisor in the Department of Biology.

## Minor in Chemistry

### About the Minor

The academic minor program in Chemistry is designed to expose students to each of the major sub-disciplines of chemistry (analytical, inorganic, organic, and physical). In order to accomplish this, students take a total of at least 27.5 credits of chemistry past the freshman year (100-level courses).

As chemistry is an experimental science, at least two laboratory courses must be included in the group of courses taken for the minor. Students should note that their academic major may require certain chemistry courses that can also be used to fulfill the requirements for a minor in Chemistry.

### Program Requirements

#### Required Courses

CHEM 241	Organic Chemistry I	4.0
CHEM 230	Quantitative Analysis	4.0
CHEM 253	Thermodynamics and Kinetics *	4.0
CHEM 421	Inorganic Chemistry I	3.0
CHEM 244	Organic Chemistry Laboratory I	3.0

Chemistry Electives \*\*

9.5

**Total Credits****27.5**

- \* May substitute CHEC 352 Physical Chemistry and Applications II (4 credits) or CHEC 353 Physical Chemistry and Applications III (4 credits) for the CHEM 253 Thermodynamics and Kinetics requirement.
- \*\* The 9.5 credits of chemistry electives must include at least one additional laboratory course. These electives are selected from any of the regularly offered chemistry department lecture or laboratory courses 200-level and above according to your specific interests. Note that existing course pre-requisites may affect which courses may be selected. The variable credit courses CHEM 493 Senior Research Project or CHEM 497 Research (Undergraduate) may also be used to fulfill either the lecture or laboratory requirements for the minor.

## Additional Information

For more information about the minor, contact:

Daniel King, PhD  
Undergraduate Affairs Committee Chair  
Department of Chemistry  
Drexel University  
dk68@drexel.edu

# Minor in Climate Change

## About the Minor

Climate change is one of the most serious challenges of our lifetime, and in the coming decades will impact every aspect of our lives and careers. Even though actions are being taken to reduce global emissions, today's students will live through a period of rapid climate change that is without precedent in human history.

This minor in climate change will provide an overview of the Earth's climate system and the science of climate change, as well as how to understand, mitigate, and adapt to its potential impacts from varied disciplinary perspectives. In addition to coursework, there is a praxis requirement for the minor, which could be fulfilled through an independent research, design, or engagement project, participation as an observer at the UN Framework Convention on Climate Change Conference of Parties meeting, developing a climate action plan for a local municipality, or partaking in a community-based learning course related to the impacts of climate change. There is no unit requirement associated with this praxis requirement.

## Program Requirements

Students must complete a minimum of 24 credits of coursework. Coursework must include one of three core courses that introduce students to the physical science basis of the earth's climate system and climate change, three courses from the natural sciences and engineering tracking, and three courses from the social sciences, humanities, and entrepreneurial track. Coursework that is undertaken to fulfill the praxis requirement (such as a CBL or research credits) count towards unit requirements under the appropriate track. Please note, some of these courses have prerequisites or are not offered every year. Students should coordinate their plan of study in coordination with the minor advisor.

<b>Core Course (one of the following three courses is required)</b>		<b>3.0</b>
GEO 201 [WI]	Earth Systems Processes	
ENVS 275	Global Climate Change	
PHEV 145	Weather I: Climate and Global Change	
<b>Social Science and Humanities Courses (at least 3 courses are required)</b>		<b>12.0</b>
ECON 351	Resource and Environmental Economics	
ENSS 326	Cities and Sustainability	
ENSS 346	Environmental Justice	
GST 231	Introduction to Identities and Communities	
HIST 320	Disaster in Global History	
HIST 323	The History of Climate Change	
OPM 342	Sustainable Supply Chain Management and Logistics	
PHIL 340	Environmental Ethics	
PHIL 341	Environmental Philosophy	
PSCI 284	Environmental Politics	
PSCI 336	Political Economy of Climate Change	
PSCI 337	International Environmental Politics	
PSCI 338	Cities and Climate Change	
PSCI 371	Science, Technology, & Public Policy	
SOC 244	Sociology of the Environment	
SOC 346	Environmental Justice	
SOC 349	Sociology of Disasters	

SPAN 340	Introduction to Power and Resistance	
<b>Natural Science, Engineering and Design Courses (at least 3 courses are required)</b>		<b>9.0</b>
CHE 431	Fundamentals of Solar Cells	
ECEP 380	Introduction to Renewable Energy	
ECEP 480	Solar Energy Engineering	
EET 320	Renewable Energy Systems	
ENTP 270	Social Entrepreneurship	
ENTP 290	An Entrepreneur's Introduction to Land: Its Essence, Ethics, and Opportunity	
ENTP 375	3BL - Triple Bottom Line	
ENTP 390	Energy Entrepreneurship	
ENVS 289	Global Warming, Biodiversity and Your Future	
ENVS 304	Energy and the Environment: Iceland	
GEO 111	Natural Disasters	
GEO 207	Introduction to Oceanography	
MEM 445	Solar Energy Fundamentals	
PBHL 457	Adapting to a Hotter Climate: Protecting Health of Vulnerable Populations	
<b>Total Credits</b>		<b>24.0</b>

For GST 231 / SPAN 340, course content should related to climate change. Recent examples include Disaster and Resilience: Puerto Rico (offered winter 2020), After María (offered fall 2019), and Slippery Issues in the Banana Republics (offered winter 2020), which focus on impacts of climate change and colonialism to Puerto Rico, and impacts of climate change to migration from Central America, respectively.

## Additional Information

In addition to the courses listed above, additional courses may be used to fulfill the unit requirement with approval, such as coursework with a significant environmental and/or climate change component, courses taken abroad, special topics courses, and synonymous cross-listed or graduate sections. Please contact Dr. Elizabeth Watson at [ebw49@drexel.edu](mailto:ebw49@drexel.edu) or Dr. Erin Graham [erg49@drexel.edu](mailto:erg49@drexel.edu) ([ebw49@drexel.edu](mailto:ebw49@drexel.edu)) for additional information.

# Minor in Communication

## About the Minor

The minor in communication is a 24.0 credit curriculum designed to familiarize students with communication theory while providing training in print and digital communication. The minor can provide a strong complement for majors that emphasize presentations, interpersonal skills, publicity, and marketing. Students minoring in communication can focus on public relations, journalism, technical and science communication, environmental communication, or nonprofit communication.

All prospective students should meet with an advisor from the College as soon as possible.

Students complete 2 required courses, 2 courses in one of the areas listed below, and four additional electives from the COM course offerings that fit their interest.

**Please note:** No more than three courses that are required for a student's major can count towards fulfilling requirements for the minor.

<b>Core Courses</b>		
COM 101	Human Communication	3.0
or COM 111	Principles of Communication	
COM 210	Theory and Models of Communication	3.0
<b>Focus Areas</b>		<b>6.0</b>
Select one of the following areas of focus (2 courses):		
<b>Journalism</b>		
COM 160 [WI]	Introduction to Journalism	
COM 261 [WI]	Advanced Journalism	
<b>Public Relations</b>		
COM 181	Public Relations Principles and Theory	
COM 270 [WI]	Business Communication	
or COM 282	Public Relations Writing	
or COM 284	Public Relations Research, Measurement and Evaluation	
<b>Technical and Science Communication</b>		
COM 310 [WI]	Technical Communication	
COM 320 [WI]	Science Writing	
or COM 375	Grant Writing	
<b>Environmental Communication</b>		

COM 316	Campaigns for Health & Environment	
or COM 318	Film, Celebrity and the Environmental Movement	
COM 317 [WI]	Environmental Communication	
<b>FOUR Additional Courses</b>		
Four COM or LING electives		12.0
<b>Total Credits</b>		<b>24.0</b>

## Minor in Computer Crime

### About the Minor

The minor in computer crime grounds students in the fundamentals of crime, security and technology by focusing on the behavioral, legal, and societal factors associated with technology and deviance as they relate to both the private and public sectors. The curriculum exposes students to both the concepts and tools necessary to understand and ultimately address computer crime, such as financial fraud, identity theft and other digital crimes that cross national and international boundaries.

All prospective students should meet with an advisor from the College as soon as possible.

#### Required Courses

CJS 101	Introduction to Criminal Justice	3.0
CJS 200	Criminology	3.0
CJS 276	Introduction to Computer Crime	3.0
CJS 274	Sex, Violence, & Crime on the Internet	3.0
CJS 365	Computer Investigations and the Law	3.0
CJS 377	Intellectual Property Theft in the Digital Age	3.0

#### Additional Elective Courses

Select two of the following:		6.0
CJS 265	Criminal Investigation	
CJS 266	Crime Prevention Planning	
CJS 267	Introduction to Security Studies	
CJS 273	Surveillance, Technology, and the Law	
CJS 362	Gender, Crime, and Justice	
CJS 375	Criminal Procedure	
CJS T380	Special Topics in Criminology and Justice Studies	

#### Total Credits

24.0

## Minor in Criminal Justice

### About the Minor

Students from any major who are interested in the law, the justice process, and how crime and crime policy relate to education, health, housing, and climate change might consider a minor in criminal justice. Such students could enhance their educational experience and their career possibilities by complementing their major with a criminal justice minor, particularly if they take one or more of our community-based learning and analytical courses, such as Crime Mapping or Justice in Our Community.

The minor consists of four required courses and four criminal justice electives chosen from two categories, for a total of 24.0 credits.

All prospective students should meet with an advisor from the College as soon as possible.

#### Required Courses

CJS 101	Introduction to Criminal Justice	3.0
CJS 200	Criminology	3.0
CJS 210	Race, Crime, and Justice	3.0
CJS 220	Crime and the City	3.0

#### Criminal Justice Elective Courses

Select 12 credits from the following:		12.0
CJS 260	Justice in Our Community	
CJS 261	Prison, Society and You	
CJS 265	Criminal Investigation	
CJS 266	Crime Prevention Planning	
CJS 267	Introduction to Security Studies	
CJS 273	Surveillance, Technology, and the Law	
CJS 274	Sex, Violence, & Crime on the Internet	

CJS 275	Issues in Domestic Violence
CJS 276	Introduction to Computer Crime
CJS 277	Introduction to Correctional Practices
CJS 278	Police and Society
CJS 280	Communities and Crime
CJS 289	Terrorism
CJS 290	Crime and Public Policy
CJS 295	International Field Experience
CJS 302	Advanced Criminological Theorizing
CJS 320	Comparative Justice Systems
CJS 330	Crime Mapping I Using Geographic Information Systems
CJS 360	Juvenile Justice
CJS 362	Gender, Crime, and Justice
CJS 364	Community Corrections
CJS 365	Computer Investigations and the Law
CJS 366	Technology and the Justice System
CJS 369	Forensic Science Survey Course
CJS 372	Death Penalty - An American Dilemma
CJS 374	Restorative Justice
CJS 375	Criminal Procedure
CJS 376	Sentencing
CJS 377	Intellectual Property Theft in the Digital Age
CJS 378	Science of Forensic Science
CJS 379	Forensic DNA Analysis
CJS 401	Program Evaluation
CJS T380	Special Topics in Criminology and Justice Studies
CJS I399	Independent Study in CJS

**Total Credits****24.0**

## Minor in Ecology

### About the Minor

The Minor in Ecology meets the needs of engineering, science, arts, applied arts, information, and business students interested in environmental science. Prior to taking ENVS 230 *General Ecology*, students are minimally expected to have had one term to a year of both general biology and general chemistry.

All prospective students should meet with an advisor from the College as soon as possible.

### Program Requirements

#### Required Courses

ENVS 212	Evolution	4.0
ENVS 230	General Ecology	3.0
ENVS 260	Environmental Science and Society	3.0
ENVS 284	Physiological and Population Ecology	3.0
ENVS 286	Community and Ecosystem Ecology	3.0
ENVS 328	Conservation Biology	3.0
Environmental Science elective		3.0
Field Course		4.0
Choose one of:		
ENVS 382	Field Botany of the New Jersey Pine Barrens	
ENVS 383	Ecology of the New Jersey Pine Barrens	
ENVS 388	Marine Field Methods	

**Total Credits****26.0**

# Minor in English

## About the Minor

The English minor provides students from other majors with a more intensive background in literature. Coursework in the minor exposes students to literature from a variety of periods, cultures and genres and also provides practice in critical thinking, literary analysis and writing. These courses enrich students' intellectual lives and provide them with skills that are valuable in a variety of professional situations.

Where a course required for the minor is already required for a student's major, the student is directed to choose another English elective. Other substitutions are permissible at the discretion of the Program Director.

