Drexel UNIVERSITY

# CATALOG SUPPLEMENT 2020-2021

**UNDERGRADUATE & GRADUATE**


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# Catalog Supplement

**This catalog supplement is provided to give a brief overview of the new programs and courses that have been approved since the 2020-2021 catalog was published in August 2020.**

*(updated July 27, 2021)*

## New Undergraduate Programs

| Program | College | Description | Requirements | Effective Term |
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| Architectural Studies BS | Westphal College of Media Arts & Design | This program prepares students for entry-level employment in architecture and in fields related to architecture; however this program is not NAAB accredited and does not directly prepare for architectural licensure and registration. It is the ideal foundation for specialization in other related disciplines such as design research, urban strategies, interior architecture and design, construction management, real estate development, digital media and animation. | PDF | Fall 2021 |
| Actuarial Science Minor | College of Arts and Sciences | 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. | PDF | Fall 2021 |
| Behavioral Economics, Business, and Organizations BS | LeBow College of Business: School of Economics | Integrates economic modelling with insights from behavioral sciences to analyze and predict human behavior in economic contexts and organizations. The program combines interdisciplinary coursework in economics, psychology, consumer behavior and organizational behavior with comprehensive training in quantitative and research methods. Students will learn how to model behavior, collect and analyze choice data, conduct experiments, and design interventions to shape individual decisions and organizational outcomes. | PDF | Fall 2021 |
| Climate Change Minor | College of Arts and Sciences | Provides 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. | PDF | Fall 2021 |
| DragonsTeach Certification Minor | School of Education | This minor can be coupled with a variety of STEM majors. It will provide an opportunity to explore STEM education and to develop core knowledge and practices in secondary STEM education. Successful STEM Education minor candidates may build upon the minor's coursework which leads to recommendation for PA teaching certification as a secondary teacher (grades 7-12) in one or more STEM content areas. This minor includes coursework that meets the requirements to be recommended for teacher certification in PA. | PDF | Fall 2021 |
| DragonsTeach Math Certification Minor | School of Education | This minor can be coupled with a variety of STEM majors. It will provide an opportunity to explore STEM education and to develop core knowledge and practices in secondary STEM education. Successful STEM Education minor candidates may build upon the minor's coursework which leads to recommendation for PA teaching certification as a secondary teacher (grades 7-12) in one or more STEM content areas. This minor includes coursework that meets the requirements to be recommended for teacher certification in PA. | PDF | Fall 2021 |

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| DragonsTeach Middle Years Certification Minor | School of Education | This minor can be coupled with a variety of majors. It will provide an opportunity to explore middle level education and to develop core knowledge and practices in education. Successful DTMY Education minor candidates may build upon the minor's coursework to complete the requirements for recommendation for PA teaching certification as a middle level teacher (grades 4-8) in one or more content areas. | PDF | |
| DragonsTeach Middle Years Minor | School of Education | This minor can be coupled with a variety of majors. It will provide an opportunity to explore middle level education and to develop core knowledge and practices in education. Successful DTMY Education minor candidates may choose to build upon the requirements of this minor to further their education and complete PA teacher certification in grades 4-8 through the School of Education's other minor, DragonsTeach Middle Years Certification Minor. | PDF | |
| Economics and Business BS | LeBow College of Business: School of Economics | The combined major in economics and business provides the student with the foundational skills of data analysis in economics and the functional fields of business, with a range of elective courses in both fields and overall flexibility that allow the student to build on those skills in the direction of their own interests. | PDF | Fall 2021 |
| Economics and Data Science BSECDS | Interdisciplinary - LeBow College of Business & College of Computing and Informatics | Economics and Data Science is an interdisciplinary major that prepares students to work in an economy that has been transformed by the emergence of digital commerce and massive amounts of data. Coursework in data science teaches students how to manage, manipulate, and parse data to extract knowledge and insight. | PDF | Fall 2021 |
| Economics and Mathematics BS | LeBow College of Business: School of Economics | The combined major in economics and mathematics is intended for students with a strong intellectual interest in economics, applied mathematics, and econometrics. Emphasizes economics courses with more formal mathematical analysis and contains a high math course requirement, thereby allowing students to understand and conduct more advanced research in economics and quantitative analysis. | PDF | Fall 2021 |
| Economics and Public Health BS | LeBow College of Business: School of Economics | Through the study of both economics and public health, students in this major gain a unique understanding of the factors underlying our health and well-being. The curriculum is interdisciplinary drawing from the physical sciences, economics, and the four areas of public health: epidemiology, community health and prevention, environmental and occupational health, and health management and policy. | PDF | Fall 2021 |
| Law Minor | Kline School of Law | The undergraduate minor in Law provides foundational knowledge of the American legal system and how law interacts with every aspect of society, including policy, technology, and multiple career fields. The choice of electives allows students the opportunity for a more in-depth exploration of how the law applies to their major area of interest or study. | PDF | Fall 2021 |
| Linguistics Minor | College of Arts and Sciences | 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. | PDF | Fall 2021 |
| Special Education PK-12 BS | School of Education | Offers students the opportunity to develop professional knowledge and skills to assist these learners in a full or part time option. | PDF | Fall 2021 |

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| Teacher Education BS: Computer Science | School of Education | This is a recently created certification area within the Pennsylvania Department of Education to develop well-prepared computer science teachers for the state of Pennsylvania. | PDF | Fall 2021 |

## New Graduate Programs

| Program | College | Description | Requirements | Effective Term |
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| Applied Artificial Intelligence/Machine Learning for Data Science Post-Bacc Certificate | College of Computing & Informatics | Provides the quantitative foundations, data analysis and interpretation, machine learning, artificial intelligence, deep learning, and other related electives. | PDF | Fall 2021 |
| Arts in Public Health Graduate Minor | Dornsife School of Public Health | Builds on Philadelphia's renowned commitment to the arts and community, and strengthens the CHP Department's and the Dornsife School of Public Health's focus on neighborhoods, resilience, social determinants of health, and addressing disparities. It also builds on the growing evidence base linking the built environment, creative arts and health (i.e. creative placemaking) as well as the global "Arts and Health" movement focused on social change. | PDF | Fall 2021 |
| Big Data Analytics Post-Bacc Certificate | College of Computing & Informatics | Provides big data analytics skills including cloud computing, distributed computing, natural language processing as well as the opportunity of practicing their skills in the capstone projects. | PDF | Fall 2021 |
| Business Information Technology MS | Interdisciplinary - LeBow College of Business & College of Computing and Informatics | Prepares students for work related to applying information technology in organizations. Students completing the program will understand how information technology is managed in an organizational environment, how it helps to solve organizational problems, and how it can be used to transform an organization. | PDF | Fall 2021 |
| Change Leadership Strategy Post-Bacc Certificate | LeBow College of Business | Students will learn applicable skills that cover both strategic management such as strategic thinking, managing innovation, and forecasting technological change as well as organizational behavior such as vision, communication, and motivation. | PDF | Fall 2021 |
| Change Leadership Strategy Graduate Minor | LeBow College of Business | This minor will enable students to develop knowledge and skills in order to drive change in a variety of organizational and team based settings. The minor builds from courses to enable an understanding of both change generation as well as change execution. Students will learn applicable skills that cover both strategic management such as strategic thinking, managing innovation, and forecasting technological change as well as organizational behavior such as vision, communication, and motivation. | PDF | Fall 2021 |

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| Computing Systems Security and Privacy Post-Bacc Certificate | College of Computing & Informatics | This certificate provides broad technical expertise in software security, network security, and computer privacy. It includes introductory courses in security engineering and computer privacy that cover the technical fundamentals. Electives provide additional in-depth expertise in operating systems, computer networks, and cryptography, which are essential bodies of knowledge to be able to do technical work in modern computer systems security. | PDF | Fall 2021 |
| Creative Education and Entrepreneurship MS | School of Education | This degree program will allow students to develop the skills associated with creativity and entrepreneurial mindsets along with the tools necessary to lead organizations that foster a culture of innovation. Students will experience both foundational and applied aspects of the creative process and entrepreneurial thinking as they engage in project-based learning experiences which will allow them to immediately apply their coursework on issues relevant to their work experiences and environments. | PDF | Fall 2021 |
| Creativity Tools and Techniques for the Classroom and Workplace Post-Bacc Certificate | School of Education | The 9-credit certificate can be completed in either 6 or 9 months with the student simultaneously continuously applying the course content to issues relevant to the their work experiences and environments. In addition to learning the skills and techniques of creativity and innovation, the program details the 'why' behind what 'makes' the tools and techniques work which may be customized and individualize to fit the employees' and organization's unique needs. | PDF | Fall 2021 |
| Digital Transformation Post-Bacc Certificate | Interdisciplinary - LeBow College of Business & College of Computing and Informatics | Prepares students to understand and work with technologies that are reshaping the way contemporary businesses operate and compete. Courses provide fundamental knowledge of the technological landscape, business applications, management, and strategic considerations. | PDF | Fall 2021 |
| Disability and Health Equity Policy Post-Bacc Certificate | Dornsife School of Public Health | Prepares students for leadership roles in supporting effective and equitable policy development, implementation, and evaluation | PDF | Fall 2021 |
| Finance MS | LeBow College of Business | Designed to develop skills to make important strategic financial decisions using data-driven insights. The program offers the option of pursuing a specialization in Strategic Finance and Risk, Corporate Finance, Investments, or FinTech. | PDF | Fall 2021 |
| Hardware Systems Engineering Post-Bacc Certificate | College of Engineering | This graduate certificate will enhance the skills of engineers who work in areas of product design and development related to a variety of industries, but mostly Department of Defense (DoD). | PDF | Spring 2021 |
| Healthcare Simulation MS | College of Nursing and Health Professions | Prepares nurses, healthcare professionals, and simulation technicians to meet future challenges in both academic and professional spaces. Specialized training in simulation-based education, partnered with advanced education in patient safety, prepares students to be leaders in their fields. | PDF | Fall 2021 |
| Higher Education Leadership Post-Bacc Certificate | School of Education | This certificate provides an overview of career paths in colleges and universities, as well as national and international organizations, foundations, associations, and corporations that make up the broader higher education landscape. Opportunities for future practitioners in administrative and leadership positions in higher education settings are explored. | PDF | Fall 2021 |

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| Information Systems Development Post-Bacc Certificate | Lebow College of Business / College of Computing & Informatics | Provides broad knowledge on analyzing, designing and deploying information systems. The program is designed for students who have either a technical or business bachelor's degree from an accredited university with relevant work experience. Courses provide both practical technical and business knowledge. | PDF ( | Fall 2021 |
| Information Technology and Management Post-Bacc Certificate | Lebow College of Business / College of Computing & Informatics | Provides fundamental knowledge, business application, management, and administration of information technology. | PDF | Fall 2021 |
| Information Technology Strategy & Execution Post-Bacc Certificate | Lebow College of Business / College of Computing & Informatics | Provides broad knowledge on software economics, project management, and information technology planning, strategy and execution. | PDF | Fall 2021 |
| Introduction to Data Science Post-Bacc Certificate | College of Computing & Informatics | Provides the basic skills in Python programing, exploratory data analytics using R, and other relevant electives. | PDF | Fall 2021 |
| Instructional Design for e-Learning Post-Bacc Certificate | School of Education | Prepares students to apply the principles, theories, models, tools, and techniques of systematic instructional design in diverse e-Learning settings. This program focuses on the knowledge and skills necessary for aspiring learning design professionals for PK-20 education, adult education, and workplace training who want to add formal instructional design credentials to their portfolio of preparation. It specifically addresses the needs of the millennial learner and collaborative, networked communities seeking to design e-learning experiences. | PDF | Fall 2021 |
| Learning Analytics Post-Bacc Certificate | School of Education | Designed to increase the ability of education practitioners to understand and improve instructional processes, understand the role of data in organizational change, and lead change in educational systems based on multiple data and information sources. The program prepares students to make data-driven decisions about education improvement using a broad range of data collection, analytical, and visualization methods. | PDF | Fall 2021 |
| Middle Level (grades 4-8) Certification: English Language Arts Concentration Post-Bacc Certificate | School of Education | This program addresses the complexities of adolescent development, through discussion of theories. It explores the middle school environment, developmentally appropriate middle school programs, strategies for supporting students through the transition to middle school, and the impact of peer pressure on the middle school child. Includes courses devoted to teaching age-appropriate reading skills, and how to teach and assess writing effectively. | PDF | Fall 2021 |
| Middle Level (grades 4-8) Certification: General Science Concentration Post-Bacc Certificate | School of Education | This program addresses the complexities of adolescent development, through discussion of theories. It explores the middle school environment, developmentally appropriate middle school programs, strategies for supporting students through the transition to middle school, and the impact of peer pressure on the middle school child. | PDF | Fall 2021 |

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| Middle Level (grades 4-8) Certification: Mathematics Concentration Post-Bacc Certificate | School of Education | This program addresses the complexities of adolescent development, through discussion of theories. It explores the middle school environment, developmentally appropriate middle school programs, strategies for supporting students through the transition to middle school, and the impact of peer pressure on the middle school child. Provides training in how to effectively deliver standards-based academic math content based on age-appropriate understanding, and individual and group needs. | PDF | Fall 2021 |
| Middle Level (grades 4-8) Certification: Social Studies Concentration Post-Bacc Certificate | School of Education | This program addresses the complexities of adolescent development, through discussion of theories. It explores the middle school environment, developmentally appropriate middle school programs, strategies for supporting students through the transition to middle school, and the impact of peer pressure on the middle school child. | PDF | Fall 2021 |
| Nursing: Healthcare Simulation MSN | College of Nursing and Health Professions | Specialized training in simulation-based education, partnered with advanced education in patient safety, prepares students to be leaders in their fields. The skills attained in this interdisciplinary simulation-based graduate program are transferable to the clinical environment, clinical teaching, and the classroom. Graduates of the program will have the skills to lead a simulation program in an academic or hospital environment. Graduates will also be prepared to sit for the Certified Healthcare Simulation Educator (CHSE) certification, as soon as they meet the practice requirements. | PDF | Fall 2021 |
| Online Teaching and Learning Post-Bacc Certificate | School of Education | This certificate is designed to address the unique instructional knowledge and skills required to effectively design and deliver instruction online. Courses in this program focus specifically on developing practices using technology and emerging methods for quality teaching and online learning in PK-20 settings, for adult learners, and in corporate settings. | PDF | Fall 2021 |
| Organization and Talent Development Post-Bacc Certificate | School of Education | The Certificate in Organization and Talent Development is post-baccalaureate professional development and micro-credential designed to equip emerging leaders with the competencies and capabilities to design and implement talent development and management, coaching and mentoring, and organization development and change initiatives in any organizational setting regardless of sector and industry. | PDF | Fall 2021 |
| Organizational Security Post-Bacc Certificate | College of Computing & Informatics | This certificate provides broad knowledge on securing the business information infrastructure, cloud security, security policy, assurance and forensics. Courses provide both practical technical and business knowledge. | PDF | Fall 2021 |
| Quantum Technology and Quantum Information Post-Bacc Certificate | College of Arts and Sciences | This certificate accepts applicants who hold bachelor's degrees in Physics, Chemistry, Materials Science and Engineering, and Electrical and Computer Engineering, and offers them opportunities to learn the fundamentals of quantum technology and quantum information. The aim is to provide a strong foundation in this emerging area, with a focus on quantum mechanical foundations, technological advances on quantum level, and real-world applications. The certificate program may also serve as an onramp to a Masters of Science in Physics and Masters of Materials Science and Engineering, if completed with predetermined grade requirements. | PDF | Fall 2021 |
| Software Architecture Post-Bacc Certificate | College of Computing & Informatics | This certificate equips software professionals with state-of-the-art practices for designing, analyzing, documenting, and implementing software architectures. | PDF | Fall 2021 |

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| Software Management Post-Bacc Certificate | College of Computing & Informatics | This certificate is designed for software engineers preparing for or already in a management role. The certificate advances capabilities including requirements engineering, communicating with stakeholders, and managing time, budget, and personnel for software engineering projects. | PDF | Fall 2021 |
| Sport Leadership Post-Bacc Certificate | School of Education | This certificate aims to help students grow their ability to be a leader and communicate effectively with athletes and program stakeholders. The purpose of this program is to help coaches become more of a valued asset to the athletic communities. | PDF | Fall 2021 |
| Strategic and Digital Communication MS | College of Arts and Sciences | Prepares students for careers in a wide range of professional activities relating to communication in media environments and communication contexts that are characterized by advanced digitization. | PDF | Fall 2021 |
| Undergraduate STEM Education MS | School of Education | This program will prepare STEM graduate students to implement evidence-based pedagogies that have been demonstrated to be effective for teaching undergraduate STEM courses. This interdisciplinary program provides a mechanism to allow doctoral students from a STEM discipline to learn about pedagogical approaches appropriate for teaching STEM undergraduates, and research, assessment and evaluation of STEM programs. Such skills, experiences and competencies both diversify the career prospects of these graduate students as well as position them to participate more fully in programs with STEM Education and/or outreach as their “broader impact.” | PDF | Fall 2021 |
| U.S. Education Policy Post-Bacc Certificate | School of Education | Examines the concept of policy as it relates to the education system, and its institutions and their governance and practices, within the United States. This nine-credit certificate is designed for students who are seeking to develop a more sophisticated understanding of the U.S. education system in order to perform more effectively as an education professional. | PDF | Fall 2021 |

## New Accelerated Programs

| Program | College | Description | Requirements | Effective Term |
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| Communication BS / Strategic & Digital Communication MS | College of Arts and Sciences | 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. | PDF | Fall 2021 |
| Communication BA / Strategic & Digital Communication Ms | College of Arts and Sciences | 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. | PDF | Fall 2021 |

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| Computer Engineering BSCE / Cybersecurity MS | College of Engineering | The computer engineering undergraduate degree program is designed to provide our students with breadth in engineering, the sciences, mathematics, and the humanities, as well as depth in both software and hardware disciplines appropriate for a computer engineer. Motivated through discussions with the National Security Agency (NSA), Drexel University's MS in Cybersecurity program prepares students with both academic and practical training to be competitive in today's rapidly changing technical landscape. | PDF | Fall 2021 |
| Computer Engineering BSCE / Electrical Engineering MSEE | College of Engineering | The computer engineering undergraduate degree program is designed to provide our students with breadth in engineering, the sciences, mathematics, and the humanities, as well as depth in both software and hardware disciplines appropriate for a computer engineer. The MS program in electrical engineering prepares students for careers in research and development, and aims to endow graduates with the ability to identify, analyze and address new technical and scientific challenges. | PDF | Fall 2021 |
| Computer Engineering BSCE / Machine Learning Engineering MSMLE | College of Engineering | The computer engineering undergraduate degree program is designed to provide our students with breadth in engineering, the sciences, mathematics, and the humanities, as well as depth in both software and hardware disciplines appropriate for a computer engineer. The MS in Machine Learning is designed to provide students with a strong academic background in machine learning and prepare them for a career as a machine learning engineer or similar position. Using a curriculum based on core machine learning topics, aligned mathematical theory, and signal processing, this graduate program provides a solid mathematical and theoretical understanding of how machine learning algorithms are designed, implemented, and applied to practical problems. | PDF | Fall 2021 |
| Computer Engineering BSCE / Robotics & Autonomy MSRA | College of Engineering | The computer engineering undergraduate degree program is designed to provide our students with breadth in engineering, the sciences, mathematics, and the humanities, as well as depth in both software and hardware disciplines appropriate for a computer engineer. The graduate program in Robotics and Autonomy will educate professionals who are prepared to lead and conduct research, development, and design in robotic systems and technologies. | PDF | Fall 2021 |
| Computer Engineering BSCE / Telecommunications Engineering MSEET | College of Engineering | The computer engineering undergraduate degree program is designed to provide our students with breadth in engineering, the sciences, mathematics, and the humanities, as well as depth in both software and hardware disciplines appropriate for a computer engineer. The MS in Electrical and Telecommunications Engineering combines the expertise of its faculty in electrical and computer engineering, business, information systems, and humanities. | PDF | Fall 2021 |
| Economics BS / Business Administration MBA | LeBow College of Business | Drexel LeBow’s BS/MBA program provides academically qualified undergraduate students with the opportunity to earn both a bachelor’s degree and an MBA within five years of study. Graduating with an MBA and an undergraduate degree provides students with a competitive edge when entering the job market without having the time constraints of typical degree pursuits. This program is offered to all students pursuing a bachelor of science in economics as well as students from select undergraduate programs across the university. | PDF | Fall 2021 |
| Economics BA / Business Administration MBA | LeBow College of Business | Drexel LeBow’s BA/MBA program provides academically qualified undergraduate students with the opportunity to earn both a bachelor’s degree and an MBA within five years of study. Graduating with an MBA and an undergraduate degree provides students with a competitive edge when entering the job market without having the time constraints of typical degree pursuits. This program is offered to all students pursuing a bachelor of arts in economics as well as students from select undergraduate programs across the university. | PDF | |