## Program Requirements

### Requirements

Select a minimum of 9 credits of the following:		9.0
ENGL 200 [WI]	Classical to Medieval Literature	
ENGL 201	Renaissance to the Enlightenment	
ENGL 202 [WI]	Romanticism to Modernism	
ENGL 203 [WI]	Survey of World Literature	
ENGL 204	Post-Colonial Literature	
ENGL 205 [WI]	American Literature I	
ENGL 206 [WI]	American Literature II	
ENGL 207 [WI]	African American Literature	
ENGL 211 [WI]	British Literature I	
ENGL 212	British Literature II	
ENGL 214	Readings in Fiction	
ENGL 215 [WI]	Readings in Poetry	
ENGL 216 [WI]	Readings in Drama	
Select a minimum of 6 credits of the following:		6.0
WRIT 220 [WI]	Creative Nonfiction Writing	
WRIT 225 [WI]	Creative Writing	
WRIT 301 [WI]	Writing Poetry	
WRIT 302 [WI]	Writing Fiction	
WRIT 303	Writing Humor and Comedy	
WRIT 306	Writing About the Media	
WRIT 310	Literary Editing & Publication	
WRIT 312 [WI]	Writing for Target Audiences	
WRIT T380	Special Topics in Writing	
WRIT 400 [WI]	Writing for -- and about -- the Web	
WRIT 405	Internship in Publishing	
Select a minimum of 9 credits of the following:		9.0
ENGL 300 [WI]	Literature & Science	
ENGL 302	Environmental Literature	
ENGL 303	Science Fiction	
ENGL 305 [WI]	The Mystery Story	
ENGL 306	Literature of Baseball	
ENGL 307	Literature of Genocide	
ENGL 310 [WI]	Period Studies	
ENGL 315 [WI]	Shakespeare	
ENGL 320 [WI]	Major Authors	
ENGL 325	Topics in World Literature	
ENGL 330	The Bible as Literature	
ENGL 335	Mythology	
ENGL 345	American Ethnic Literature	
ENGL 350	Jewish Literature and Civilization	
ENGL 355 [WI]	Women and Literature	
ENGL 360 [WI]	Literature and Society	
ENGL 365	Topics in African American Literature	
ENGL 370	Topics in Literature and Medicine	
ENGL 380	Literary Theory	

**Total Credits**

**24.0**



# Minor in Environmental Studies

## About the Minor

The Environmental Studies minor is an interdisciplinary minor designed to give students specializing in other fields a background in contemporary environmental issues and the ability to analyze such issues. For students majoring in fields such as business and engineering, the minor in Environmental Studies will provide them with the tools to make better decisions about products or projects related to environmental economics, political pollutants, environmental policy, and environmental justice. For students who are liberal arts majors, the minor in Environmental Studies offers the opportunity to focus on the social- and natural-science aspects of the environment, and to be prepared for issues they may encounter in their careers.

All prospective students should meet with an advisor from the College as soon as possible.

### Required Courses

ENSS 120	Introduction to Environmental Studies	3.0
ENSS 283	Introduction to Environmental Policy	3.0
ENVS 260	Environmental Science and Society	3.0

**Select from the following:** \* **15.0**

ANTH 360	Culture and the Environment	
CJS 373	Environmental Crime	
COM 316	Campaigns for Health & Environment	
COM 317 [WI]	Environmental Communication	
ECON 351	Resource and Environmental Economics	
ENGL 302	Environmental Literature	
ENSS 244	Sociology of the Environment	
ENSS 285	Introduction to Urban Planning	
ENSS 326	Cities and Sustainability	
ENSS 341	Environmental Movements in America	
ENSS 346	Environmental Justice	
ENSS 348	Delaware River Issues and Policy	
ENVS 230	General Ecology	
ENVS 275	Global Climate Change	
GEO 101	Physical Geology	
HIST 321	Themes in Global Environmental History	
HIST 322	Empire and Environment	
HIST 323	The History of Climate Change	
PHIL 340	Environmental Ethics	
PHIL 341	Environmental Philosophy	
PSCI 284	Environmental Politics	
PSCI 334	Politics of Environment and Health	
PSCI 336	Political Economy of Climate Change	
PSCI 337	International Environmental Politics	
PSCI 338	Cities and Climate Change	
PSCI 369	The Politics of Food	
PSCI 373	Animal Politics	
PSY 352	Psychology of Sustainability	
SOC 444	Social Movements	

**Total Credits**

**24.0**

\* Other courses may be taken as electives with Departmental approval.

# Minor in French

## About the Minor

In our globalized world, intercultural and multilingual communication is an indispensable asset for the 21st century citizen and worker. As part of the Department of Global Studies and Modern Languages, we offer language instruction rooted in communication and embedded in authentic cultural contexts. Language study opens a world of opportunities for our students, from co-ops and study abroad programs to engagement with global communities here in Philadelphia. Media and technology, as well as travel and commerce, make the study of languages more crucial than ever, for tackling global challenges such as climate change and inequality demand that our students communicate across languages and cultures.

All prospective students should meet with an advisor from the College as soon as possible.

## Program Requirements

The French minor requires a minimum of 24 credits above French 103, including at least 12 credits above French 310, and at least one 400 level course.

24.0

Students can choose from the following 300 and 400 level courses.

FREN 201	French IV
FREN 202	French V
FREN 310 [WI]	Advanced Writing and Speaking
FREN 320	Introduction to Language for the Professions
FREN 330	Introduction to Identities and Communities
FREN 340	Introduction to Power and Resistance
FREN 350	Introduction to Language, Media, and Society
FREN 410 [WI]	Advanced Grammar and Translation
FREN 420	Advanced Studies in Language for the Professions
FREN 430	Advanced Studies in Identities and Communities
FREN 440	Advanced Studies in Power and Resistance
FREN 450	Advanced Studies in Language, Media, and Society

## Minor in Geoscience

### About the Minor

Geosciences are at the core of numerous problems facing the world today and impact the lives of communities across the planet. Climate change, natural disasters, access to mineral resources and clean water, and availability of energy all shape government policies and corporate strategies and are a cause of concern for society at large.

The Geoscience minor is designed to give students specializing in other fields the skills to understand and analyze these issues. It is a natural fit for environmental science majors who wish to understand how the physical world can impact biodiversity, ecological processes, and environmental impacts. For students majoring in fields such as business and engineering, the minor in Geoscience will provide them with the tools to make better decisions about products or projects related to natural hazards and their impact, cost and availability of natural resources, energy policy, space exploration, land use, and environmental justice. For students who are liberal arts majors, the minor in Geoscience offers the opportunity to explore earth science issues that shape the social, cultural, political and scientific debate, and to be prepared for issues they may encounter in their careers.

All prospective students should meet with an advisor from the College as soon as possible.

GEO 101	Physical Geology	4.0
GEO 102	History of the Earth	4.0
<b>GEO Electives</b>		<b>16.0</b>
GEO 103	Introduction to Field Methods in Earth Science	
GEO 201 [WI]	Earth Systems Processes	
GEO 205	Dinosaurs and Their World	
GEO 215	Mineralogy	
GEO 301	Advanced Field Methods in Earth Science	
GEO 306	Environmental Geology	
GEO 309	Geochemistry	
GEO 312	Sedimentology and Stratigraphy	
GEO 320	Invertebrate Paleobiology and Paleobiology	
GEO 322	Vertebrate Paleontology	
GEO 325	Structural Geology	
GEO 342	Geomorphology	
GEO 346	Coastal Geology	
GEO 348	Oceanography	
GEO 350	Volcanology	
GEO 401	Igneous and Metamorphic Petrology	
GEO 412	Geology of Groundwater	
GEO 418	Geophysics	

**Total Credits**

24.0

# Minor in Global Studies

## About the Minor

Global Studies practices socially-responsible global citizenship through a unique combination of research-oriented and multilingual instruction, professional experience, and meaningful engagement with communities both here in Philadelphia and abroad.

Students experience Global Studies by:

- Examining the movement of peoples, goods, and cultures across countries and regions
- Studying global issues in concrete socio-economic, cultural, and geographical contexts
- Tackling structural inequalities from a variety of perspectives and disciplines
- Developing intercultural and language skills through unique pedagogical models
- Working with employers and communities in Philadelphia and around the world through Drexel's Co-op opportunities

All prospective students should meet with an advisor from the College as soon as possible.

## Program Requirements

Students must complete at least 201 of a language before earning the GST minor.

Core requirements		
Students are required to complete 5 GST courses		15.0
<b>Globally focused electives - Examples include: *</b>		<b>9.0</b>
ARTH 303	Art of China	
ECON 342	Economic Development	
ENGL 325	Topics in World Literature	
ENVS 275	Global Climate Change	
INTB 334	International Trade	
PBHL 303	Overview of Issues in Global Health	
PSCI 353	International Human Rights	
<b>Total Credits</b>		<b>24.0</b>

\* Students must complete at least 9.0 credits of globally focused coursework. Courses can be from any discipline and must be approved by the department.

# Minor in History

## About the Minor

The history minor allows students in other majors to explore the historical background of their discipline, to better understand the origins of the contemporary world, and to build the knowledge and skills needed to understand the development of human societies over time and to understand historical episodes into their proper contexts. The minor in history is highly flexible and allows students to choose those history courses which appeal to them and which will contribute to their broader education. To complete the minor, students must take a total of six history courses (24.0 credits), five of which must be at the 200-level or above.

All prospective students should meet with an advisor from the College as soon as possible.

## Program Requirements

History Electives*		
*Take any 6 HIST courses; 5 of 6 must be 200-level or higher		24.0
<b>Total Credits</b>		<b>24.0</b>

# Minor in History of Capitalism

## About the Minor

The Minor in History of Capitalism is dedicated to the study of capitalism and the emergence of the modern world economy from a historical perspective.

## Admission Requirements

Open to all undergraduate students. All prospective students should meet with an advisor from the College as soon as possible.

## Program Requirements

### Required Course

HIST 315	History of Capitalism	4.0
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**Complete 3 of the following courses:** **12.0**

HIST 215	American Slavery	
HIST 222	History of Work & Workers in America	
HIST 247	Modern England, 1815 - present	
HIST 264	East Asia in Modern Times	
HIST 291	Global History of Engineering	
HIST 292	Technology in American Life	
HIST 303	The Study of Global History	
HIST 316	History of American Business	
HIST 322	Empire and Environment	
HIST 334	American Empire in the Nineteenth Century	
HIST 355	Venice and the Mediterranean from the Middle Ages to Napoleon	

**Complete any 2 additional history courses at the 200 level or above** **8.0**

**Total Credits** **24.0**

## Minor in Italian Studies

### About the Minor

Drexel University and Philadelphia have deep connections with the Italian and Italo-American communities, from which come many Drexel students. Additionally, a significant number of faculty members across the university have research interests that connect with Italy.

The interdisciplinary minor in Italian Studies is designed to attract students interested in a variety of aspects related to Italian culture and to make use of the deep and diverse pool of resources on Drexel's campus, in the region, and abroad.

The minor in Italian Studies requires three courses (9-12 cr.) of language study. This allows students to achieve a basic level of language proficiency, with the option to continue further in the language. It also allows students whose interests lie beyond the language to pursue substantial Italy-related coursework in other disciplines. The elective side of the minor includes 12-15 credits of coursework in Italian society and culture, including a required seminar in contemporary Italy.

All prospective students should meet with an advisor from the College as soon as possible.

### Program Requirements

#### Required courses:

Students select 9.0-12.0 credits ITAL courses. 9.0-12.0

ITAL 230	Italy and Italians Today	3.0
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**Italian Studies Electives:** **12.0-13.0**

ARTH 102	History of Art II	
ARTH 325	Ancient Greek and Roman Art	
ARTH 327	Italian Renaissance Art	
CULA 305	Fundamentals of Italian Cuisine	
HIST 355	Venice and the Mediterranean from the Middle Ages to Napoleon	
SCL 419	Global Coaching Seminar	

**Total Credits** **24.0-28.0**

## Minor in Japanese

### About the Minor

In our globalized world, intercultural and multilingual communication is an indispensable asset for the 21st century citizen and worker. As part of the Department of Global Studies and Modern Languages, we offer language instruction rooted in communication and embedded in authentic cultural contexts. Language study opens a world of opportunities for our students, from co-ops and study abroad programs to engagement with global communities here in Philadelphia. Media and technology, as well as travel and commerce, make the study of languages more crucial than ever, for tackling global challenges such as climate change and inequality demand that our students communicate across languages and cultures.

All prospective students should meet with an advisor from the College as soon as possible.

## Program Requirements

The Japanese minor requires a minimum of 24.0 credits with a minimum of 12.0 credits above JAPN 310 24.0

JAPN 201	Japanese IV	
JAPN 202	Japanese V	
JAPN 310 [WI]	Advanced Writing and Speaking	
JAPN 320	Introduction to Language for the Professions	
JAPN 340	Introduction to Power and Resistance	
JAPN 350	Introduction to Language, Media, and Society	
JAPN 410 [WI]	Advanced Grammar and Translation	
JAPN 420	Advanced Studies in Language for the Professions	
JAPN 440	Advanced Studies in Power and Resistance	
JAPN 450	Advanced Studies in Language, Media, and Society	

## Minor in Jewish Studies

### About the Minor

The Louis Stein Minor in Jewish Studies, housed within the College of Arts and Sciences, is designed to give students the opportunity to explore and understand the history, culture, politics, and religion of the Jewish people. Through interdisciplinary coursework, students investigate the Jewish experience from both a contemporary and a historical perspective.

The Louis Stein Minor in Jewish Studies requires 24.0 credits: 6.0-7.0 from required courses; and 17.0-18.0 from electives. Students can apply a maximum of 6.0 credits toward the minor from field study under the supervision of a faculty member.

### Program Requirements

#### Required Courses

JWST 101	Culture Ethnicity Religion	3.0
Select one:		3.0
JWST 201	Jewish Literature and Civilization **	
JWST 202	Jewish Life and Culture in the Middle Ages ***	
JWST 203	Modern Jewish History †	
Minor electives		18.0
<b>Total Credits</b>		<b>24.0</b>

- \* If JWST 201 (3 credits) is selected, then 18 credits of electives are needed to fulfill the minor requirements.  
 If JWST 202 or JWST 203 (4 credits each) is selected, then 17 credits of electives are needed to fulfill the minor requirements.
- \*\* Offered concurrently with ENGL 350 Jewish Literature and Civilization.
- \*\*\* Offered concurrently with HIST 253 Jewish Life and Culture in the Middle Ages.
- † Offered concurrently with HIST 249 Modern Jewish History.