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| Electrical Engineering BSEE / Computer Engineering MSCPE | College of Engineering | The electrical engineering undergraduate major emphasizes the fundamentals of electrical engineering, hands-on learning, and flexibility in course selection to satisfy diverse career goals. The graduate computer engineering curriculum is designed to: (1) address the needs of students with a variety of different backgrounds; (2) ensure that graduates will have adequate knowledge and skills in at least one area of specialization; (3) meet the immediate needs of working students as well as to adequately prepare full-time students for a real-world technological environment; and (4) equip students with tools to grasp and develop new technologies and trends. | PDF | Fall 2021 |
| Electrical Engineering BSEE / Cybersecurity MS | College of Engineering | The electrical engineering undergraduate major emphasizes the fundamentals of electrical engineering, hands-on learning, and flexibility in course selection to satisfy diverse career goals. The graduate program in Cybersecurity is interdisciplinary in nature and includes courses from Drexel University's College of Computing & Informatics. Topics covered include computer networking, probability concepts, techniques for analyzing algorithms, dependable software design, reverse software engineering, intrusion detection, ethics, privacy, confidentiality, authenticity, and social networking. | PDF | Fall 2021 |
| Electrical Engineering BSEE / Machine Learning Engineering MSMLE | College of Engineering | Electrical engineers contribute to industry and research in diverse areas such as electronic circuits, lasers and photonics, semiconductor devices, computer and communication networks, wireless networks, biomedical engineering, bioinformatics, machine learning, automation and control, and power and energy systems. The undergraduate electrical engineering major emphasizes the fundamentals of electrical engineering, hands-on learning, and flexibility in course selection to satisfy diverse career goals. The MS in Machine Learning is designed to provide students with a strong academic background in machine learning and prepare them for a career as a machine learning engineer or similar position. Using a curriculum based on core machine learning topics, aligned mathematical theory, and signal processing, this graduate program provides a solid mathematical and theoretical understanding of how machine learning algorithms are designed, implemented, and applied to practical problems. | PDF | Fall 2021 |
| Electrical Engineering BSEE / Robotics & Autonomy MSRA | College of Engineering | Electrical engineers contribute to industry and research in diverse areas such as electronic circuits, lasers and photonics, semiconductor devices, computer and communication networks, wireless networks, biomedical engineering, bioinformatics, machine learning, automation and control, and power and energy systems. The undergraduate electrical engineering major emphasizes the fundamentals of electrical engineering, hands-on learning, and flexibility in course selection to satisfy diverse career goals. The graduate program in Robotics and Autonomy will educate professionals who are prepared to lead and conduct research, development, and design in robotic systems and technologies. This MS degree is built upon four foundational concepts in robotics: perception, cognition, control, and action. | PDF | Fall 2021 |
| Electrical Engineering BSEE / Telecommunications Engineering MSEET | College of Engineering | The undergraduate electrical engineering major emphasizes the fundamentals of electrical engineering, hands-on learning, and flexibility in course selection to satisfy diverse career goals. The graduate program in Electrical Engineering / Telecommunications Engineering prepares students to contribute to advances in the rapidly changing field of telecommunications by providing advanced studies. The MS in Electrical and Telecommunications Engineering combines the expertise of its faculty in electrical and computer engineering, business, information systems, and humanities. | PDF | Fall 2021 |
| Elementary Education (PK and Special Education) BS / MS in Teaching, Learning and Curriculum (Advanced Track) MS | School of Education | Offers a flexible, innovative curriculum with a unique emphasis on creative problem solving and the application of the latest technologies to learning. This accelerated degree program allows candidates to pursue a BS in Education (Elementary/PK-4) with Pennsylvania initial state teacher certification and continue for a fifth graduate year to complete the MS in Teaching Learning and Curriculum (Advanced Track). | PDF | Fall 2021 |

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| Elementary Education PK4 BS / Creativity & Innovation MS | School of Education | This BS/MS Education and Creativity & Innovation program attracts pre-service teachers who envision preparing their students for the new economy(s) and jobs, as well as for the challenges and adventures that will continue to unfold throughout the 21st Century. | PDF | Fall 2021 |
| English BA / Law JD | College of Arts and Sciences / Kline School of Law | This accelerated degree program combines the BA in ENGL in CoAS 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 6 years. The study of the English language and literature provides a strong foundation for success in law school. | PDF | Fall 2021 |
| English BA / Strategic & Digital Communication MS | College of Arts and Sciences | The ability to communicate effectively is one of the most sought-after skills by prospective employers industry wide. 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. | PDF | Fall 2021 |
| Entertainment Arts Management BS / Business Administration MBA | Westphal College of Media Arts & Design & LeBow College of Business | This highly attractive program option combines study in the management of the arts and entertainment industries along with the MBA degree. The program is designed to allow students to complete both the bachelor's degree and the MBA in five years. | PDF | Fall 2021 |
| Environmental Engineering BSENE / Peace Engineering MS | College of Engineering | This program integrates peacebuilding into standard engineering curricula, expanding the role that engineers may play in addressing complex technical and sociopolitical challenges. It allows environmental engineering students to incorporate conflict sensitivity into their curriculum and gain skills and contextual knowledge necessary to consider the systems-level effects of environmental engineering projects on peace, social justice and equity. | PDF | Fall 2021 |
| Global Studies BA / Business Administration MBA | College of Arts & Sciences / LeBow College of Business | 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. | PDF | Fall 2021 |
| Global Studies BA / Strategic & Digital Communications MS | College of Arts and Sciences | The accelerated BA in Global Studies and MS in Strategic and Digital Communications 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 addition will further deepen students’ practical and professional experience in the communications field. | PDF | Fall 2021 |
| History BA / Law JD | College of Arts and Sciences / Kline School of Law | This accelerated degree program combines the BA in HIST in CoAS 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 HIST and their JD in 6 years. The study of history provides a strong foundation for success in law school. | PDF | Fall 2021 |
| Law JD / Business Administration MBA | Kline School of Law / LeBow College of Business | The JD/MBA Program prepares students for leadership roles as business executives, investors, transactional attorneys or litigators. Students take courses at the law school and Drexel's LeBow College of Business and earn degrees from both. | PDF | Fall 2021 |

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| Marketing BSBA / Strategic & Digital Communication MS | LeBow College of Business / College of Arts & Sciences | Marketing is one of the most dynamic areas of business because it focuses on satisfying the ever-changing wants and needs of people. Professional marketers research and identify target audiences, develop products and services, formulate pricing strategies, develop advertising and promotional campaigns, and implement methods of distribution so that customers receive products and services where and when they want them. The ability to communicate effectively is one of the most sought-after skills by prospective employers industry wide. 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. | PDF | Fall 2021 |
| Mechanical Engineering BSME / Materials Science Engineering MSME | College of Engineering | Drexel's Department of Mechanical Engineering and Mechanics (MEM) prides itself on providing its undergraduate students with a comprehensive program of courses, laboratories, design projects, and co-op experiences. The curriculum is designed to balance technical breadth (provided by a set of fundamental required core courses) with technical depth (provided by optional concentrations that emphasize particular fields within the profession). The graduate program in Materials Science & Engineering aims to provide an education which encompasses the most recent knowledge base in the materials science and engineering fields in a format suitable for individuals seeking careers in academia and/or industry. | PDF | Fall 2021 |
| Mechanical Engineering BSME / Peace Engineering MS | College of Engineering | This program integrates peacebuilding into standard engineering curricula, expanding the role that engineers may play in addressing complex technical and sociopolitical challenges. It allows mechanical engineering undergraduate students to incorporate conflict sensitivity into their curriculum and gain skills and contextual knowledge necessary to consider the systems-level effects of mechanical engineering projects and designs on peace, social justice and equity. | PDF | Fall 2021 |
| Nursing Leadership in Health Systems Management MSN / Business Administration MBA | College of Nursing & Health Professions and LeBow College of Business | The Drexel Online dual MSN in Nursing Leadership in Health Systems Management/ Master's Degree in Business Administration (MBA) program prepares nurses for a senior leadership role in a fast-changing, increasingly demanding healthcare environment. Designed for part-time attendance by working nurses, this program teaches graduates to solve problems, make decisions, resolve conflict, address legal/ethical issues, and operationalize the mission and goals of the health care delivery organization. | PDF | Fall 2021 |
| Political Science BA / Law JD | College of Arts and Sciences / Kline School of Law | This accelerated degree program combines the BA in PSCI in CoAS 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 PSCI and their JD in 6 years. The study of government and politics provides a strong foundation for success in law school. | PDF | Fall 2021 |
| Psychology BS / Law JD | College of Arts and Sciences / Kline School of Law | This accelerated degree program combines the BS in Psychology within COAS 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 freshmen psychology majors. Finally, this is a "3 + 3" program allowing qualified students to earn their BS and JD in 6 years. | PDF | Fall 2021 |
| Sociology BA / Law JD | College of Arts and Sciences / Kline School of Law | This accelerated degree program combines the BA in SOC in CoAS 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 SOC and their JD in 6 years. The study of sociology provides a strong foundation for success in law school. | PDF | Fall 2021 |
| Teacher Education BS: English / Teaching, Learning & Curriculum (Advanced Track) MS | School of Education | Offers a flexible, innovative curriculum with a unique emphasis on creative problem solving and the application of the latest technologies to learning. This accelerated degree program allows candidates to pursue a BS in Education (Elementary/PK-4) with Pennsylvania initial state teacher certification and continue for a fifth graduate year to complete the MS in Teaching Learning and Curriculum (Advanced Track). | PDF | Fall 2021 |

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| Teacher Education BS: Secondary Mathematics / Teaching, Learning & Curriculum (Advanced Track) MS | School of Education | Offers a flexible, innovative curriculum with a unique emphasis on creative problem solving and the application of the latest technologies to learning. This accelerated degree program allows candidates to pursue a BS in Education (Elementary/PK-4) with Pennsylvania initial state teacher certification and continue for a fifth graduate year to complete the MS in Teaching Learning and Curriculum (Advanced Track). The BS/MS in Elementary Teacher Education and Teaching Learning and Curriculum Advanced track prepares students academically and practically for careers in PK–12 teaching or other educational settings. | PDF | Fall 2021 |
| Teacher Education BS: Secondary Social Studies / Teaching, Learning & Curriculum (Advanced Track) MS | School of Education | The BS/MS in Teacher Education with Secondary Education and MS in Teaching Learning and Curriculum offers a flexible, innovative curriculum with a unique emphasis on creative problem solving and the application of the latest technologies to learning. This accelerated degree program allows candidates to pursue a BS in Education (Secondary/Social Studies) with Pennsylvania initial state teacher certification and continue for a fifth graduate year to complete the MS in Teaching Learning and Curriculum (Advanced Track). | PDF | Fall 2021 |

## New Undergraduate Courses

| Course No. | Title | Description | Effective Term |
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| ACCT 200 | Emerging Issues in Accounting & Tax | This course focuses on emerging issues facing businesses with an accounting and tax lens. Using an experiential approach, the class will feature robust class discussions, research, and guest speakers in and outside the accounting profession to study select issues. | Fall 2021 |
| ACCT 327 | Financial Statement Analysis | In this course you will develop a deeper understanding of how to interpret and analyze a firm's financial statements to evaluate a firm's strategy, valuation, and sustainability. You will use traditional analysis and valuation tools including ratio analysis, trend analysis, and common sizing, as well evaluation of qualitative information. Additionally, you will learn and apply data analytics and visualization to convey financial information more effectively. | Fall 2021 |
| ACCT 350 | Accounting Information Systems | The rapid evolution of information technology (IT) is changing how accounting professionals work today. In this course you will gain a conceptual overview and hands-on experience with relevant topics including: Semantic modeling and event driven accounting information systems (AIS); development, documentation, internal control, and audit of AIS, with reference to the COBIT framework; XBRL and its role in financial reporting; the use of database management software and accounting software in developing modern AIS including the concept of enterprise resource planning/ enterprise system (ERP/ES). | Fall 2021 |
| ACCT 420 | Emerging Industry Analysis: Accounting Perspective | Examine and critically evaluate a select emerging industry from an accounting perspective. The course takes an experiential approach to accounting analysis using case studies, robust class discussions, and in-depth research. Students will apply their cross-disciplinary knowledge and skills to study the industry from historical, economic, social, and legal viewpoints as well as considering the value proposition to diverse stakeholders. | Fall 2021 |
| AE 440 | Responsive Urban Environments | This is a real-time Global Classroom that meets simultaneously in Philadelphia and Milan, Italy. The Responsive Urban Environment (RUE)looks at the city through the lens of ecosystem management. RUE considers the city as a complex network of interrelated systems that rely on each other to maintain system balance. RUE helps students understand the close relationship between the engineering design choices that take place at the scale of the building and neighborhood to the environmental impacts that occur at the wider scale of the urban level. | Fall 2021 |

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| AE 441 | Bio-inspired Design | This course introduces bio-informed sciences into engineering design to help students develop engineering strategies for the built environment to promote human health and wellbeing. Topics covered include neuroscience, photobiology, biomimicry, biophilia, and chronobiology. | Fall 2021 |
| ARCH 466 | The Architectural Detail | This seminar will explore architectural detail as a key to understanding of the craft and intrinsic nature of time, technology and cultural importance of the building. | Fall 2021 |
| ARCH 490 | Capstone Project I | This course is the first part of a two-term capstone project consistent with the student's curricular concentration, and relevant to their professional and academic goals. This course is devoted to the research and writing of a capstone research paper on architectural theory, technology and/or design that will lead to the capstone project in the second term. | Fall 2021 |
| ARCH 492 | Capstone Project II | This course is the second part of a two-term capstone project consistent with the student's curricular concentration, and relevant to their professional and academic goals. This course is devoted to the continued research in architectural theory, technology and/or design and the completion and presentation of a capstone project. | Fall 2021 |
| ARTH 331 | Global Material Culture | Understanding "global" geographically and as a method of material culture analysis, this class examines how artifacts accrue new meanings, forms, and agencies as they circulate across cultures, and the social, political, and aesthetic implications of these processes. | Fall 2021 |
| BLAW 320 | Information Privacy, Data and the Law | As technological advances continue to evolve, companies are often left to wonder what obligations they have to protect privacy. With the additional threats to privacy, legislatures and the courts are increasingly looking to protect personal data. This course will examine aspects of the evolving world of privacy and the law, including issues surrounding personal data of all forms (consumer, financial and biometric data; employment, health, education, social media and government records). Foundational privacy concepts and principles will be discussed, comparing the approaches to privacy domestically and abroad. At the end of the course, students will understand the core components of privacy, the cultural and legal variations in privacy law, and operational protections companies should give to privacy issues. | Fall 2021 |
| BMES 455 | Medical Technology Innovation I | The Medical Technology (MedTech) Innovation series of courses aim to take students on an international innovation journey from 'concept to commercialization' starting from R&D bench all the way to the healthcare trench. Undergraduates enrolled in MedTech I are introduced to fundamental concepts and established practices that underlie medical technology innovation in general, and technology assessment and due diligence in particular. This course is offered as part of the Global Innovation Partnership (GIP) curriculum. | Fall 2021 |
| BMES 490 | Senior Thesis: Capstone Design Experience | This course is for BS / MS seniors in biomedical engineering who are completing a thesis as their capstone design experience. | Fall 2021 |
| BUSN 105 | Applied Business Analysis | This course is an introductory course in using spreadsheets as a tool to solve business problems. Through a series of hands-on exercises, the student will create, edit, and format worksheets while addressing problems in each of the functional areas including: marketing, accounting, finance, sports management. Topics include: creating, saving, retrieving, formatting, editing, printing, creating formulas, using functions, naming cells and ranges, creating tables, creating charts, defining range names, validating data, sorting and filtering data, maintaining file organization, and using templates. Each week, students will apply their knowledge of spreadsheets to explore business frameworks and approaches which will aid them in their co-op's and higher-level coursework. | Fall 2021 |

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| BUSN 350 | Thinking (A)Broad - An Intensive Course Abroad in Business | This course will provide students with a one-week global experience as an intensive course abroad (ICA). It will be combined with a pre-term or post-term program instruction during the term offered. Course themes will vary depending upon the location and topic of focus, as well as with any partnering institutions, universities or companies. Faculty approval is required and students must apply through the Drexel Education Abroad website. There will be a program fee for the travel portion of the course. This course can be taken as an Honors option with departmental approval. Examples include Global Projects and Teams in Germany, Global Sustainable Leadership in the UK, and Global Project Leadership in The Netherlands. | Fall 2021 |
| CATX T280 | Special Topics in Creative Arts Therapies | This course focuses on topics of current interest to faculty and students; specific topics for each term will be announced prior to registration. May be repeated for credit if topics vary. | Fall 2021 |
| CATX T480 | Special Topics in Creative Arts Therapies | This course focuses on topics of current interest to faculty and students; specific topics for each term will be announced prior to registration. May be repeated for credit if topics vary. | Fall 2021 |
| CHE 381 | Solutions to Climate Change | Climate change will likely be the most important challenge of our time. Drawdown is the theoretical point in the future when greenhouse gas concentrations in the atmosphere peak and then begin to decline, reversing the trend of global warming. Can we get there? How? We will examine the potential impacts of dozens of top solutions to understand where our actions have the most leverage. Solutions range from technical (green energy, buildings, and transportation) to non-technical (food choices and education). The best solutions not only mitigate global warming but also lead to economic benefits and a more just and equitable society. | Fall 2021 |
| COM 250 | Diversity in Media | Students are invited to examine how ideas about diversity and diverse peoples in America and other places are created and experienced through media. The class will center around questions such as who creates and controls major images and ideas of diversity, and who consumes those ideas and why? How are social and ethnic groups recognized and how does that recognition change historically through various media? How do micro- and macro- politics of diversity play out in media and how do producers and consumers of media affect mainstream and non-mainstream ideas of diversity? | Fall 2021 |
| CS 429 | Software Defined Radio Laboratory | This laboratory course takes a Software-Defined Radio (SDR) implementation approach to learn about modern analog and digital communication systems. Software defined radio uses general purpose radio hardware that can be programmed in software to implement different communication standards. We will begin by discussing the basic principles of wireless radio frequency transmissions and leverage this knowledge to build analog and digital communication systems. Knowledge of these techniques and systems will provide a platform that can be used in the class project for further exploration of wireless networking topics such as cybersecurity, cognitive radio, smart cities, and the Internet of Things. | Fall 2021 |
| EAM 215 | Writing for Arts Managers | This course provides instruction and practice in a variety of written formats used in arts and entertainment. The course also covers writing for a variety of stakeholders. | Fall 2021 |
| EAM 220 | Law for Entertainment and Arts Management Managers | Examines the relationship between the arts and law, including intellectual property (copyrights and contracts), license fees, labor-management and representation agreements, liability, first amendment issues, business entities and fundraising | Fall 2021 |