Please see the Program Director for approval of courses not on the list of suggested electives.  
 Suggested Electives:

- Any JWST (<http://catalog.drexel.edu/coursedescriptions/quarter/undergrad/jwst/>) course
- Any HBRW (<http://catalog.drexel.edu/coursedescriptions/quarter/undergrad/hbrw/>) course\*
- ANTH 117 Introduction to World Religions
- ANTH 217 Anthropology of Interfaith Relations
- ANTH 270 Comparative Religious Ethics
- ENGL 350 Jewish Literature and Civilization
- HIST 249 Modern Jewish History
- HIST 253 Jewish Life and Culture in the Middle Ages
- HIST 260 Coexistence and Conflict: Jews, Christians, and Muslims in the Early Mediterranean
- PHIL 291 Judaism and Christianity: Two Religions or One
- PHIL 391 Philosophy of Religion
- WGST 260 Gender and Judaism

\* Only 2 HBRW courses may be count as electives.

# Minor in Justice Studies

## About the Minor

The Justice Studies minor is designed for students who wish to connect their major fields of study with a justice-focused curriculum. The minor explores mostly place-based social, economic, health, and environmental risk factors in ways that extend beyond the traditional criminal justice system. With emphases on engaged learning, co-curricular opportunities, and data-driven problem-solving, the Justice Studies minor both educates and gives students the tools needed to practice “justice” across a wide spectrum of broader fields of study.

## Program Requirements

### CJS Requirements

CJS 260	Justice in Our Community	4.0
CJS 330	Crime Mapping I Using Geographic Information Systems	4.0
CJS 303	Applications of Justice	3.0
CJS 262	Places of Justice	3.0
CJS 263	Crime, Violence, and Climate Change	3.0

### Justice Studies Minor Program Electives

Students must take 9 credits of Justice Studies Minor program electives, selecting any combination of courses from the following list: 9.0

ANTH 110	Human Past: Anthropology and Prehistoric Archeology
ANTH 112	Language, Culture & Cognition
ANTH 117	Introduction to World Religions
ANTH 212 [WI]	Topics in World Ethnography
ANTH 215	Anthropology of Gender
ARTH 311	Twentieth Century American Art
ARTH 314	Contemporary Art
ARTH 315	African-American Art
COM 181	Public Relations Principles and Theory
COM 210	Theory and Models of Communication
COM 377	Communication for Civic Engagement
ECON 201	Principles of Microeconomics
ECON 365	Behavioral Economics
ENSS 120	Introduction to Environmental Studies
ENSS 244	Sociology of the Environment
ENSS 283	Introduction to Environmental Policy
ENSS 285	Introduction to Urban Planning
ENSS 326	Cities and Sustainability
ENSS 346	Environmental Justice
ENVS 275	Global Climate Change
ENTP 210 [WI]	Leading Start-Ups
ENTP 215	Building Entrepreneurial Teams
ENTP 225 [WI]	Mindfulness & Wellbeing
ENTP 250	Ideation
ENTP 270	Social Entrepreneurship
ENTP 275	Diversity Entrepreneurship
ENTP 285	Organizational Development and Change for Corporate Entrepreneurs
ENTP 290	An Entrepreneur's Introduction to Land: Its Essence, Ethics, and Opportunity
GST 221	Introduction to Global Capital and Development
GST 231	Introduction to Identities and Communities
GST 241	Introduction to Power and Resistance
GST 251	Introduction to Global Media, Arts, and Cultures
GST 261	Introduction to Global Health and Sustainability
PSY 150	Introduction to Social Psychology
PSY 252	Death and Dying
PSY 254	Psychology of Sexual Behavior
PSY 270	Psychology of Hate
SOC 210	Race, Ethnicity and Social Inequality
SOC 220	Wealth and Power
SOC 221	Sociology of the Family
SOC 235	Sociology of Health and Illness
SOC 240	Urban Sociology
SOC 244	Sociology of the Environment

SOC 318	Social Networks and Health
SOC 406	Housing and Homelessness
WGST 101	Introduction to Women's and Gender Studies
WGST 201	Introduction to Feminisms
WGST 225	Women & Human Rights Worldwide
WGST 240	Women and Society in a Global Context
WGST 275	Women's Health and Human Rights

**Total Credits****26.0**

\* Other courses are feasible upon approval from the Program Director.

## Minor in Linguistics

### About the Minor

Linguistics, the study of language, is central to human communication. Linguists study language form, meaning and context, especially by observing and analyzing human communication in its many spoken and written varieties. A knowledge of linguistics is the basis for studies in language diversity and communicative competence, the psychology of language, educational aspects of language that affect learners and classrooms, the formal logic and languages of philosophy and computer science, and the biological science of speech pathology. As a minor at Drexel, linguistics helps you develop both a desirable set of skills in communicating with diverse speakers on co-op and an academic profile that will set you apart from other applicants for work, study, scholarship opportunities, and graduate study.

### Program Requirements

#### Required Courses

LING 101	Introduction to Linguistics	3.0
LING 102	Language and Society	3.0

#### Elective Courses (Must equal a minimum of 18 credits)

**18.0**

Students can use up to 8 credits of Modern Language Courses (ARBC, CHIN, FREN, GER, HBRW, ITAL, JAP, KOR, SPAN) to fulfill electives.

AFAS 301	Politics of Hip Hop
ANTH 112	Language, Culture & Cognition
ANTH 312	Approaches to Intercultural Behavior
ANTH 350	Anthropology of Language
BACS 255	Multicultural Counseling
COM 342	English Worldwide
COM 345	Intercultural Communication
COM 355	Ethnography of Communication
COM 491	Senior Project in Communication I *
COM 492	Senior Project in Communication II *
COM I399	Independent Study in COM
CS 171	Computer Programming I
CS 172	Computer Programming II
EDUC 216	Diversity and Today's Teacher
EDUC 236	Early Literacy I
EDUC 326 [WJ]	Language Arts Processes
EDUC 328	Language Arts Processes 4-8
EDUC 365	Foundations in Instructing English Language Learners
GST 100	Introduction to Cultural Diversity
GST 101	Becoming Global: Language and Cultural Context
JWST 214	Language and Cultural Diversity in the USA
LANG T180	Special Topics in Languages *
PHIL 111	Symbolic Logic I
PHIL 121	Symbolic Logic II
PHIL 215	Contemporary Philosophy
PSY 330	Cognitive Psychology
PSY 336	Psychology of Language
WRIT 200	Language Puzzles and Word Games: Issues in Modern Grammar
WRIT 212	Argument and Rhetoric

**Total Credits****24.0**

\* Advisor permission needed, depending on topic.

## Additional Information

All prospective students should meet with an advisor as soon as possible:

Florette Press  
Academic Advisor  
florette.l.press@drexel.edu  
215-895-1716

Barbara Hoekje  
Program Co-Director  
hoekje@drexel.edu  
215-571-3569

Rachel Reynolds  
Program Co-Director  
rrr28@drexel.edu  
215-895-0498

## Minor in Mathematics

### About the Minor

The minor in Mathematics requires core courses in calculus and linear algebra, as well as a selection of electives from a range of other areas. The minor complements programs in physics, computer science, finance, or engineering, demonstrating further expertise and preparing students to excel after graduation.

All prospective students should meet with an advisor from the College as soon as possible.

### Program Requirements

The minor in Mathematics consists of five required courses and elective courses from the specified group of courses listed below resulting in a minimum of 37.0 credits.

#### Required Courses

MATH 121	Calculus I	4.0
MATH 122	Calculus II	4.0
MATH 123	Calculus III	4.0
MATH 200	Multivariate Calculus	4.0
MATH 201	Linear Algebra *	3.0-4.0
or MATH 261	Linear Algebra	

#### Mathematics Minor Electives \*\*

Select from the following:		18.0-19.0
MATH 210	Differential Equations *	
or MATH 262	Differential Equations	
MATH 220 [WI]	Introduction to Mathematical Reasoning	
MATH 221	Discrete Mathematics	
MATH 222 [WI]	Combinatorics	
MATH 235	Math Competition Problem Solving Seminar	
MATH 250	Mathematics of Investment and Credit	
MATH 285	Differential Equations II	
MATH 291	Complex and Vector Analysis for Engineers ***	
MATH 300	Numerical Analysis I	
MATH 301	Numerical Analysis II	
MATH 305	Introduction to Optimization Theory	
MATH 311	Probability and Statistics I	
MATH 312	Probability and Statistics II	
MATH 313	Probability and Statistics III	
MATH 316	Mathematical Applications of Symbolic Software	
MATH 318 [WI]	Mathematical Applications of Statistical Software	
MATH 319	Techniques of Data Analysis	
MATH 320	Actuarial Mathematics	
MATH 321	Vector Calculus	
MATH 322	Complex Variables	



MATH 323	Partial Differential Equations
MATH 331	Abstract Algebra I
MATH 332	Abstract Algebra II
MATH 387	Linear Algebra II
MATH 401	Elements of Modern Analysis I
MATH 402	Elements of Modern Analysis II
MATH 410	Scientific Data Analysis I
MATH 411	Scientific Data Analysis II
MATH 422	Introduction to Topology
MATH 449	Mathematical Finance
MATH 450	Introduction to Graph Theory
MATH 475	Cryptography
MATH 483	Introduction to Monte Carlo Methods
MATH 489	Tensor Calculus

**Total Credits****37.0-39.0**

\* Students count only one of these two courses for their minor.

\*\* A request form is available for any other mathematics courses upon the written approval prior to the beginning of the quarter in which the course is to be offered. Students should contact the Mathematics undergraduate academic advisor.

\*\*\* Students who take MATH 291 cannot also count MATH 321 or MATH 322 toward their minor.

## Minor in Medical Sociology

### About the Minor

The minor in medical sociology is designed to give students a broader understanding of the social dimensions of contemporary medical practice. Investigating health and illness from a national and global perspective, the minor helps students understand the relations between inequalities, health care and social justice; trends in health professions; and the importance of organizations to health care. For students majoring in such fields as health sciences, nursing, or biology, the minor in medical sociology complements their scientific training with a social science focus on humans, policy, and power in healthcare.

### Admission Requirements

Open to all undergraduate Drexel students. All prospective students should meet with an advisor from the College as soon as possible.

### Program Requirements

Required Courses \*

SOC 235	Sociology of Health and Illness	4.0
Select three courses from the following:		12.0
SOC 207	Medicine and Society	
SOC 238	Sociology of Health Professions	
SOC 271	Sociology of Aging	
SOC 313	Sociology of Global Health	
SOC 318	Social Networks and Health	
SOC 370	Practicum in Applied and Community Sociology	
SOC 405	Medicine, Technology and Science	
SOC 430	Politics of Life	
Select two of the following:		8.0
SOC 210	Race, Ethnicity and Social Inequality	
SOC 220	Wealth and Power	
SOC 240	Urban Sociology	
SOC 241	Research Design: Qualitative Methods	
SOC 242	Research Design: Quantitative Methods	
SOC 355 [WI]	Classical Social Theory	
SOC 356 [WI]	Contemporary Social Theory	

**Total Credits****24.0**

\* No more than three courses that are required for a student's major may count towards fulfilling requirements for the minor.

# Minor in Middle East and North Africa Studies

## About the Minor

This minor offers an interdisciplinary look at the Middle East and North Africa region, which holds a critically important geopolitical position in terms of not only security and energy, but also in terms of political, religious, cultural, and gender studies. Together with content courses in English offered through a variety of departments, this minor also includes 12.0 credits of Arabic language instruction.

All prospective students should meet with an advisor from the College as soon as possible.

## Program Requirements

### Core Requirements

Students must complete 12 credits of Arabic language coursework 12.0

MENA 101	The Middle East and North Africa Today: Culture and Democracy	3.0
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**Students must complete a minimum of 9 credits of elective courses 9.0-10.0**

GST 241	Introduction to Power and Resistance (Gender Politics in the Middle East)	
GST 341	Advanced Studies in Power and Resistance (Revolution and Counter Revolution in the Arab World)	
HIST 206	Race and Islam in Africa and the Middle East	
JWST 223	Coexistence and Conflict: Jews, Christians, and Muslims in the Early Mediterranean	
or HIST 260	Coexistence and Conflict: Jews, Christians, and Muslims in the Early Mediterranean	

**Total Credits 24.0-25.0**

Study abroad, special topics, and GST courses focused on the Middle East or North Africa will be considered for elective credit. Students must receive permission from the department.

Students who complete a minimum of 8.0 Arabic credits, including ARBC 202, are eligible to receive an intermediate language certificate.

# Minor in Neuroscience

## About the Minor

The Neuroscience minor allows students from a vast array of disciplines the opportunity for formalized study in neuroscience. This interdisciplinary minor integrates content from cellular, molecular, and systems neurobiology with neuropsychology, providing students with a strong foundation in basic principles of neurobiology and neuropsychology. This minor is a collaborative effort between Biology and Psychology, but is open to students in any major with an interest in gaining a deeper understanding of the biological and cognitive principles underlying brain function.

Please contact Leanne Sweppenheiser at [Imt38@drexel.edu](mailto:Imt38@drexel.edu) for additional information.

### Required Courses

BIO 348	Neuroscience: From Cells to Circuits	3.0
BIO 349	Behavioral Neuroscience	3.0
PSY 312	Cognitive Neuroscience	3.0
PSY 410	Neuropsychology	3.0

### Biology and Psychology Electives \*

**Select 2 BIO courses 6.0**

BIO 414	Behavioral Genetics	
BIO 461	Neurobiology of Autism Disorders	
BIO 462	Biology of Neuron Function	
BIO 463	Molecular Mechanisms of Neurodegeneration	
BIO 465	Neurobiology of Disease	

**Select 2 PSY courses 6.0**

PSY 212	Physiological Psychology	
PSY 213	Sensation and Perception	
PSY 310	Drugs & Human Behavior	
PSY 325	Psychology of Learning	
PSY 330	Cognitive Psychology	
PSY 336	Psychology of Language	

**Total Credits 24.0**

A grade of "C" or better must be earned for each course in this minor to meet the requirements.

\* 3 credits of research in neuroscience as BIO 497 or PSY 499 can be substituted for 1 elective in either of the categories

# Minor in Nonprofit Communication

## About the Minor

The minor in Nonprofit Communication is a 24.0 credit curriculum designed to familiarize students with general communication theory and practice while providing training in print and electronic communication skills peculiar to the nonprofit sector. In addition to conventional coursework, this minor will include a practicum in the form of a 3.0 credit independent study (COM I399) for one term in which students will provide service and consultation for an area nonprofit organization as selected and coordinated by the student and approved by the undergraduate program director.

All prospective students should meet with an advisor from the College as soon as possible.

## Program Requirements

### Core Courses

COM 181	Public Relations Principles and Theory	3.0
COM 375 [WI]	Grant Writing	3.0
COM 376	Nonprofit Communication	3.0
COM 377	Communication for Civic Engagement	3.0
COM 378	Public Service Campaigns	3.0
COM I399	Independent Study in COM	3.0

### Choose at least 2 courses:

COM 160 [WI]	Introduction to Journalism	
COM 222	Interpersonal Communication	
COM 247	Strategic Social Media Communication	
COM 265	Audio Journalism	
COM 270 [WI]	Business Communication	
COM 282 [WI]	Public Relations Writing	
COM 330	Professional Presentations	
COM 363	Event Planning	

### Total Credits

24.0

# Minor in Philosophy

## About the Minor

A philosophy minor adds great depth and breadth to your studies and value to any degree. Philosophy classes train you to be a more effective thinker and a more critical, reflective person. They assist you in developing better reading, writing, and speaking skills by engaging you in the work of constructing and criticizing arguments. More than almost any other, a philosophy minor will broaden and enhance your education and help you develop skills you will use in your career and in everyday life. The minor has been carefully designed to provide a comprehensive structure within which each student has a range of choices. It includes one introductory course, one logic course, three "foundations" courses, one "area elective," an applied ethics course, and one 400-level philosophy seminar. We also can customize the minor further to reflect students' particular interests and goals.

Students who have completed 30.0 credits may apply for the minor through their academic advisors.

## Program Requirements

### Required Courses

PHIL 101	Introduction to Western Philosophy	3.0
or PHIL 102	Introduction to Eastern Philosophy	
PHIL 105	Critical Reasoning	3.0
or PHIL 111	Symbolic Logic I	

### Select three Philosophy Foundations Electives:

9.0

PHIL 121	Symbolic Logic II	
PHIL 211	Metaphysics: Philosophy of Reality	
PHIL 212	Ancient Philosophy	
PHIL 214	Modern Philosophy	
PHIL 215	Contemporary Philosophy	
PHIL 221	Epistemology: Philosophy of Knowledge	
PHIL 231	Aesthetics: Philosophy of Art	
PHIL 241	Social & Political Philosophy	
PHIL 251	Ethics	

### Select one Philosophy Area Elective:

3.0

PHIL 210	Philosophy of Sport	
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PHIL 216	Philosophy of Time	
PHIL 218	Philosophy of Mathematics	
PHIL 255	Philosophy of Sex & Love	
PHIL 341	Environmental Philosophy	
PHIL 351	Philosophy of Technology	
PHIL 355	Philosophy of Medicine	
PHIL 361	Philosophy of Science	
PHIL 381 [WI]	Philosophy in Literature	
PHIL 385	Philosophy of Law	
PHIL 391	Philosophy of Religion	
<b>Select one Applied Ethics Elective:</b>		<b>3.0</b>
PHIL 301	Business Ethics	
PHIL 305	Ethics and the Media	
PHIL 311	Ethics and Information Technology	
PHIL 315	Engineering Ethics	
PHIL 317	Ethics and Design Professions	
PHIL 321	Biomedical Ethics	
PHIL 323	Organizational Ethics	
PHIL 325	Ethics in Sports Management	
PHIL 330	Criminal Justice Ethics	
PHIL 335	Global Ethical Issues	
PHIL 340	Environmental Ethics	
<b>Select one Philosophy Seminar Elective:</b>		<b>3.0</b>
PHIL 481 [WI]	Seminar in a Philosophical School	
PHIL 485 [WI]	Seminar in a Major Philosopher	

**Total Credits****24.0**

## Additional Information

For more information about Drexel Philosophy classes and programs, please visit the Department of English & Philosophy (<http://www.drexel.edu/coas/academics/departments-centers/english-philosophy/>) website or drop by to see our director anytime. The Department of English & Philosophy is located in MacAlister Hall, Room 5044. The director can be contacted at:

Dr. Peter Amato  
 Director of Programs in Philosophy  
 Department of English & Philosophy  
 MacAlister 5030  
 215-895-1353  
[peterama@drexel.edu](mailto:peterama@drexel.edu)

## Minor in Physics

### About the Minor

Physics is a science that studies the natural phenomena at all scales from that of the universe to elementary particles. This minor exposes the students to some of the basic principles of physics and would easily complement any other discipline from engineering to other sciences.

The minor in Physics requires a total of 10.0 credits from the elective list in addition to the prerequisite and core courses.

Because of the overlap in requirements between the Astrophysics minor (p. 295) and the Physics minor, students cannot minor in both.

All prospective students should meet with an advisor from the College as soon as possible.

### Program Requirements

#### Required Prerequisite Courses \*

PHYS 113	Contemporary Physics I	
PHYS 114	Contemporary Physics II	
PHYS 115	Contemporary Physics III	

#### Required Courses

PHYS 311	Classical Mechanics I	4.0
PHYS 321	Electromagnetic Fields I	4.0
PHYS 217	Thermodynamics	4.0
PHYS 326	Quantum Mechanics I	4.0

**Electives**

Select at least 10.0 credits from PHYS courses at the 300 level or above

10.0

**Total Credits****26.0**

\* PHYS 101, PHYS 102 and PHYS 201 will also satisfy the prerequisite requirements.

## Minor in Politics

### About the Minor

A minor in Politics enriches almost every major. With a minor in Politics, you can hone your analytical and critical thinking skills and take your understanding of political science and research methodology to your field of study.

Political science pairs well with economics, criminal justice, psychology, public health, history, anthropology, communications, or education.

All prospective students should meet with an advisor from the College as soon as possible.

### Program Requirements

**Required Courses**

Select three of the following:

12.0

PSCI 100	Introduction to Political Science
PSCI 110	American Government
PSCI 120	History of Political Thought
PSCI 130	Research Design for Political Science
PSCI 140	Comparative Politics I
PSCI 150	International Politics

**Political Science Electives**

12.0 credits of any additional 200-level or higher PSCI courses.

12.0

**Total Credits****24.0**

## Minor in Psychology

### About the Minor

The minor in Psychology is intended to meet the needs of students who recognize the importance of an understanding and analysis of individual psychological processes as a key component of their education. Students in the minor learn how to ask and answer important questions regarding human behavior, cognition, and emotion to complement their major. The minor may also be of interest to students who wish to be a double major but are unable to satisfy all of the requirements in two major fields.

Entry into the minor requires that PSY 101 *General Psychology* (or an equivalent introductory course) be taken as a prerequisite. Students interested in this minor are expected to meet with the department's Academic Advisor to discuss the selection of courses appropriate to their major and their own personal interests. No more than three courses that are required for a student's major can count towards fulfilling requirements for this minor.

**Required Prerequisite**

PSY 101	General Psychology I (or equivalent)
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**Required PSY Courses**

Select any EIGHT additional PSY electives \*

24.0

**Total Credits****24.0**

\* Suggestion options include PSY 120, PSY 240 [WI], PSY 280, PSY 360 [WI] and PSY 342. Students are not permitted to take PSY 111 or PSY 112. All other courses are available as electives.

A grade of "C" or better must be earned in each course to meet the requirements for this minor.

## Minor in Religious Studies

### About the Minor

This minor provides an interdisciplinary approach to the study of religion with much flexibility to accommodate individual student interest. Students will gain a global comparative perspective on world religions.

## Admission Requirements

All prospective students should meet with an advisor from the College as soon as possible.

## Program Requirements

<b>Students must complete three courses from this list</b>		<b>9.0-10.0</b>
ANTH 117	Introduction to World Religions	
ANTH 210 [WI]	Worldview: Science, Religion and Magic	
ANTH 363	Sacred Traditions of the East	
ENGL 330	The Bible as Literature	
HIST 260	Coexistence and Conflict: Jews, Christians, and Muslims in the Early Mediterranean	
PHIL 391	Philosophy of Religion	
<b>Students must complete at least 15 credits of additional elective courses, including a minimum of two different course rubrics:</b>		<b>15.0-17.0</b>
ANTH 117	Introduction to World Religions	
ANTH 210 [WI]	Worldview: Science, Religion and Magic	
ANTH 217	Anthropology of Interfaith Relations	
ANTH 270	Comparative Religious Ethics	
ANTH 363	Sacred Traditions of the East	
ENGL 330	The Bible as Literature	
ENGL 335	Mythology	
ENGL 350	Jewish Literature and Civilization	
or JWST 201	Jewish Literature and Civilization	
HIST 155	The Historical Jesus	
HIST 181	Religion, Science, and Medicine in History	
HIST 249	Modern Jewish History	
or JWST 203	Modern Jewish History	
HIST 253	Jewish Life and Culture in the Middle Ages	
or JWST 202	Jewish Life and Culture in the Middle Ages	
HIST 257	The Reformation Age	
HIST 260	Coexistence and Conflict: Jews, Christians, and Muslims in the Early Mediterranean	
HIST 358	Witches, Demons, and Witch-hunters in European History	
JWST 212	Contemporary Jewish Life	
JWST 216	Yiddish Literature & Culture	
PHIL 102	Introduction to Eastern Philosophy	
PHIL 291	Judaism and Christianity: Two Religions or One?	
PHIL 391	Philosophy of Religion	
RELS T280	Special Topics in Religious Studies *	
RELS T380	Special Topics in Religious Studies *	
<b>Total Credits</b>		<b>24.0-27.0</b>

\* Special Topics courses focused on religious studies will be considered for elective credit. Students must receive permission from the department.

## Minor in Science, Technology and Society

### About the Minor

The minor in Science, Technology and Society (STS) allows students to explore the cultural, ethical, historical, political, and institutional dimensions of science, medicine, and technology. By taking courses in different disciplines, students develop an interdisciplinary approach that empowers them to critically analyze the social dimensions of science, medicine, and technology. STS programs, also called science and technology studies, are growing in the US and worldwide. The ability to critically identify the values and incentives built into scientific knowledge and technology design and use is highly valued in settings such as health care organizations, government agencies, public policy realms, tech industries, and more.

### Additional Information

For more information about this program, please contact:

Kristene Unsworth, PhD  
 Director, Center for Science, Technology and Society  
 ku26@drexel.edu  
 215.895.0277

Additional information can be found on Drexel's Center for Science, Technology and Society (<http://drexel.edu/coas/academics/departments-centers/science-technology-society/>) page. All prospective students should meet with an advisor from the College as soon as possible.

**Select 6 - 8 classes from the list below, with a minimum of 24.0 credits. One class must be SCTS 101. At least 2 different subject areas must be represented among these classes.**

24.0

ANTH 330	Media Anthropology
ANTH 345	Visual Anthropology
ANTH 355	Digital Culture
ANTH 360	Culture and the Environment
ARCH 315	Sustainable Built Environment I
BIO 114	Climate Change and Human Health
BIO 212	Biotechnology
COM 240	New Technologies In Communication
COM 247	Strategic Social Media Communication
COM 351	Computer Mediated Communication
CJS 210	Race, Crime, and Justice
CJS 220	Crime and the City
CJS 273	Surveillance, Technology, and the Law
CJS 274	Sex, Violence, & Crime on the Internet
CJS 366	Technology and the Justice System
ENGL 300 [WI]	Literature & Science
ENGL 302	Environmental Literature
ENGL 303	Science Fiction
ENGL 370	Topics in Literature and Medicine
INTR 310	Sustainability: History, Theory and Critic
HIST 181	Religion, Science, and Medicine in History
HIST 283	Technology and Identity
HIST 285	Technology in Historical Perspective
HIST 287	History of Science: Ancient to Medieval
HIST 288	History of Science: Medieval to Enlightenment
HIST 289	History of Science: Enlightenment to Modernity
HIST 290	Technology and the World Community
HIST 291	Global History of Engineering
HIST 292	Technology in American Life
HIST 320	Disaster in Global History
HIST 321	Themes in Global Environmental History
HIST 340	History of Bodies in Science, Technology, and Medicine
HIST 341	Disabilities in History
HIST 380	Advanced History Seminar
HIST 385	Transnational History of Science, Technology and Environment
HSAD 210	Health-Care Ethics I
HSAD 225	Perspectives on Disability
HSAD 309	Advanced Health-Care Ethics
HSAD 362	Madness, Mental Health and Psychiatry in the Modern West
MGMT 364	Technology Management
PBHL 302	Introduction to the History of Public Health
PHIL 111	Symbolic Logic I
PHIL 121	Symbolic Logic II
PHIL 311	Ethics and Information Technology
PHIL 321	Biomedical Ethics
PHIL 340	Environmental Ethics
PHIL 341	Environmental Philosophy
PHIL 351	Philosophy of Technology
PHIL 355	Philosophy of Medicine
PHIL 361	Philosophy of Science
PSCI 284	Environmental Politics
PSCI 289	Technology and Politics
PSCI 334	Politics of Environment and Health
PSCI 369	The Politics of Food
PSCI 371	Science, Technology, & Public Policy
PSCI 373	Animal Politics
PSY 290	History and Systems of Psychology

SCTS 101	Introduction to Science, Technology, and Society
SCTS 200	Addiction & Society
SCTS 202	Innovation and Social Justice
SCTS 205	Artificial Intelligence and Society
SCTS 207	Medicine and Society
SOC 222	Sex and Society
SOC 235	Sociology of Health and Illness
SOC 241	Research Design: Qualitative Methods
SOC 244	Sociology of the Environment
SOC 261	Sex and The City
SOC 276	Global Climate Change
SOC 341	Global Environmental Movements
SOC 346	Environmental Justice
SOC 349	Sociology of Disasters
SOC 405	Medicine, Technology and Science
SOC 430	Politics of Life
WGST 225	Women & Human Rights Worldwide

**Total Credits****24.0**

## Minor in Sociology

### About the Minor

The sociology minor is designed to give students specializing in other fields a broader knowledge of contemporary social issues such as poverty, racism, economic inequality, unemployment and environmental change through a sociological lens. For students majoring in such fields as business and engineering, the minor helps develop skills in critical thinking that go beyond the acquisition of specialized, professional techniques. It will further students' ability to systematically identify how gender, race or class, for example, shape work, medicine, technology, and society. For students majoring in another area of the liberal arts, the minor offers the opportunity to place the issues raised in the major discipline within a larger social context.