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| EAM 221 | Copyrights and Trademarks | This law course for EAM students discusses topics relating to copyrights, intellectual property rights, and royalties. The course will review the basic principal tenets of copyright and trademark law and the practical aspects as applied to entertainment and arts-related issues. This course will provide you with a working knowledge of trademarks and copyrights and how these rights impact business issues in the arena of entertainment and art such as how copyright and trademark rights are created and protected, “work for hire” and related ownership issues, and how and when copyright and trademark rights are infringed. | Fall 2021 |
| EAM 225 | Financial Management for Entertainment & Arts Managers | This course explores the major elements of financial accounting in cultural institutions. Students will learn to perform accounting tasks, read and analyze financial statements, implement an effective financial control system in the specific context of arts & cultural organizations. Student will learn how to use financial information as part of a data-informed decision-making process. | Fall 2021 |
| EAM 288 | eSport Entertainment Management | As one of the fastest growing market sectors in electronic media, eSport has become an important field where entertainment management students can apply their skills. This 3-credit course explores the creation, monetization and management of eSport events. | Fall 2021 |
| EAM 295 | Streaming Entertainment Management | Streaming is transforming the electronic media landscape and providing unique opportunities for managers. This course explores the creative genres succeeding in streaming and how streaming content is conceived, sold, produced, exhibited, and distributed worldwide. | Fall 2021 |
| EAM 308 | Entertainment Promotion and Branding | This writing intensive course will provide students in-depth information about the essential area of publicity and promotion for the entertainment and arts industries. Through the art of public relations (PR), students will learn to maximize the potential for news coverage in print, electronic (radio, TV) and online sources. Focus will be placed on the process of writing for public relations and promotion in both style and content. By writing multiple drafts of biographies, press releases, pitch letters, students will hone skills to creatively present your message to media outlets, from local to international. | Fall 2021 |
| EAM 338 | Entertainment Enterprise | This course challenges students to learn how to conceive, plan, build and evaluate an entertainment/media business. Expanding upon information about business ideation and formulation, this course provides students with a learning lab where they can apply theory to practice in entertainment, arts and media enterprises. | Fall 2021 |
| EAM 420 | Arts, Culture and Society | Arts, Culture & Society examines the role of art’s impact on society, exploring key cultural and public policy issues including community standards and censorship, and different approaches to public support and funding. Readings, videos, discussions and projects will explore questions as to the social functions of the arts, the use of art for advocacy and patronage over the world, and the impact of art on society and economic development. The geographic focus of this course is global and will compare art, including commercial entertainment and the media, and cultural practices and impacts from various cultures around the world. | Fall 2021 |
| EAM 422 | Human Resources in the Creative Industries | This course is designed to give students an overview of the human resources field and to share the many ways that the creative industries conform to and diverge from human resources norms that stem from other fields. In addition to equipping students with a general understanding of how to engage with and manage staff, this course will help students become better stewards of their own careers within the industry. | Fall 2021 |
| ECE 304 | Remote Sensing and Control | This course will teach students the various steps involved in the construct a fundamental remote monitoring and control system over a local area network and Bluetooth/Bluetooth Low Energy, from the ground up. The course will use hardware and software to accomplish this goal to enhance the student learning experience. | Fall 2021 |

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| ECE 310 | Machine Learning Engineering Practicum | This course emphasizes how to gather data then train, test, and deploy practical machine learning systems using modern software libraries, with an emphasis on scikit-learn, Keras on TensorFlow, and TensorFlow Agents. After garnering working familiarity with learning architectures including linear regression, support vector machines, decision trees, and deep neural networks, students will shift to practicing techniques that leverage state of the art published models via transfer learning. This is a hands-on project-focused course integrating coding activities into lectures. To provide the broadest applicability, datasets will range from rich text, to financial time series, to sound, images, and video, as well as data garnered through game play. | Fall 2021 |
| ECE 430 | Software Defined Radio Laboratory | This laboratory course takes a Software-Defined Radio (SDR) implementation approach to learn about modern analog and digital communication systems. Software defined radio uses general purpose radio hardware that can be programmed in software to implement different communication standards. The course covers basic principles of wireless radio frequency transmissions and leverage this knowledge to build analog and digital communication systems. Knowledge of these techniques and systems will provide a platform that can be used in the class project for further exploration of wireless networking topics such as cybersecurity, cognitive radio, smart cities, and the Internet of Things. | Fall 2021 |
| ECE 431 | Modern Transistors | This course discusses the physics of the operation of modern transistors. It covers the operational principles of Bipolar Junction Transistors (BJTs), Heterojunction Bipolar Transistors (HBTs), Field Effect Transistors, (FETs), starting with MOSFETs. High Electron Mobility Transistors (HEMT) will also be discussed. Students will perform independent individual research on an (opto)electronic device of their choice, which they present to class through written and oral reports. | Fall 2021 |
| ECE 432 | Modern Photonics | This course will teach students the principles that underline the interaction of light and matter, leading to the understanding of the basis of operation of photonic devices such as lasers, LEDs, solar cells, and photodetectors. The course starts with how understanding of light spectrum that is generated due to heat started the development of the field of quantum mechanics by Max Planck. This is then to include a quantum theory of light, on which basis absorption, stimulated and spontaneous emission are explained. Interaction of light with semiconductors is analyzed and shows how lasers, LEDs and photodetectors work, and how modern photonics is able to solve great challenges of humanity, such as lighting or optical data communication. | Fall 2021 |
| ECE 471 | Introduction to VLSI Design | This is an introductory course where systematic understanding, design and analysis of digital VLSI integrated circuits will be covered. The course will begin with a review of CMOS transistor operation and semiconductor processes. Logic design with CMOS transistor and circuit families will be described. Specifically, layout, design rules, and circuit simulation will be addressed. Performance metrics will be analyzed in design and simulation. | Fall 2021 |
| ECE 472 | Custom VLSI Design & Analysis I | This is the first of two courses offered on Custom Very Large Scale Integration (VLSI) circuit and systems design and analysis. An understanding of VLSI integrated circuits is achieved through circuit design and analysis. This course focuses exclusively on high performance digital CMOS VLSI circuit and systems design, although some topics on mixed-signal circuits are also addressed. | Fall 2021 |

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| ECE 473 | Custom VLSI Design & Analysis II | This is the second of two courses offered on Custom VLSI circuit and systems design and analysis. An understanding of VLSI integrated circuits is achieved through circuit design and analysis. This course focuses exclusively on high performance digital CMOS VLSI circuit and systems design, although some topics on mixed-signal circuits are also addressed. The primary focus is on-chip power management. Power generation techniques are discussed and different power converters are analyzed. Power distribution networks are presented with a focus on the different distribution architectures and output impedance characteristics. Techniques to reduce power supply noise are also provided. A secondary focus examines substrate noise in mixed-signal systems and techniques to reduce substrate noise. | Fall 2021 |
| ECE 481 | RF Passive Networks | This course will teach students the concepts of reflection and transmission on distributed transmission lines of TEM, quasi-TEM, and TE/TM from electromagnetic fields and related to phenomenological scalar V/I in frequency and time domains, while the graphical technique using Smith Chart is employed for design of narrowband and broadband distributed/ lumped impedance matching techniques. Multi-port network concepts of S/Z/Y matrices and utility of ABCD and T matrices are introduced from network perspective. Design, analysis, and synthesis of power dividers, dual directional couplers, and variety of filter design using insertion loss technique and their distributed realization at RF frequencies. | Fall 2021 |
| ECE 482 | RF Transceiver Electronics | This course will teach students the concepts of RF transceivers using active microwave circuits and discuss their interactions with radiating systems. The course covers linear RF electronic circuits of switches, phase shifters (dispersive and non-dispersive), limiters, amplifiers, oscillators (fixed and variable frequency), Mixer (single and balanced), and multipliers (resistive and reactive) realized using semiconductor devices (diodes/transistors). CAD simulations are a practical learning component and is designed to prepare students for various industrial design and telecommunication applications. | Fall 2021 |
| ECE 483 | Radiation and Lightwave Engineering | This course will teach students the concepts of antennas and photonics using electromagnetics and discuss their utility in design of telecommunications and remote sensing. Antennas are introduced in terms of E&M fields (radiation pattern, polarization), circuits (radiation impedance/admittance, efficiency, bandwidth), and system concepts (directive gain). Examples of line antenna (short electric/magnetic dipoles, arbitrary length dipoles, small loops, travelling and standing wave), array antennas (linear and planar), and aperture radiators (slot, patch, and reflectors). Lightwave propagation in optical fibers (step index, graded index, polarization maintaining) and dielectric structures (slabs, ridge waveguide, buried waveguides) are discussed. | Fall 2021 |
| ECES 461 | Medical Robotics | This course reviews the emerging multidisciplinary field of Medical Robotics. The course, which runs as a seminar, will review the technological, clinical, ethical and market perspectives of this rapidly evolving area of robotics and automation. A large variety of recent, clinically proven, therapeutic, and diagnostic medical automation systems and tools will be introduced, demonstrated, and analyzed. A brief review of introductory robotics concepts, terminology and background will be provided during the first few weeks of this seminar/course. | Fall 2021 |
| EDUC 104 | Supporting Learners through Classroom Partnerships | This 1-credit course works in partnership with local teachers to support Drexel students to work one-on-one and in small groups with K -12 students on particular learning goals. This course is repeatable for credit and requires background checks and clearances to work in schools. | Fall 2021 |
| EDUC 106 | First Year Seminar: A Case of Schools and Cities | In this course, students will examine the relationship between city school district and cities and the role of politics, race and poverty in school closings in a major US city. | Fall 2021 |

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| EDUC 107 | First Year Seminar: Exploring Pedagogies | In this course, students will discuss the education landscape within and outside of the US focusing on the role of class, race and gender in perpetuating a range of structures and systems and the ways that many of those may not be designed to support all learners. | Fall 2021 |
| EDUC 108 | First Year Seminar: Designing Learning Spaces | In this course, students will examine how researchers design and implement learning activities and explore learning spaces as a way to foster engagement and youth empowerment. | Fall 2021 |
| ESL 082 | Reading and Vocabulary 8 | Reading and Vocabulary level 8 is an advanced English as a second language course (CEFR Level C1), which is designed to prepare students to read academic texts for undergraduate and graduate study. This is the final course in an eight-course sequence on developing academic reading skills. Students have to complete level seven or take a placement exam before taking this course. Successful completion of this course will result in completion of IEP reading and vocabulary. | Fall 2021 |
| FIN 420 | Emerging Industry Analysis: Finance Perspective | This course will be a seminar in analyzing a selected emerging industry from a finance perspective. It will require students to apply cross-disciplinary knowledge and skills to study the industry from historical, economic, social, and legal viewpoints. The course will use an experiential approach and apply financial analysis to analyze this industry through case studies, robust class discussions, and in-depth research. | Fall 2021 |
| FYI 211 | FYES Peer Leadership Practicum | The goal of this course is to prepare students for being leaders by serving as mentors to first-year students to help them succeed as part of the First-Year Exploratory Studies (FYES) Program and support the program outcomes of FYES. This course covers the fundamental skills students will need to be supportive resources to first year students. This seminar will focus on developing the necessary leadership and communication skills that will be useful in their mentoring role as well as in other settings. | Fall 2021 |
| GST T180 | Special Topics in Global Studies | Topics decided upon by faculty will vary within the area of study. | Fall 2021 |
| HNRS 210 | Mentorship I | Students will receive an overview of what it means to be a leader and how to support the first year student experience including: preparing for Honors Student Orientation, mentor programming and best practices. | Fall 2021 |
| HNRS 220 | Mentorship II | Students will survey leadership models and explore topics including group dynamics, maintaining successful interpersonal relationships and conflict resolution. | Fall 2021 |
| HNRS 410 | Mentorship Practicum I | Students will participate in the Honors Mentor Program and complete mentorship programming requirements that will support first year students through academic and social initiatives. | Fall 2021 |
| HNRS 420 | Mentorship Practicum II | Students will participate in the Honors Super Mentor Program and complete mentorship programming requirements that will support first year students through academic and social initiatives as well as initiatives to oversee other upperclassmen mentors. | Fall 2021 |
| HNRS 430 | Community Engagement | Students will explore community based initiatives and will unpack what community means to them in the context of Drexel, Philadelphia and the world around them. | Fall 2021 |
| HRM 410 | Current Topics in Hospitality | The course provides an opportunity for students to engage with members of all segments of the hospitality industry to discuss their careers and the current state of each industry segment from a professional perspective. | Fall 2021 |
| HSAD 314 | Aging in a Global Context | This course explores essential aspects of aging and provides a multidisciplinary perspective on global aging. It provides an important context for understanding the global patterns of aging around the world, including the demographic and epidemiological patterns. The course emphasizes how these changes have affected the support and services for those over 60 around the world. International efforts to address the emerging global opportunities and challenges related to population aging will also be discussed.The course will cover specific programs and patterns in specific countries. | Fall 2021 |

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| HSCI 380 | Strength and Conditioning | This course addresses the selection and implementation of strength, power, speed, agility, endurance, and hypertrophy training methods with an emphasis on periodization programs. Components of the course include discussion of physiological principles and strength assessment as they relate to resistance exercise training. | Fall 2021 |
| HSCI 381 | Exercise for Clinical Populations | This course builds upon the foundational principles of exercise testing and prescription in clinical populations living with various forms of cardiovascular, metabolic, and inflammatory chronic diseases and health conditions. The impacts of exercise on each condition are examined, along with the special considerations required when prescribing exercise for people in the discussed conditions. | Fall 2021 |
| LAW 101 | Law & Society | This course analyzes “law in action”: how law works in the everyday lives of individuals and institutions by exploring the complex place of law and legal institutions in the United States. We will examine official legal institutions (such as courts and legislatures) and actors (including police, lawyers, judges) as well as the individuals whose lives are affected by law — those of us who come in contact with law as plaintiffs, witnesses, victims, or defendants. We will address the role that law plays in organizing contemporary life, including its influences on social and political interactions, how law constructs and responds to differences, and mediates, remedies, and reinforces unequal access to power. | Fall 2021 |
| LAW 102 | Law Lab | This course provides opportunities for students to see how law operates in a variety of settings, from prisons to boutique law firms. Class meetings will include trips to museums, courtrooms, and legislatures, guest lectures by legal professionals, and other hands-on, experiential learning activities. | Fall 2021 |
| LAW 110 | American Legal Systems | This course provides a comprehensive introduction to the American legal system and exposes students to the multiple forms of lawmaking and sources of legal and regulatory power present in America today. Students will learn to differentiate between common law created by judges, statutes and laws created by the legislature, and regulations promulgated by executive agencies. The class will explore the relationship between federal and state law, the role of federalism and the legal underpinnings of the checks and balances system that aims to keep equilibrium between the judicial, legislative, and executive branches. The course will also examine the American system of litigation and the structure of the court system, the jurisdiction of federal and state courts, and the litigation process. | Fall 2021 |
| LAW 201 | The Role of the Common Law in the American Legal System | This class introduces students to the concept of common-law lawmaking, with focus on the areas of contract, tort (personal injury) and property. It will also address the history of how the common law developed from English law and provide a brief comparison to civil law systems used in other countries. | Fall 2021 |
| LAW 210 | Public Law: Legislation and Regulation | This course is intended to introduce the student to lawmaking through statutes and agency regulation in the modern regulatory state. The course will analyze how statutes are created and passed and provide students with an introduction to statutory interpretation. It will also introduce students to the administrative state, describing the relationship between administrative agencies and other branches of government and discussing the creation and enforcement of regulation. | Fall 2021 |
| LAW 211 | Public Law II | This course introduces students to foundational concepts in public law, such as the types of conflicts courts can adjudicate, how individuals and groups gain access to courts, identifying state actors, and the role of due process in legal proceedings. | Fall 2021 |

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| LAW 215 | Law & Religion in America Today | Despite the official separation of church and state, religious questions often arise and need to be adjudicated in secular courts. This course explores which rights are protected by the Constitution's free exercise clause and examines the boundaries of religion and religious protections in a secular context. Specifically, the course examines the ways in which secular American courts handle issues that arise in communities that follow religious law but also use the civil courts to settle their disputes. Students will study the ways in which secular courts must decide questions from marriage and divorce to raising children and custody issues in a wide variety of faith communities and how those courts incorporate or distance themselves from the religious frameworks in which those disputes arise. | Fall 2021 |
| LAW 301 | Legal Reasoning | This class introduces students to the study of legal reasoning, including topics such as: the basic forms of argument, reasoning and inference typically found in legal materials; the nature of precedent and the relationship of normative arguments in law to conceptions of justice. | Fall 2021 |
| LAW 304 | Comparative Legal Institutions | This course complements students' study of US law by expanding their understanding of international legal systems, institutions, and individual and group rights. Students will learn about judicial institutions in various nations and examine how similar issues are handled in countries with different legal structures and guarantees. | Fall 2021 |
| LAW 305 | Mediation, Arbitration, and the Law of Alternate Dispute Resolution | This course explores the theory, practice and law of mediation and arbitration, with an emphasis on the roles that both non-lawyers and lawyers play in these processes. The course will include simulated mediations and arbitrations to foster a deeper understanding of the material and to develop skills in resolving disputes without litigation. | Fall 2021 |
| LAW 310 | Environmental Law | This course focuses on how legal institutions have been used to respond to environmental problems. It provides a basic introduction to federal environmental laws relevant to air and water pollution, hazardous and solid waste and endangered species. | Fall 2021 |
| LAW 312 | Immigration Law | This course examines how the U.S. immigration system makes legal determinations about who is permitted to enter the United States, and who is forced to leave. Readings focus on statutes, court cases, and administrative regulations to understand how immigration law functions in theory and in practice. | Fall 2021 |
| LAW 340 | Regulating the Commons | This course focuses on the notion of the commons and how commonly owned resources should be regulated. It focuses on environmental regulation as the paradigm of commons regulation before turning to the notion of regulating the "cybercommons". | Fall 2021 |
| MEM 321 | Fluid Mechanics II | Covers differential analysis of fluid flow, including the Euler's equations, potential flows, and the Navier-Stokes equations; angular momentum and its application to turbomachinery; external flow and boundary layers, and an introduction to compressible flow. | Fall 2021 |
| MENA T280 | Special Topics in Middle Eastern and North Africa Studies | Topics decided upon by faculty will vary within the area of study. | Fall 2021 |
| PBHL 422 | Health and Human Rights Research Methods | This seminar focuses on the application of human rights norms and tools to public health and particular challenges within public health. Building upon human rights frameworks, we will discuss current debates about the usefulness of a "human rights approach" to health, the methods and ethics of health-related human rights research, and case studies of human rights investigations and advocacy. The case studies are intended to examine how human rights abuses, including violations of economic and social rights and civil and political rights, can be understood as determinants of health. | Fall 2021 |