Open to all undergraduate Drexel students. All prospective students should meet with an advisor from the College as soon as possible.

**Please note:** No more than three courses that are required for a student's major can count towards fulfilling requirements for the minor.

#### Required Courses \*

SOC 355 [WI]	Classical Social Theory	4.0
or SOC 356	Contemporary Social Theory	

Select five of the following: \*\*

20.0

SOC 115	Social Problems
SOC 207	Medicine and Society
SOC 210	Race, Ethnicity and Social Inequality
SOC 215	Sociology of Work
SOC 220	Wealth and Power
SOC 221	Sociology of the Family
SOC 222	Sex and Society
SOC 230	Gender and Society
SOC 235	Sociology of Health and Illness
SOC 238	Sociology of Health Professions
SOC 240	Urban Sociology
SOC 241	Research Design: Qualitative Methods
SOC 242	Research Design: Quantitative Methods
SOC 244	Sociology of the Environment
SOC 261	Sex and The City
SOC 268	Sociology of Sport
SOC 271	Sociology of Aging
SOC 276	Global Climate Change
SOC 313	Sociology of Global Health
SOC 315	HIV/AIDS and Africa
SOC 318	Social Networks and Health
SOC 320	Sociology of Deviance
SOC 330	Development and Underdevelopment in the Global South
SOC 335	Sociology of Education
SOC 340	Globalization



SOC 341	Global Environmental Movements
SOC 346	Environmental Justice
SOC 349	Sociology of Disasters
SOC 405	Medicine, Technology and Science
SOC 406	Housing and Homelessness
SOC 410	Imagining Multiple Democracies
SOC 420	Love, Rage & Debt: The Debt Society
SOC 430	Politics of Life
SOC 444	Social Movements
SOC T380	Special Topics in SOC
SOC 450	Capstone in Sociology
SOC T480	Special Topics in Sociology
SOC I499	Independent Study in SOC

Total Credits

24.0

\* No more than three courses that are required for a student's major can count towards fulfilling requirements for the minor.

\*\* Students must take at least three elective courses at the 300 or 400 level.

## Minor in Spanish

### About the Minor

In our globalized world, intercultural and multilingual communication is an indispensable asset for the 21st century citizen and worker. As part of the Department of Global Studies and Modern Languages, we offer language instruction rooted in communication and embedded in authentic cultural contexts. Language study opens a world of opportunities for our students, from co-ops and study abroad programs to engagement with global communities here in Philadelphia. Media and technology, as well as travel and commerce, make the study of languages more crucial than ever, for tackling global challenges such as climate change and inequality demand that our students communicate across languages and cultures.

All prospective students should meet with an advisor from the College as soon as possible.

### Program Requirements

The Spanish minor requires a minimum of 24 credits above SPAN 103, including at least 12 credits above SPAN 310. Students can choose from the following 300 and 400 level courses.

24.0

SPAN 201	Spanish IV
SPAN 202	Spanish V
SPAN 211	Spanish for Healthcare Professionals II
SPAN 212	Spanish for Healthcare Professionals III
SPAN 310 [WI]	Advanced Writing and Speaking
SPAN 320	Introduction to Language for the Professions
SPAN 330	Introduction to Identities and Communities
SPAN 340	Introduction to Power and Resistance
SPAN 350	Introduction to Language, Media, and Society
SPAN 410 [WI]	Advanced Grammar and Translation
SPAN 420	Advanced Studies in Language for the Professions
SPAN 430	Advanced Studies in Identities and Communities
SPAN 440	Advanced Studies in Power and Resistance
SPAN 450	Advanced Studies in Language, Media, and Society

## Minor in War and Society

### About the Minor

This history minor concentrates on the history of wars, military and related institutions, and their broader historical and political contexts.

All prospective students should meet with an advisor from the College as soon as possible.

### Program Requirements

Complete 16 credits in the following courses:

16.0

HIST 230	United States Military History I (before 1900)
HIST 231	US Military History II (since 1900)
HIST 234	The United States Civil War
HIST 235	The Great War, 1914-1918

HIST 236	World War II	
HIST 239	The Pacific War	
HIST 248	History of the Holocaust	
or JWST 226	History of the Holocaust	
HIST 331 [WI]	The American Revolution	
HIST 333	U.S.-Mexican War	
HIST 338 [WI]	The Vietnam War	
HIST 341	Disabilities in History	
HIST 370	Conquest of Mexico	
JWST 215	Reconstructing History After Genocide	
PSCI 150	International Politics	
PSCI 250	American Foreign Policy	
PSCI 310	Civilians in Armed Conflict	
PSCI 352	Ethics and International Relations	
PSCI 353	International Human Rights	
PSCI 360	International Law	
<b>Complete any 2 additional history courses</b>		<b>8.0</b>
<b>Total Credits</b>		<b>24.0</b>

\* At least 8 credits must be HIST courses.

## Minor in Women's and Gender Studies

### About the Minor

The Women's and Gender Studies (WGST) Minor gives students a broad, interdisciplinary and global understanding of how gender intersects with race, age, class, sexual orientation, and other identities that shape human consciousness and experience. The WGST minor equips women, men and people who are gender variant with tools for making sense of societal structures within which they must operate as students, professionals and citizens. Through comparative study of gender across cultures, both within the United States and globally, students who minor in WGST gain a critical lens on the complexities of gender as it is constructed and understood in diverse contexts. Through WGST courses, students develop skills to be attuned to how gender impacts all aspects of human interaction, from the family, to the workplace, to the voting booth.

As an academic program Women's and Gender Studies provides a sharp focus on assumptions about the way the world can and does work. It offers a conceptual framework to analyze experiences of inequality and discrimination, and asks students to become active, engaged, thoughtful participants in their educational experiences and in their lives. Women's and Gender Studies prioritizes learning that helps students understand their "real life" experiences, at the same time that it asks students to reflect on and ask difficult, provocative and meaningful questions about those experiences.

Women's and Gender Studies works with many programs and departments at Drexel to emphasize how gender and sexuality intersect with other identities, as well as history, culture and geography to produce different beliefs, experiences and practices in peoples' lives and in larger social structures.

Because businesses working across many industries, including those in the nonprofit sector, are increasingly sensitive to issues such as gender discrimination, sexual harassment, equal pay for comparable work, support for LGBTQ-identified employees, parental leave, and day care, students with a Minor in Women's and Gender Studies gain a definite edge over other applicants for managerial and policy-making positions.

All prospective students should meet with an advisor from the College as soon as possible.

#### Required Courses

WGST 101	Introduction to Women's and Gender Studies	3.0
WGST 201	Introduction to Feminisms	3.0

**Choose one of the following three theory courses** **3.0**

WGST 301	Sex, Gender, Feminism: A Seminar in Feminist Theories	
WGST 308	Queer Theory	
WGST 320	Masculinities	

**Students must complete at least 15 credits of elective courses:** **15.0**

AFAS 255	Gender & Black Popular Culture	
ANTH 215	Anthropology of Gender	
ANTH 365	Family and Kinship	
ARTH 340	Women in Art	
COM 246	Media and Identity	
CJS 274	Sex, Violence, & Crime on the Internet	
CJS 275	Issues in Domestic Violence	
CJS 362	Gender, Crime, and Justice	

ENGL 355 [WI]	Women and Literature
HIST 208	Women in American History
HIST 283	Technology and Identity
PBHL 305	Women and Children: Health & Society
PHIL 255	Philosophy of Sex & Love
PSY 356	Women's Health Psychology
SMT 254	Women & Minority Opportunities in Sport
SMT 255	Legal Foundations of Title IX
SOC 222	Sex and Society
SOC 230	Gender and Society
WGST 220	Writing on the Body
WGST 225	Women & Human Rights Worldwide
WGST 230	Arab Women Writers
WGST 235	African Francophone Women Writers: Displacement. From One Continent To Another
WGST 240	Women and Society in a Global Context
WGST 255	Gender and Black Popular Culture
WGST 260	Gender and Judaism
WGST 270	Cigarettes and High Heels
WGST 275	Women's Health and Human Rights
WGST T280	Special Topics in Women's and Gender Studies
WGST I299	Independent Study in Women's and Gender Studies
WGST 301	Sex, Gender, Feminism: A Seminar in Feminist Theories
WGST 308	Queer Theory
WGST 320	Masculinities
WGST 324	Retail Intersections: Social & Cultural Issues
WGST T380	Special Topics in Women's and Gender Studies
WGST T480	Special Topics in Women's and Gender Studies

**Total Credits****24.0**

## Minor in Writing

### About the Minor

The Minor in Writing provides a foundation of advanced writing knowledge and practice while also allowing a focus on areas of writing you find most interesting, enjoyable, or relevant to your goals.

The Minor in Writing can help you:

- develop rhetorical awareness and knowledge that will help you write and communicate successfully in new contexts
- acquire writing habits and practices that will help you in college classes as well as in professional, civic, and personal life
- write and think creatively and critically in a variety of genres
- develop a portfolio of work that helps demonstrate your skill and experience as a writer
- engage with ideas and modes of expression you care about and find rewarding

Choose from a selection of core courses, and then customize your experience in the minor by selecting one course from the Literacies and Theories category and three courses (or nine credits) from an extensive list of Writing Practices.

All prospective students should meet with an advisor from the College as soon as possible.

### Program Requirements

#### Core Courses

Choose one from each pair:

WRIT 195	Threshold Concepts in Writing	3.0
or WRIT 200	Language Puzzles and Word Games: Issues in Modern Grammar	
WRIT 210 [WI]	The Peer Reader in Context	3.0
or WRIT 211	Advanced Composition	
WRIT 225 [WI]	Creative Writing	3.0
or WRIT 212	Argument and Rhetoric	
WRIT 312 [WI]	Writing for Target Audiences	3.0
or WRIT 315	Writing for Social Change	

#### Literacies and Readings

Choose one course focused on reading or learning about writing in a particular genre or context:

3.0

ANTH 330	Media Anthropology
ANTH 350	Anthropology of Language
COM 210	Theory and Models of Communication
COM 220	Qualitative Research Methods
COM 355	Ethnography of Communication
EDUC 236	Early Literacy I
EDUC 326 [WI]	Language Arts Processes
ENGL 200 [WI]	Classical to Medieval Literature
ENGL 201	Renaissance to the Enlightenment
ENGL 202 [WI]	Romanticism to Modernism
ENGL 203 [WI]	Survey of World Literature
ENGL 204	Post-Colonial Literature
ENGL 205 [WI]	American Literature I
ENGL 206 [WI]	American Literature II
ENGL 207 [WI]	African American Literature
ENGL 211 [WI]	British Literature I
ENGL 212	British Literature II
ENGL 214	Readings in Fiction
ENGL 215 [WI]	Readings in Poetry
ENGL 216 [WI]	Readings in Drama
LING 101	Introduction to Linguistics
LING 102	Language and Society
PHIL 105	Critical Reasoning
PHIL 305	Ethics and the Media
PSCI 330	Public Opinion & Propaganda
PSCI 335	Political Communication
WRIT 195	Threshold Concepts in Writing *
WRIT 200	Language Puzzles and Word Games: Issues in Modern Grammar *
WRIT 210 [WI]	The Peer Reader in Context *
WRIT 211	Advanced Composition *
WRIT 212	Argument and Rhetoric *
WRIT 250	"Mistakes Were Made": Truth, Writing, and Responsibility
WRIT 295	Forms Seminar

**Writing Practices**

Choose three courses that allow you to practice writing in specific genres or contexts:

9.0

COM 160 [WI]	Introduction to Journalism
COM 270 [WI]	Business Communication
COM 310 [WI]	Technical Communication
COM 320 [WI]	Science Writing
COM 335 [WI]	Digital Publishing
CULA 412	Food Writing
SCRP 220	Playwriting I
SCRP 225	Playwriting II
SCRP 270 [WI]	Screenwriting I
SCRP 275 [WI]	Screenwriting II
SCRP 350	TV Comedy Practicum
SCRP 353	TV Drama Practicum
TVPR 220	TV News Writing
WRIT 215 [WI]	Story Medicine
WRIT 220 [WI]	Creative Nonfiction Writing
WRIT 225 [WI]	Creative Writing *
WRIT 226	Writing in Public Spaces
WRIT 280	The Writers Room Lab Credit
WRIT 290	Writers Room Experience
WRIT 301 [WI]	Writing Poetry
WRIT 302 [WI]	Writing Fiction
WRIT 303	Writing Humor and Comedy
WRIT 305	Life is Beautiful
WRIT 306	Writing About the Media
WRIT 310	Literary Editing & Publication
WRIT 311	Writing and Reading the Memoir
WRIT 312 [WI]	Writing for Target Audiences *

WRIT 315	Writing for Social Change *
WRIT 320	Publishing Veterans' Memoirs for the Library of Congress
WRIT 400 [WI]	Writing for -- and about -- the Web *
WRIT 401	Advanced Poetry Workshop
WRIT 402	Advanced Fiction Workshop
WRIT 405	Internship in Publishing
WRIT T280	Special Topics in Writing
WRIT T380	Special Topics in Writing
WRIT T480	Special Topics in Writing

**Total Credits****24.0**

\* Courses marked with an asterisk are also listed as options for core courses for the minor. A student who elects to take one of these courses may not count it twice (once as a core course and once as an elective in the Literacies and Theories category or in the Writing Practices category). For example, a student who chooses to take WRIT 212 *Argument and Rhetoric* as a core course may not count it again as Literacies and Theories course; however, this student could take WRIT 225 [WI] *Creative Writing* and count it as a Writing Practices course.

# Certificate in Ethical Theory and Practice

## About the Program

The certificate in Ethical Theory and Practice will help you develop your awareness and understanding of ethical issues. Ethics is a crucial aspect of all personal, familial, institutional, civic, business, scientific, and professional relationships. In ethics classes, you will reflect upon how and why these kinds of problems arise, the nuances and repercussions of tackling them in different ways, and some of the various ways people have thought about how to resolve them in practice. This kind of study adds depth to your understanding of the practical dimensions of all areas of life and prepares you for dealing with the complex moral and ethical issues that arise in life.

## Admission Requirements

Open to Drexel students in all schools and colleges in all majors who have completed 15.0 credits.

## Program Requirements

### Required Courses

PHIL 101	Introduction to Western Philosophy	3.0
or PHIL 102	Introduction to Eastern Philosophy	
PHIL 105	Critical Reasoning	3.0
PHIL 241	Social & Political Philosophy	3.0
PHIL 251	Ethics	3.0
Select two of the following:		6.0
PHIL 301	Business Ethics	
PHIL 305	Ethics and the Media	
PHIL 311	Ethics and Information Technology	
PHIL 315	Engineering Ethics	
PHIL 317	Ethics and Design Professions	
PHIL 321	Biomedical Ethics	
PHIL 323	Organizational Ethics	
PHIL 325	Ethics in Sports Management	
PHIL 330	Criminal Justice Ethics	
PHIL 335	Global Ethical Issues	
PHIL 340	Environmental Ethics	
PHIL 385	Philosophy of Law	

Total Credits

18.0

## Additional Information

For more information about Drexel Philosophy classes and programs, please visit the Department of English & Philosophy (<http://www.drexel.edu/coas/academics/departments-centers/english-philosophy/>) website or stop by to see our director anytime. The Department of English & Philosophy is located in MacAlister Hall, Room 5044. The director can be contacted at:

Dr. Peter Amato  
 Director of Programs in Philosophy  
 Department of English & Philosophy  
 MacAlister 5030  
 215-895-1353  
[peterama@drexel.edu](mailto:peterama@drexel.edu)

# Certificate in Interfaith and Religious Studies

## About the Program

**Only available to currently enrolled Drexel students.**

The certificate in Interfaith and Religious Studies represents Drexel University's commitment to the study of spirituality and the contribution of the world's organized religions to the psychological and social well-being of individuals, groups, and societies. Through the study of the interrelationship of religions and the efforts of interfaith initiatives, students will better understand group commonalities and differences and attempts for social improvement and the resolution of conflict.

The Jewish Studies program, an interdepartmental and interdisciplinary program in the College of Arts and Sciences, has for many years taught about the centrality of religion in cultural life. In its core courses, the evolution of Judaism alongside the rise of Christianity and Islam has been studied. As the

coordinating body for the certificate in Interfaith and Religious Studies, the Jewish Studies program continues its tradition of exposing Drexel students to the leaders, thinkers, and institutions of the larger, outside community.

## Program Requirements

Students must complete at least 15 credits from the list below:

15.0

JWST 117 or ANTH 117	Introduction to World Religions Introduction to World Religions	
JWST 221 or ANTH 217	Anthropology of Interfaith Relations Anthropology of Interfaith Relations	
JWST 222 or ANTH 270	Comparative Religious Ethics Comparative Religious Ethics	
JWST 223 or HIST 260	Coexistence and Conflict: Jews, Christians, and Muslims in the Early Mediterranean Coexistence and Conflict: Jews, Christians, and Muslims in the Early Mediterranean	
JWST 224 or PHIL 291	Judaism and Christianity: Two Religions or One? Judaism and Christianity: Two Religions or One?	
JWST 225 or PHIL 391	Philosophy of Religion Philosophy of Religion	

**Total Credits**

15.0

Any travel-add-on component to these courses can be counted towards the Certificate.

## Health and Medical Humanities Certificate

*Only available to currently enrolled Drexel students.*

### About the Program

The certificate program in Health and Medical Humanities is designed for students majoring in any of the biological sciences, health professions including biomedical engineering, nursing and public health, the humanities, and the social sciences, with the aim of promoting dialogue and mutual appreciation for various approaches to health-related issues.

The wide range of applicable courses within designated disciplines fosters an interdisciplinary context for investigating the many challenges within medicine and caregiving. This format, in turn, encourages students to explore illness, disability, dying, and healing as human experiences and to evaluate some of the limitations of an exclusively scientific perspective on medical practice and research.

The program director will help students choose courses best suited for their personal and professional interests. Note that most courses applicable to the program also fulfill humanities electives for other majors and that courses may change as departments offer more options. Students will receive periodic updates notifying them of additional course offerings.

### Opportunities

Those students who successfully complete the program will receive a certificate in Health and Medical Humanities. This certificate highlights the student's proficiency in an interdisciplinary approach to health-related issues not easily attainable through isolated courses.

## Program Requirements

### Required Courses

ENGL 370	Topics in Literature and Medicine	3.0
ENGL 470	Capstone Seminar in Medical Humanities	3.0
PHIL 355	Philosophy of Medicine	3.0
Select one of the following ethics courses:		3.0
BMES 338	Biomedical Ethics and Law	
HSAD 210	Health-Care Ethics I	
HSAD 309	Advanced Health-Care Ethics	
HSAD 324	Health Technology and Ethical Responsibility	
HSAD 352	Ethics in Health Care Research	
PBHL 309	Public Health Ethics	
PHIL 251	Ethics	
PHIL 321	Biomedical Ethics	

Select two courses from the following:

6.0

ANTH 210 [WI]	Worldview: Science, Religion and Magic	
BIO 212	Biotechnology	
ENGL 300 [WI]	Literature & Science	
HIST 278	Medicine Before Germs	

HIST 285	Technology in Historical Perspective
HIST 385	Transnational History of Science, Technology and Environment
HSAD 313	Evolution of Health Care in the United States
HSAD 316	Health Care across Cultures
HSAD 318	Health and Vulnerable Populations
HSAD 319	Women and the Health Professions
HSAD 322	Health-Care Law
HSAD 333	Health, Illness, and the Arts
HSAD 343	Health and Illness in Film
PBHL 101	Public Health 101
PBHL 303	Overview of Issues in Global Health
PBHL 304	Introduction to Health & Human Rights
PBHL 333	Health Inequality
PHIL 255	Philosophy of Sex & Love
PHIL 361	Philosophy of Science
PSY 244	Culture and Personality
PSY 252	Death and Dying
PSY 355	Health Psychology
PSY 356	Women's Health Psychology
SCTS 101	Introduction to Science, Technology, and Society
SOC 222	Sex and Society
SOC 235	Sociology of Health and Illness
SOC 271	Sociology of Aging
SOC 313	Sociology of Global Health
SOC 318	Social Networks and Health
WRIT 215 [WI]	Story Medicine
WRIT 305	Life is Beautiful

**Total Credits****18.0**

## Additional Information

For more information, contact the program director:

Stacey Ake, PhD (Biology), PhD (Philosophy)  
 Department of English and Philosophy  
 sea29@drexel.edu

# Philosophy, Arts, and Humanities Certificate

## About the Program

The certificate in Philosophy, Arts, and Humanities provides an excellent opportunity for undergraduate students in all majors to deepen and broaden their educational experience through engagement with questions and ideas related to the arts and the humanities. What is the nature of art and how is it related to ideas about "beauty?" What does art say about the experience of being human or a particular human? How do interpretations contribute to our thinking about what is true and what is right? How can competing interpretations of our duties and obligations in society and the state be assessed and evaluated? How should we understand the ways people have thought about humanity's place in the cosmos over time? These and many other related issues will be explored.

Contact your academic advisor in order to add this certificate to your program.

## Program Requirements

### Required Courses

PHIL 101	Introduction to Western Philosophy	3.0
or PHIL 102	Introduction to Eastern Philosophy	
PHIL 105	Critical Reasoning	3.0
PHIL 231	Aesthetics: Philosophy of Art	3.0
Select three of the following:		9.0
PHIL 212	Ancient Philosophy	
or PHIL 214	Modern Philosophy	
or PHIL 215	Contemporary Philosophy	
PHIL 381 [WI]	Philosophy in Literature	
PHIL 385	Philosophy of Law	



## Additional Information

For more information about Drexel Philosophy classes and programs, please visit the Department of English & Philosophy (<http://www.drexel.edu/coas/academics/departments-centers/english-philosophy/>) website or stop by to see our director anytime. The Department of English & Philosophy is located in MacAlister Hall, Room 5044. The director can be contacted at:

Dr. Peter Amato  
 Director of Programs in Philosophy  
 Department of English & Philosophy  
 MacAlister 5030  
 215-895-1353  
 peterama@drexel.edu

# Philosophy, Science, and Technology Certificate

## About the Program

The certificate in Philosophy, Science, and Technology provides an excellent opportunity for undergraduate students in all majors to deepen and broaden their educational experience by exploring issues related to science and technology. What is the nature and scope of natural science? What should count as "knowledge" as opposed to "opinion"? How do the sciences produce knowledge? How do philosophers think about the reality of space, time, and mathematics? What is the role played by their technical apparatus in the ways scientists think about the things they study? Is technology a neutral factor in human life and history? What is our responsibility to the environment? These and many other questions will be explored.

Contact your academic advisor in order to add this certificate to your program.

## Program Requirements

### Required Courses

PHIL 101	Introduction to Western Philosophy	3.0
PHIL 111	Symbolic Logic I	3.0
Select one of the following:		3.0
PHIL 121	Symbolic Logic II	
PHIL 216	Philosophy of Time	
PHIL 218	Philosophy of Mathematics	
PHIL 221	Epistemology: Philosophy of Knowledge	
Select three of the following:		9.0
PHIL 341	Environmental Philosophy	
PHIL 351	Philosophy of Technology	
PHIL 355	Philosophy of Medicine	
PHIL 361	Philosophy of Science	

## Additional Information

For more information about Drexel Philosophy classes and programs, please visit the Department of English & Philosophy (<http://www.drexel.edu/coas/academics/departments-centers/english-philosophy/>) website or stop by to see our director anytime. The Department of English & Philosophy is located in MacAlister Hall, Room 5044. The director can be contacted at:

Dr. Peter Amato  
 Director of Programs in Philosophy  
 Department of English & Philosophy  
 MacAlister 5030  
 215-895-1353  
 peterama@drexel.edu

# Spanish for Health Professionals Certificate

*Only available to currently enrolled Drexel students.*

The Spanish for Health Professionals certificate prepares students to engage Spanish-speaking populations in the field of healthcare. It offers a critical advantage to health professions students (College of Nursing and Health Professions, Public Health, Pre-Med) who will be much better positioned in the job market if they can certify their ability to use Spanish in the workplace and engage with patients in culturally sensitive ways.

## Program Requirements

<b>Category 1: Spanish language coursework</b> *		<b>4.0-12.0</b>
SPAN 113	Spanish for Healthcare Professionals I	
SPAN 211	Spanish for Healthcare Professionals II	
SPAN 212	Spanish for Healthcare Professionals III	
<b>Category 2: Latin American/Latinx Health coursework</b>		<b>14.0-6.0</b>
Students must complete between 6—14 credits of Latin American/Latinx Health coursework, and are encouraged to complete some of those credits through community-based and/or study abroad courses.		
BACS 255	Multicultural Counseling	
HSAD 316	Health Care across Cultures	
HSCI 315	Current Issues in Health Sciences	
NURS 312	Leadership in Action and Community Health	
NURS 460	Population Health: Local & Global	
PBHL 101	Public Health 101	
PBHL 303	Overview of Issues in Global Health	
PBHL 304	Introduction to Health & Human Rights	
PBHL 309	Public Health Ethics	
SPAN 320	Introduction to Language for the Professions (When focused on health professions, taught in Spanish)	
<b>Total Credits</b>		<b>18.0</b>

\* Students are required to complete a minimum of 4 credits (SPAN 212 is required), and a maximum of 12 credits of language coursework. Students who take 4 credits of language courses must complete 14 credits of Latin American/Latinx Health coursework.