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| PENG 445 | Introduction to Peace Engineering | Developed in partnership with professional peacebuilders from the PeaceTech Lab and USIP's Academy for International Conflict Management and Peacebuilding in Washington, DC, this course introduces engineering students to the concepts and skills practiced in the field of international peacebuilding and conflict transformation. This course provides students with first-hand accounts of peacebuilders describing challenges and opportunities in their work, short presentations outlining key theories and concepts that guide that work, and opportunities to think about how this knowledge, skills, and attitudes can be applied to real-life peacebuilding dilemmas. | Fall 2021 |
| PENG 450 | Conflict Management for Engineers | As the pace of science and technology innovation increases, so too does the role of engineers in solving some of the world's toughest challenges. The prevention of violent conflict and the pursuit of a sustainable peace is just such a challenge. Developed in partnership with professional peacebuilders from the PeaceTech Lab and the US Institute of Peace's Academy for International Conflict Management and Peacebuilding in Washington, DC, this course introduces engineering students to the concept and skills they will need in order to use technology expertise in service of conflict-affected communities.This course provides students with an introduction to the theory and practice of conflict analysis, strategic peacebuilding and negotiation. | Fall 2021 |
| PROD 240 | Smart Product Design | To explore ideas around tangible interaction, this course will introduce the smart product development process and combine basic microcontroller programming with digital application development to conceptualize responsive products, environments, and/or materials. Students will design and prototype functional devices that operate using embedded technologies that enhance user experience. | Fall 2021 |
| PROD 265 | Introduction to CAD Product Design | Introduces the creation and manipulation of three-dimensional digital models and the resultant two-dimensional drawings using computer techniques. | Fall 2021 |
| PRST 331 | Workforce Diversity and Inclusion | In this course, students will begin with a foundational look at diversity and inclusion in the workforce, examine their own perceptions, and examine companies with varying degrees of success in fostering D&I- and consumer trust-in order to learn from successes and failures. This course will take a practical approach, asking students to analyze scenarios drawn from real life to identify best practices and skills needed to demonstrate teamwork capabilities in today's workforce. | Fall 2021 |
| PSCI 338 | Cities and Climate Change | In this course we will survey the known and emerging impacts of climate change on cities. We will learn key concepts and paradigms that are used by urban climate change experts. We will examine case studies that highlight the interdisciplinary and cross-sectoral approaches used to address urban climate change. These include local and regional policies, nongovernmental and governmental research, and experiments at the intersection of health, ecology, and infrastructure. | Fall 2021 |
| PSY 427 | Behavioral Neuroeconomics | This course examines the convergence of neuroscience, psychology, sociology, and economics and how it is used to investigate and explain the effects of psychological factors on decisions and their deviations from the rational. This course will draw heavily on recent evidence from brain-imaging techniques, especially as they explain and expand on the models of early behavior economists. | Fall 2021 |
| REMD 340 | Urban Finance and Environmental Planning | This course has a quantitative focus and covers topics at the intersection of urban finance, city planning, and urban environmental policy. Students interested in careers as developers, planners, elected officials, regulators, and members of nonprofit advocacy groups will learn how to design and evaluate policies that affect the real estate sector of urban economies. | Fall 2021 |

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| SOC 281 | Gentrification and Neighborhood Change | This course examines the rise, fall, and change of urban neighborhoods. Students will be introduced to key debates surrounding processes such as neighborhood disinvestment/decline, urban renewal, and gentrification. Course content will focus on the consequences of neighborhood change for urban communities. Students will learn to weigh the positive and negative, and the real and perceived consequences of gentrification, as well as evaluate urban policies for managing neighborhood change. | Fall 2021 |
| TAX 411 | Tax Research | In this course you will develop the skills of tomorrow's tax consultant to maintain your edge in providing value to the client in an efficient and effective manner. That value is to professionally resolve a tax issue by means of thinking creatively, conducting basic research using primary tax authority sources, communicating findings in a concise manner, and maintaining ethical standards. | Fall 2021 |
| TAX 425 | Tax & Business Strategy | The adage is that there are only two things that are guaranteed: Death and Taxes. Since taxes influence each of us daily, it is important to have an appreciation for the tax law and how it influences a person or a business. Students will apply their cross-disciplinary knowledge and skills to study the intersection of strategy and taxes. This course does not attempt to make a person a tax accountant but rather a businessperson with the savvy to ask the rights questions. | Fall 2021 |

## New Graduate Courses

| Course No. | Title | Description | Effective Term |
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| ABA 780 | Capstone in ABA I | This course is the first of a two-part capstone sequence for students in the Master's in ABA program. In this course students will conceptualize and design a research project using single subject design methods. By the end of this course, students will have secured a site for data collection, conducted a literature review, and designed a methodology for their proposal. | Fall 2021 |
| ABA 781 | Capstone in ABA I | This course is the first of a two-part capstone sequence for students in the Master's in ABA program. In this course students will conceptualize and design a research project using single subject design methods. By the end of this course, students will have secured a site for data collection, conducted a literature review, and designed a methodology for their proposal. | Fall 2021 |
| AE 540 | Responsive Urban Environments | This is a real-time Global Classroom that meets simultaneously in Philadelphia and Milan, Italy. The Responsive Urban Environment (RUE) looks at the city through the lens of ecosystem management. RUE considers the city as a complex network of interrelated systems that rely on each other to maintain system balance. RUE helps students understand the close relationship between the engineering design choices that take place at the scale of the building and neighborhood to the environmental impacts that occur at the wider scale of the urban level. | Fall 2021 |
| AE 541 | Bio-inspired Design | This course introduces bio-informed sciences into engineering design to help students develop engineering strategies for the built environment to promote human health and wellbeing. Topics covered include neuroscience, photobiology, biomimicry, biophilia, and chronobiology. | Fall 2021 |
| AE 555 | Data Acquisition and Analytics in Built Environment | Introduces concepts on data acquisition, data storage and data analytics in the context of built environment. Students will be learning sensor technology and database design and operation in buildings, as well as novel concepts of leveraging data science for engineering challenges. | Fall 2021 |
| BACS 542 | Addictions Practicum Supervision II | This course facilitates student development of foundational skills necessary for the practice of an advanced addictions counselor. Students are expected to spend two hours weekly in group supervision (with an approved supervisor) and 10 hours of addictions counseling practice. | Fall 2021 |

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| BACS 543 | Addictions Practicum Supervision III | This course facilitates student development of foundational skills necessary for the practice of an advanced addictions counselor. Students are expected to spend two hours weekly in group supervision (with an approved supervisor) and 10 hours of addictions counseling practice. | Fall 2021 |
| BACS 573 | Group Dynamics and Techniques | This course prepares students to develop advanced skills necessary for group facilitation. Students engage in readings, didactic learning, and experiential activities to develop their group facilitations skills. | Fall 2021 |
| BACS T580 | Special Topics in Behavioral & Addictions Counseling | This course focuses on topics of current interest to faculty and student in the fields of behavioral and addictions counseling; specific topics for each term will be announced prior to registration. May be repeated for credit if topics vary. | Fall 2021 |
| BIO 701 | Bioscience Grant Writing | This writing-intensive course provides the fundamentals to write effective research grant proposals for graduate students with research thesis projects in life and environmental sciences. The course focuses on grantsmanship skills and mechanics, and trains students in articulating well-reasoned hypotheses and clear rationales, as well as organizing and discussing experimental approaches, caveats, outcomes and interpretations. Through peer-partner work, mock review panels and instructor feedback, the course instills the criteria of grant peer review and fosters the critical self-awareness that is necessary for successful grant applications. The course will equip students with skills for competitive fellowship applications, and careers that involve research project design and presentation. | Fall 2021 |
| BIO 740 | Readings and Critical Thinking in Biology | A course for first year graduate students emphasizing communication skill sets necessary to excel in Biology and related Graduate Programs. Students will become skilled in critically reading and presenting primary literature, presenting their own research to a scientific audience and generating proposals for interdisciplinary studies. | Fall 2021 |
| BMES 555 | Biomedical Additive Manufacturing | Additive manufacturing, also known as 3D printing, is currently revolutionizing the way things are created and used in biomedical engineering, especially in the context of the regulated medical device industry. In this introductory course, we will focus on the materials and printing technologies used for additive manufacturing of medical devices as well as bioprinting, including developing skills needed for hands-on assembly and operation of extrusion-based 3D printing of low temperature polymers. The goal of this course is to provide students with basic hands-on skills and an overview of additive manufacturing in a biomedical engineering context, and to prepare students for independent research and investigation of more advanced topics in 3D printing of medical devices and implants. | Fall 2021 |
| BMES 585 | Medical Technology Innovation I: Devices | This course helps students gain exposure to medtech innovation culture and community by interfacing with innovators, prototype engineers, industrial designers, product and business developers, entrepreneurs, intellectual property, regulatory and legal professionals, and economic development experts and investors. Students are expected to study ecosystems that engender medical innovation and conduct due diligence on actual companies in terms of technology, management, and commercialization viability. Through this course, the medtech innovation journey comes alive; as a bonus, students expand their medtech networks and outreach to innovation industry. | Fall 2021 |
| BMES 870 | Graduate Research Talks | This course provides a structured forum for graduate students to present their ongoing research and provide feedback and critiques to their peers. | Fall 2021 |