\*\* In addition to the course options above in Category 2, approved community-based/study abroad courses include: GST 231 Introduction to Identities and Communities (Disaster & Resilience in Puerto Rico: Community-Based Learning Course); LANG T180 Special Topics in Languages (Intensive Spanish for Medical Professional: Costa Rica study abroad course); HSAD 366 Global Aging Intensive Course Abroad; HSAD T480 Special Topics in Health Services Administration (Health Care Systems in Latin America: Costa Rica study abroad course) CHP 691 Public Health Practice in and with Latino Communities; CHP 692 Migration and Health; and relevant special topics and study abroad courses will be considered with department permission.

## Certificate in Writing and Publishing

### About the Program

The certificate in Writing and Publishing (CWP) offers currently enrolled Drexel University students the opportunity for both professional and personal development through a combination of available courses in professional writing, creative writing, and publishing. The certificate enhances employment opportunities, opening a broad range of professional choices in cooperative employment and in the post-degree job market as skills are acquired. The CWP improves on-the-job performance as the student develops writing skills and associated professional knowledge.

The program develops core competencies through the synergy of writing and publishing courses. The courses develop the student's skills in writing and publishing both through theory and practical application.

### General Requirements

The certificate in Writing and Publishing allows students to achieve certification in one or more of the following tracks:

- Professional writing and publishing (technical, business, and journalism)
- Creative writing and publishing
- Entertainment writing and publishing
- Comprehensive writing and publishing (**This track is no longer accepting new students.**)

Each track requires the completion of a minimum of six courses (18.0 credits). Tracks can be designed to meet the professional needs and personal interests of the individual student.

Working with the program director, students will choose not only the track but the courses within the track to develop an individually tailored program. Students can choose courses that will meet the general requirements of the program while also satisfying their own professional and personal requirements.

Those students who have successfully completed this program will receive a certificate in Writing and Publishing. The transcript will indicate the completion of the CWP. This certification will indicate proficiency in written communication and familiarity with techniques in publishing in a variety of

venues. The certificate program in Writing and Publishing highlights the student's acquisition of skills more than they would be in a list of courses on a transcript.

The completion of the certificate demonstrates the student's commitment to writing and publishing skills. It highlights writing skills of students majoring in business and technical areas; similarly, for students in the humanities and social sciences, it certifies writing and publishing skills either in creative writing or professional writing.

Students meet with the program director to determine their track:

Harriet Levin Millan  
Director, Certificate in Writing and Publishing  
millanhl@drexel.edu

## Track Requirements

Note: Many majors already require one or more of the courses leading to the certificate in Writing and Publishing or list these courses as recommended electives.

The Creative Writing and Publishing track is useful to all students as it encourages personal and professional development through creative writing and a knowledge of publishing.

## Professional Writing and Publishing Track

*18.0 quarter credits*

The Professional Writing and Publishing track is useful for business majors or students in technical or science areas who want to highlight their acquisition of writing skills. For students majoring in the humanities, it provides an opportunity to develop areas of writing and publishing competencies in the professional arena.

This track offers three focus options:

- Business Communication and Publishing: for students interested in a career in business.
- Technical Communication and Publishing: for students interested in engineering, science, information science, and technology and careers in higher education.
- Journalism: for students interested in global journalism, communication, and international affairs.

## Program Requirements

### Business Communication and Publishing

#### Required Courses

COM 270 [WI]	Business Communication	3.0
COM 350 [WI]	Document Design and Evaluation	3.0
or COM 375	Grant Writing	
or WRIT 312	Writing for Target Audiences	
Select one of the following:		3.0
COM 320 [WI]	Science Writing	
COM 420	Technical, Science and Health Editing	
COM T380	Special Topics in Communication Theory	
VSCM 480 [WI]	Graphic Design Seminar: Design Perceptions	
Select one of the following:		3.0
COM 335 [WI]	Digital Publishing	
COM 340	Modern Desktop Publishing	
VSCM 479	Graphic Design Seminar: Advanced Media (Bookmaking)	
WRIT 310	Literary Editing & Publication	
WRIT 400 [WI]	Writing for -- and about -- the Web	
Select two of the following:		6.0
COM 160 [WI]	Introduction to Journalism	
COM 315 [WI]	Investigative Journalism	
CULA 412	Food Writing	
HNRS 301	Colloquium II *	
WRIT 210 [WI]	The Peer Reader in Context	
WRIT 220 [WI]	Creative Nonfiction Writing	
WRIT 225 [WI]	Creative Writing	
WRIT 301 [WI]	Writing Poetry	
WRIT 302 [WI]	Writing Fiction	

WRIT 303	Writing Humor and Comedy	
WRIT 306	Writing About the Media	
WRIT 312 [WI]	Writing for Target Audiences	
WRIT T380	Special Topics in Writing	

**Total Credits** **18.0**

\* By Director's permission only.

## Technical Communication and Publishing

### Required Courses

COM 310 [WI]	Technical Communication	3.0
COM 375 [WI]	Grant Writing	3.0
or WRIT 312	Writing for Target Audiences	

Select one of the following: 3.0

COM 320 [WI]	Science Writing	
COM 350 [WI]	Document Design and Evaluation	
COM 420	Technical, Science and Health Editing	
COM T380	Special Topics in Communication Theory	
VSCM 480 [WI]	Graphic Design Seminar: Design Perceptions	

Select one of the following: 3.0

COM 335 [WI]	Digital Publishing	
COM 340	Modern Desktop Publishing	
VSCM 479	Graphic Design Seminar: Advanced Media (Bookmaking)	
WRIT 310	Literary Editing & Publication	
WRIT 400 [WI]	Writing for -- and about -- the Web	

Select any two additional Certificate in Writing and Publishing courses, including but not limited to the following: 6.0

COM 160 [WI]	Introduction to Journalism	
COM 315 [WI]	Investigative Journalism	
CULA 412	Food Writing	
HNRS 301	Colloquium II *	
WRIT 210 [WI]	The Peer Reader in Context	
WRIT 220 [WI]	Creative Nonfiction Writing	
WRIT 301 [WI]	Writing Poetry	
WRIT 302 [WI]	Writing Fiction	
WRIT 303	Writing Humor and Comedy	
WRIT 306	Writing About the Media	
WRIT 312 [WI]	Writing for Target Audiences	
WRIT T380	Special Topics in Writing	

**Total Credits** **18.0**

\* By Director's permission only.

## Journalism

### Required Courses

COM 160 [WI]	Introduction to Journalism	3.0
COM 261 [WI]	Advanced Journalism	3.0
COM 315 [WI]	Investigative Journalism	3.0

Select one of the following: 3.0

COM 335 [WI]	Digital Publishing	
COM 340	Modern Desktop Publishing	
WRIT 310	Literary Editing & Publication	
WRIT 400 [WI]	Writing for -- and about -- the Web	

Select any two additional Certificate in Writing and Publishing courses, including but not limited to the following: 6.0

COM 270 [WI]	Business Communication	
or COM 310	Technical Communication	
COM 320 [WI]	Science Writing	
COM 375 [WI]	Grant Writing	
COM 420	Technical, Science and Health Editing	
CULA 412	Food Writing	
HNRS 301	Colloquium II *	
VSCM 479	Graphic Design Seminar: Advanced Media (Bookmaking)	

VSCM 480 [WI]	Graphic Design Seminar: Design Perceptions
WRIT 210 [WI]	The Peer Reader in Context
WRIT 220 [WI]	Creative Nonfiction Writing
WRIT 225 [WI]	Creative Writing
WRIT 301 [WI]	Writing Poetry
WRIT 302 [WI]	Writing Fiction
WRIT 303	Writing Humor and Comedy
WRIT 306	Writing About the Media
WRIT 312 [WI]	Writing for Target Audiences
WRIT T380	Special Topics in Writing

**Total Credits** **18.0**

\* By Director's permission only.

## Creative Writing and Publishing track

18.0 quarter credits

This track is designed for students who want to develop their creative writing skills either for personal development and expression, or because they recognize that creative writing develops imagination; sharpens clarity of expression; and enhances sensitivity to other people. Creative writing is a good pre-professional concentration for pre-law, pre-med, and the social sciences. The importance of creative writing has been recognized for engineering and for business.

Select three of the following (one of which must be a 200-level course): 9.0

WRIT 220 [WI]	Creative Nonfiction Writing
WRIT 225 [WI]	Creative Writing
WRIT 301 [WI]	Writing Poetry
WRIT 302 [WI]	Writing Fiction
WRIT 303	Writing Humor and Comedy
WRIT 306	Writing About the Media
WRIT T380	Special Topics in Writing

Select one of the following: 3.0

COM 335 [WI]	Digital Publishing
COM 340	Modern Desktop Publishing
COM 350 [WI]	Document Design and Evaluation
VSCM 479	Graphic Design Seminar: Advanced Media (Bookmaking)
WRIT 310	Literary Editing & Publication
WRIT 400 [WI]	Writing for -- and about -- the Web
WRIT 405	Internship in Publishing *

Select any two additional Certificate in Writing and Publishing courses, including but not limited to the following: 6.0

COM 160 [WI]	Introduction to Journalism
COM 261 [WI]	Advanced Journalism
COM 270 [WI]	Business Communication
COM 310 [WI]	Technical Communication
COM 315 [WI]	Investigative Journalism
COM 320 [WI]	Science Writing
COM 350 [WI]	Document Design and Evaluation
COM 375 [WI]	Grant Writing
COM 420	Technical, Science and Health Editing
CULA 412	Food Writing
HNRS 301	Colloquium II **
VSCM 480 [WI]	Graphic Design Seminar: Design Perceptions
WRIT 210 [WI]	The Peer Reader in Context
WRIT 312 [WI]	Writing for Target Audiences

**Total Credits** **18.0**

\* WRIT 405 must be taken twice if no other publishing course is taken.

\*\* By Director's permission only.

## Entertainment Writing and Publishing Track

18.0 quarter credits

Entertainment Writing and Publishing is designed for students in any major who want to highlight their acquisition of writing skills. For students majoring in any entertainment field it provides an opportunity to develop areas of writing and publishing competencies in the professional entertainment field.

The track is designed for students who want to pursue writing either for personal development and expression as a personal or creative pursuit or profession. The Entertainment Writing and Publishing track will give students a strong multidisciplinary introduction to writing for a variety of entertainment professions including screenwriting, sports journalism, food writing, game writing, grant writing, and more. This track is designed for both students already studying any of the entertainment fields (such as Entertainment and Arts Management), as well as other students who are interested in exploring the field.

#### General Requirements

WRIT 306 or WRIT 226	Writing About the Media Writing in Public Spaces	3.0
WRIT 312 [WI] or COM 375	Writing for Target Audiences Grant Writing	3.0
<b>Select two of the following</b>		<b>6.0</b>
COM 265	Audio Journalism	
COM 305	Sports Journalism	
CULA 412	Food Writing	
DSMR 315 [WI]	Media Merchandising I	
ENGL 323	Literature and Other Arts	
HNRS 301	Colloquium II **	
SCRP 241	Writing TV Comedy	
SCRP 242	Writing TV Drama	
SCRP 260	Writing Comics	
SCRP 270 [WI]	Screenwriting I	
SCRP 280 [WI]	Writing the Short Film	
SCRP 290	Game: Universe & Story	
WRIT 303	Writing Humor and Comedy	
<b>Select One of the Following</b>		<b>3.0</b>
COM 335 [WI]	Digital Publishing	
COM 340	Modern Desktop Publishing	
VSCM 479	Graphic Design Seminar: Advanced Media ((Bookmaking))	
WRIT 310	Literary Editing & Publication	
WRIT 400 [WI]	Writing for -- and about -- the Web	
WRIT 405	Internship in Publishing *	
<b>Select one of the following</b>		<b>3.0</b>
COM 160 [WI]	Introduction to Journalism	
COM 270 [WI]	Business Communication	
COM 420	Technical, Science and Health Editing	
WRIT 210 [WI]	The Peer Reader in Context	
WRIT 220 [WI]	Creative Nonfiction Writing	
WRIT 225 [WI]	Creative Writing	
WRIT 301 [WI]	Writing Poetry	
WRIT 302 [WI]	Writing Fiction	
COM 320 [WI]	Science Writing	
VSCM 480 [WI]	Graphic Design Seminar: Design Perceptions	
WRIT T380	Special Topics in Writing	
Total Credits		18.0

\* WRIT 405 must be taken twice if no other publishing course is taken.

\*\* By Director's permission only.

## Comprehensive Certificate track

18.0 quarter credits

The Comprehensive Track is designed for students whose majors and minors include writing courses (either as electives or required courses) and whose schedules allow for the additional credits to obtain certification.

Select two of the following:

COM 335 [WI]	Digital Publishing	6.0
COM 340	Modern Desktop Publishing	
VSCM 479	Graphic Design Seminar: Advanced Media	

WRIT 310	Literary Editing & Publication	
WRIT 400 [WI]	Writing for -- and about -- the Web	
WRIT 405	Internship in Publishing *	
Select two of the following: **		12.0
<b>Creative Writing</b>		
Track A		
WRIT 220 [WI]	Creative Nonfiction Writing	
Any 300-level writing (WRIT) course		
Track B		
WRIT 225 [WI]	Creative Writing	
Any 300-level writing (WRIT) course		
<b>Professional Writing</b>		
Track A		
COM 310 [WI]	Technical Communication	
COM 420	Technical, Science and Health Editing	
or COM 375	Grant Writing	
or VSCM 480	Graphic Design Seminar: Design Perceptions	
Track B		
COM 270 [WI]	Business Communication	
COM 375 [WI]	Grant Writing	
or COM 350	Document Design and Evaluation	
or VSCM 480	Graphic Design Seminar: Design Perceptions	
<b>Journalism</b>		
COM 160 [WI]	Introduction to Journalism	3.0
Select one of the following:		
COM 315 [WI]	Investigative Journalism	
CULA 412	Food Writing	
WRIT 210 [WI]	The Peer Reader in Context ***	
<b>Total Credits</b>		<b>21.0</b>

\* WRIT 405 Must be taken twice.

\*\* Students select two of the following course sequences from at least two different categories

\*\*\* By Director's permission only.

## Intermediate Arabic Proficiency Certificate

The Intermediate Arabic Proficiency Certificate\* offers students a language certificate at the intermediate level as proof that they are sufficiently proficient\*\* to interact with native speakers in a basic everyday context and within standard cultural norms, whether abroad or in the United States.

Please note that this certificate is available only to currently matriculated Drexel students.

### Program Requirements

The Intermediate Arabic Proficiency Certificate\* offers students a language certificate at the intermediate level as proof that they are sufficiently proficient\*\* to interact with native speakers in a basic everyday context and within standard cultural norms, whether abroad or in the United States.

The Intermediate Arabic Certificate requires a minimum of 8.0 credits\*\*\* including the successful completion of the required course, ARBC 202. Students can choose from the following courses: 8.0--20.0

ARBC 101	Arabic I
ARBC 102	Arabic II
ARBC 103	Arabic III
ARBC 201	Arabic IV
ARBC 202	Arabic V
ARBC 310	Advanced Writing and Speaking

**Total Credits** 8.0-20.0

- \* Only students who place at or below the ARBC 202 level are eligible for the Intermediate Arabic Proficiency Certificate.
- \*\* The proficiency certificate is based on standardized outcomes set by the American Council on the Teaching of Foreign Languages (ACTFL, [actfl.org \(https://www.actfl.org/\)](https://www.actfl.org/)).
- \*\*\* Demonstrated proficiency through Drexel's placement test in ARBC 101, ARBC 102, ARBC 103, and/or ARBC 201 may reduce the number of required credits to a minimum of 8.0. (Note that completion of placement test[s] do not count toward academic credit.)  
The required credits for the certificate is determined by placement level:  
\*For students who place into:
  - 101 – 20 credits
  - 102 – 16 credits
  - 103 – 12 credits
  - 201 – 8 credits
  - 202 – 8 credits (student has to take 310 as well)

## Intermediate Chinese Proficiency Certificate

The Intermediate Chinese Proficiency Certificate\* offers students a language certificate at the intermediate level as proof that they are sufficiently proficient\*\* to interact with native speakers in a basic everyday context and within standard cultural norms, whether abroad or in the United States.

Please note that this certificate is available only to currently matriculated Drexel students.

### Program Requirements

The Intermediate Chinese Proficiency Certificate\* offers students a language certificate at the intermediate level as proof that they are sufficiently proficient\*\* to interact with native speakers in a basic everyday context and within standard cultural norms, whether abroad or in the United States.

The Intermediate Chinese Certificate requires a minimum of 8 credits\*\*\* including the successful completion of the required course, CHIN 202. Students can choose from the following courses: 8.0-20.0

CHIN 101	Chinese I
CHIN 102	Chinese II
CHIN 103	Chinese III
CHIN 201	Chinese IV
CHIN 202	Chinese V
CHIN 310	Advanced Writing and Speaking

**Total Credits** 8.0-20.0

- \* Only students who place at or below CHIN 202 level are eligible for the Intermediate Chinese Proficiency Certificate.
- \*\* The proficiency certificate is based on standardized outcomes set by the American Council on the Teaching of Foreign Languages (ACTFL, [actfl.org \(https://www.actfl.org/\)](https://www.actfl.org/)).



\*\*\* Demonstrated proficiency through Drexel's placement test in CHIN 101, CHIN 102, CHIN 103, and/or CHIN 201 may reduce the number of required credits to a minimum of 8.0. (Note that completion of placement test[s] do not count toward academic credit.)

The required credits for the certificate is determined by placement level:

\*For students who place into:

101 – 20 credits

102 – 16 credits

103 – 12 credits

201 – 8 credits

202 – 8 credits (student has to take 310 as well)

## Intermediate French Proficiency Certificate

The Intermediate French Proficiency Certificate\* offers students a language certificate at the intermediate level as proof that they are sufficiently proficient\*\* to interact with native speakers in a basic everyday context and within standard cultural norms, whether abroad or in the United States.

Please note that this certificate is available only to currently matriculated Drexel students.

### Program Requirements

The Intermediate French Proficiency Certificate\* offers students a language certificate at the intermediate level as proof that they are sufficiently proficient\*\* to interact with native speakers in a basic everyday context and within standard cultural norms, whether abroad or in the United States.

The Intermediate French Certificate requires a minimum of 8-20 credits\*\*\* including the successful completion of the required course, FREN 202. Students can choose from the following courses: 8.0-20.0

FREN 101	French I
FREN 102	French II
FREN 103	French III
FREN 201	French IV
FREN 202	French V
FREN 310 [WI]	Advanced Writing and Speaking

**Total Credits** 8.0-20.0

\* Only students who place at or below the FREN 202 level are eligible for the Intermediate French Proficiency Certificate.

\*\* The proficiency certificate is based on standardized outcomes set by the American Council on the Teaching of Foreign Languages (ACTFL, [actfl.org](https://www.actfl.org/) (<https://www.actfl.org/>))

\*\*\* Demonstrated proficiency through Drexel's placement test in FREN 101, FREN 102, FREN 103, and/or FREN 201 may reduce the number of required credits to a minimum of 8.0. (Note that completion of placement test[s] do not count toward academic credit.)

The required credits for the certificate is determined by placement level:

\*For students who place into:

101 – 20 credits

102 – 16 credits

103 – 12 credits

201 – 8 credits

202 – 8 credits (student has to take 310 as well)

\*\*Students who place above 202 are encouraged to pursue a language minor.

## Intermediate German Proficiency Certificate

The Intermediate German Proficiency Certificate\* offers students a language certificate at the intermediate level as proof that they are sufficiently proficient\*\* to interact with native speakers in a basic everyday context and within standard cultural norms, whether abroad or in the United States.

Please note that this certificate is available only to currently matriculated Drexel students.

### Program Requirements

The Intermediate German Proficiency Certificate\* offers students a language certificate at the intermediate level as proof that they are sufficiently proficient\*\* to interact with native speakers in a basic everyday context and within standard cultural norms, whether abroad or in the United States.

The Intermediate German Certificate requires a minimum of 8-20 credits\*\*\* including the successful completion of the required course, GER 202. Students can choose from the following courses: 8.0-20.0

GER 101	German I
GER 102	German II

GER 103	German III
GER 201	German IV
GER 202	German V
GER 310 [WI]	Advanced Writing and Speaking

**Total Credits****8.0-20.0**

- \* Only students who place at or below the GER 202 level are eligible for the Intermediate German Proficiency Certificate.
- \*\* The proficiency certificate is based on standardized outcomes set by the American Council on the Teaching of Foreign Languages (ACTFL, <https://www.actfl.org/>).
- \*\*\* Demonstrated proficiency through Drexel's placement test in GER 101, GER 102, GER 103, and/or GER 201 may reduce the number of required credits to a minimum of 8.0. (Note that completion of placement test[s] do not count toward academic credit.)  
The required credits for the certificate is determined by placement level:  
\*For students who place into:  
101 – 20 credits  
102 – 16 credits  
103 – 12 credits  
201 – 8 credits  
202 – 8 credits (student has to take 310 as well)

## Intermediate Japanese Proficiency Certificate

The Intermediate Japanese Proficiency Certificate\* offers students a language certificate at the intermediate level as proof that they are sufficiently proficient\*\* to interact with native speakers in a basic everyday context and within standard cultural norms, whether abroad or in the United States.

**Please note that this certificate is available only to currently matriculated Drexel students.**

### Program Requirements

**The Intermediate Japanese Proficiency Certificate\* offers students a language certificate at the intermediate level as proof that they are sufficiently proficient\*\* to interact with native speakers in a basic everyday context and within standard cultural norms, whether abroad or in the United States.**

The Intermediate Japanese Certificate requires a minimum of 8--20 credits\*\*\* including the successful completion of the required course, JAPN 202. Students can choose from the following courses:

**8.0-20.0**

JAPN 101	Japanese I
JAPN 102	Japanese II
JAPN 103	Japanese III
JAPN 201	Japanese IV
JAPN 202	Japanese V
JAPN 310 [WI]	Advanced Writing and Speaking

**Total Credits****8.0-20.0**

- \* Only students who place at or below the JAPN 202 level are eligible for the Intermediate Japanese Proficiency Certificate.
- \*\* The proficiency certificate is based on standardized outcomes set by the American Council on the Teaching of Foreign Languages (ACTFL, <https://www.actfl.org/>).
- \*\*\* Demonstrated proficiency through Drexel's placement test in JAPN 101, JAPN 102, JAPN 103, and/or JAPN 201 may reduce the number of required credits to a minimum of 8.0. (Note that completion of placement test[s] do not count toward academic credit.)  
The required credits for the certificate is determined by placement level:  
\*For students who place into:  
101 – 20 credits  
102 – 16 credits  
103 – 12 credits  
201 – 8 credits  
202 – 8 credits (student has to take 310 as well)  
\*\*Students who place above 202 are encouraged to pursue a language minor.

## Intermediate Korean Proficiency Certificate

The Intermediate Korean Proficiency Certificate\* offers students a language certificate at the intermediate level as proof that they are sufficiently proficient\*\* to interact with native speakers in a basic everyday context and within standard cultural norms, whether abroad or in the United States.

**Please note that this certificate is available only to currently matriculated Drexel students.**

## Program Requirements

The Intermediate Korean Proficiency Certificate\* offers students a language certificate at the intermediate level as proof that they are sufficiently proficient\*\* to interact with native speakers in a basic everyday context and within standard cultural norms, whether abroad or in the United States.

The Intermediate Korean Certificate requires a minimum of 8-20 credits\*\*\* including the successful completion of the required course, KOR 202. Students can choose from the following courses: 8.0-20.0

KOR 101	Korean I
KOR 102	Korean II
KOR 103	Korean III
KOR 201	Korean IV
KOR 202	Korean V
KOR 310	Advanced Writing & Speaking

**Total Credits** **8.0-20.0**

- \* Only students who place at or below the KOR 202 level are eligible for the Intermediate Korean Proficiency Certificate.
- \*\* The proficiency certificate is based on standardized outcomes set by the American Council on the Teaching of Foreign Languages (ACTFL, [actfl.org](https://www.actfl.org/) (<https://www.actfl.org/>)).
- \*\*\* Demonstrated proficiency through Drexel's placement test in KOR 101, KOR 102, KOR 103, and/or KOR 201 may reduce the number of required credits to a minimum of 8.0. (Note that completion of placement test[s] do not count toward academic credit.)  
The required credits for the certificate is determined by placement level:  
\*For students who place into:  
101 – 20 credits  
102 – 16 credits  
103 – 12 credits  
201 – 8 credits  
202 – 8 credits (student has to take 310 as well)

## Intermediate Spanish Proficiency Certificate

The Intermediate Spanish Proficiency Certificate\* offers students a language certificate at the intermediate level as proof that they are sufficiently proficient\*\* to interact with native speakers in a basic everyday context and within standard cultural norms, whether abroad or in the United States.

**Please note that this certificate is available only to currently matriculated Drexel students.**

## Program Requirements

The Intermediate Spanish Proficiency Certificate\* offers students a language certificate at the intermediate level as proof that they are sufficiently proficient\*\* to interact with native speakers in a basic everyday context and within standard cultural norms, whether abroad or in the United States.

The Intermediate Spanish Certificate requires a minimum of 8-20 credits\*\*\* including the successful completion of the required course, SPAN 202. Students can choose from the following courses: 8.0-20.0

SPAN 101	Spanish I
SPAN 102	Spanish II
SPAN 103	Spanish III
SPAN 201	Spanish IV
SPAN 202	Spanish V
SPAN 310 [WJ]	Advanced Writing and Speaking

**Total Credits** **8.0-20.0**

- \* Only students who place at or below the SPAN 202 level are eligible for the Intermediate Spanish Proficiency Certificate.
- \*\* The proficiency certificate is based on standardized outcomes set by the American Council on the Teaching of Foreign Languages (ACTFL, [actfl.org](https://www.actfl.org/) (<https://www.actfl.org/>)).

\*\*\* Demonstrated proficiency through Drexel's placement test in SPAN 101, SPAN 102, SPAN 103, and/or SPAN 201 may reduce the number of required credits to a minimum of 8.0. (Note that completion of placement test[s] do not count toward academic credit.)

The required credits for the certificate is determined by placement level:

\*For students who place into:

101 – 20 credits

102 – 16 credits

103 – 12 credits

201 – 8 credits

202 – 8 credits (student has to take 310 as well)

\*\*Students who place above 202 are encouraged to pursue a language minor.

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