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| BST 675 | Statistical Consulting Lab | The objective of this course is to introduce biostatistics graduate students to the practical aspects of statistical consulting and to provide practical statistical consultant experiences. These experiences will facilitate student's understanding of the roles and responsibilities of biostatisticians in the context of collaborating or serving as statistical consultants with scientists from other disciplines. Through peer consulting experiences with students from around campus, students in this class will gain valuable experience including practicing oral and written communication skills, developing statistical analysis plans and evaluating analytic methods and data summaries. | Fall 2021 |
| BST 875 | Statistical Consulting Lab | The objective of this course is to introduce biostatistics graduate students to the practical aspects of statistical consulting and to provide practical statistical consultant experiences. These experiences will facilitate student's understanding of the roles and responsibilities of biostatisticians in the context of collaborating or serving as statistical consultants with scientists from other disciplines. Through peer consulting experiences with students from around campus, students in this class will gain valuable experience including practicing oral and written communication skills, developing statistical analysis plans and evaluating analytic methods and data summaries. | Fall 2021 |
| CATX 528 | Family Systems and Adult and Older Adult Assessment and Treatment Planning | This course examines the interactions between family systems theory and current assessment and treatment practices in art therapy and counseling with adults and older adults. The principles and application of artistic and psychological development for clients, informal and formal art therapy assessments, interdisciplinary counseling assessments, applications of art media properties and methods to clientele needs, and how to build rapport in the therapeutic relationship are all studied and applied experientially. The impact and intersectionality of lived experiences, culture-bound views and values, and wellness and resilience will all be considered as well. Students will be introduced to treatment planning conceptualization methods and goals via practicing and applying clinical documentation experientially. | Fall 2021 |
| CATX 529 | Family Systems and Children and Adolescent Assessment and Treatment Planning | This course examines the interactions between systems theory and current assessment and treatment practices in art therapy and counseling with children, adolescents, and their families and/or caregivers. The principles and application of artistic and psychological development for clients, informal and formal art therapy assessments, interdisciplinary counseling assessments, applications of art media properties and methods to clientele needs, and how to build rapport in the therapeutic relationship are all studied and applied experientially. The impact and intersectionality of lived experiences, culture-bound views and values, and wellness and resilience of clients and their family systems will all be considered as well. | Fall 2021 |
| CATX 703 | Interdisciplinary Seminar I | This course is one in a series of three seminars in which students study the inter-relatedness between collective interdisciplinary bodies of knowledge and the CATs. The seminar is also to be viewed as a venue for identifying knowledge gaps in the CATs and generating original research topics. This seminar addresses the study of the interface between aesthetics, creativity and narrative and related implications for the CATs. | Fall 2021 |
| CATX 704 | Interdisciplinary Seminar II | This course is one in a series of three seminars in which students study the inter-relatedness between collective interdisciplinary bodies of knowledge and the creative arts therapies (CAT). This seminar addresses the intersection between psychology, biology, and neuroscience and the CATs. The implications of study in these bodies of knowledge are considered for development of epistemology, theory and practice in the CATs. | Fall 2021 |
| CATX 705 | Interdisciplinary Seminar III | This course is one in a series of three seminars in which students study the inter-relatedness between collective interdisciplinary bodies of knowledge and the creative arts therapies (CAT). This seminar addresses the study of the interface between the tenets of anthropology, sociology, cultural diversity, and, the CATs. The study of how embedded cultural thought, semiotics, and healing practices, relate to theory, practice and research in the arts therapies will be the focus of the seminar. | Fall 2021 |

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| CATX 712 | Philosophy and Theory in Research | This course is the first in the doctoral research sequence. It introduces the student to the philosophical, socio-cultural, and theoretical contexts for social science research and methods. The course introduces students to the ontology, epistemology, and axiology of various perspectives of research. The role of these research worldviews in creative arts therapies research is examined. | Fall 2021 |
| CATX 715 | Expanded Perspectives on Research Methodologies | This course introduces current trends in research approaches for the Creative Arts Therapies and related fields. The philosophies and methods for mixed methods research, program evaluation, and other emergent approaches are discussed. Students also explore innovative approaches to design, data collection and data analysis based on their own research interests. | Fall 2021 |
| CATX 716 | Studio Based Artistic Inquiry | This course introduces methods of self-directed learning through creative processes. The course consists of three parts: 1) creative exploration; 2) personal and group reflection, notation, and sharing; and 3) emotional, cognitive, sensory-motor, artistic, and interpersonal small group experiences. Appropriate readings will be collaboratively sought and shared by all participants to parallel the emergent scholarship and information-seeking practices of the students and a final, arts-based synthesis will be presented to peers and the instructor. | Fall 2021 |
| CATX 717 | Intro to Arts-Based Research | This course introduces arts-based research for application in the Creative Arts Therapies as well as other healthcare and education disciplines. This course includes a critical review of arts-based research literature and aligning arts-based research methods appropriately with student research questions. | Fall 2021 |
| CATX 804 | Dissertation Research I | This course focuses upon choosing a research topic for the dissertation. The topic will be chosen with ongoing faculty advisement. Once the topic is chosen the student prepares a dissertation proposal outline that includes the identification of the problem to be studied, the purpose of the study, the rationale, the methodology and the research question. The proposal outline must be approved by the program faculty. Following approval by the faculty the student begins writing their dissertation proposal. | Fall 2021 |
| CATX 805 | Dissertation Research II | In this course, with faculty advisement, the student writes the dissertation proposal. In addition, the student finalizes their dissertation committee during this term. The proposal is submitted to the dissertation proposal committee and the oral defense of the proposal takes place. The student must pass the oral proposal defense in order to register for CATX 806. | Fall 2021 |
| CATX 806 | Dissertation Research III | In this course the student revises the dissertation proposal based upon the results of the Dissertation Proposal Defense and the dissertation format selected. The student prepares materials for IRB submission and approval. Once the dissertation is approved by the IRB, and with the advisement of the Supervising Professor, the student establishes a data management system and begins data collection. | Fall 2021 |
| CATX 807 | Dissertation Research IV | This course includes the final stages of the dissertation during which the data collection is completed, the data is analyzed, the manuscripts, results and discussion chapters are written and the final dissertation is defended in an oral examination. | Fall 2021 |
| CATX 808 | Practicum I | The practicum provides the practical application component of the doctoral program. The aim of the practicum courses is to transform the knowledge learned to this point in the doctoral program into practical application and research experiences in the Creative Arts Therapies fields. | Fall 2021 |
| CATX 809 | Practicum II | This practicum course is a continuation of CATX 808 Practicum I and provides the practical application component of the doctoral program. The aim of the practicum courses is to transform the knowledge learned to this point in the doctoral program into practical application and research experiences in the Creative Arts Therapies fields. | Fall 2021 |

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| CATX 812 | Teaching Practicum | The teaching practicum provides the opportunity for students to develop aptitudes and skills related to teaching in higher education including teaching philosophy, curriculum development, course construction and prep, in-class teaching experiences, pedagogical approaches, advisement, mentoring, supervision, and evaluation. The goal of the practicum is to prepare students for positions of leadership in academia in the Creative Arts Therapies fields. | Fall 2021 |
| CFTP 710 | Advanced Legal and Ethical Implications in Couple and Family Therapy | This course builds on foundational knowledge of couple and family therapy professional ethics through an in-depth examination of: 1) the AAMFT Code of Ethics and related state and federal laws, 2) ethical reasoning and decision-making, and 3) key current ethical and legal issues relevant to advanced clinical practice, clinical administration and supervision, and clinical education. | Fall 2021 |
| CFTP 740 | Systemic Approaches to Addiction | This course will provide an in-depth exploration of the effects and consequences of addiction across multiple systems including family, community, and society. Its purpose in the program of study is to support the application and advancement of family therapy theory and practice in the prevention, treatment and recovery support for families impacted by substance use and addiction. | Fall 2021 |
| CFTP 743 | Trauma Theory and Models with Vulnerable Populations | This course reviews models of trauma and the various ways that trauma may intersects with various aspects of social location and identity, as well therapeutic models for the provision of trauma-informed and socially just mental healthcare services. | Fall 2021 |
| CFTP 750 | Professional Development and Leadership | This course prepares doctoral students for leadership roles in the field of couple and family therapy, with a focus on administrative skills and roles. Course content areas include leadership styles and theories, navigating the job application process, licensure and certification, and key skills for leadership and administration in clinical organizations. | Fall 2021 |
| CFTP 765 | Grant Writing for Program Development | This project-based course is designed to teach students about the importance of grant-writing in their role as a professional and leader in the field of the couple and family therapy. Students will gain the essential knowledge and skills to write and submit a competitive grant proposal for the purpose of program development to a foundation or government agency. This will include identification or creation of a fundable project in their content area, research and assessment of funding sources, collaboration with other professionals, writing a proposal that includes a budget, and completing a proposal package that is submitted to the funder of their choice. | Fall 2021 |
| CFTP 800 | Portfolio Planning and Development | The Portfolio Planning and Development course is intended to prepare students for Capstone I,II,II and ensure the student has support in 1) developing a feasible plan meet capstone portfolio requirements and 2) making progress on portfolio tasks that require long-term development across the first two years of the program and 3) tailoring their capstone portfolio to represent their professional goals. The capstone portfolio will represent professional development across four professional domains: 1) Scholarship, 2) Teaching, 3) Clinical Practice, and 4) Citizenship, Leadership, and Service. | Fall 2021 |
| CFTP 810 | Capstone Portfolio I | The Capstone Portfolio course requires each student to create an electronic professional portfolio to synthesize and demonstrate key knowledge and professional accomplishments in the domains of 1) Scholarship, 2) Teaching, 3) Clinical Practice, and 4) Citizenship, Leadership, and Service. In this first of three Capstone Portfolio Courses, the student chooses two of the four portfolio professional development domains to focus on and will work on completing the tasks/subsections within each. The student will work closely with a faculty advisor throughout this process. | Fall 2021 |

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| CFTP 811 | Capstone Portfolio II | The Capstone Portfolio course requires each student to create an electronic professional portfolio to synthesize and demonstrate key knowledge and professional accomplishments in the domains of 1) Scholarship, 2) Teaching, 3) Clinical Practice, and 4) Citizenship, Leadership, and Service. In this second of three Capstone Portfolio Courses, the student completes the two remaining portfolio professional development domains including the tasks/subsections within each. The student will work closely with a faculty advisor throughout this process. | Fall 2021 |
| CFTP 812 | Capstone Portfolio III | The Capstone Portfolio course requires each student to create an electronic professional portfolio to synthesize and demonstrate key knowledge and professional accomplishments in the domains of 1) Scholarship, 2) Teaching, 3) Clinical Practice, and 4) Citizenship, Leadership, and Service. In this third of the Capstone Portfolio Courses, the student will finalize their capstone portfolio, submit it for faculty review, and give a presentation on their portfolio accomplishments and experience. The student will work closely with a faculty advisor throughout this process. | Fall 2021 |
| CHE 581 | Solutions to Climate Change | Climate change will likely be the most important challenge of our time. Drawdown is the theoretical point in the future when greenhouse gas concentrations in the atmosphere peak and then begin to decline, reversing the trend of global warming. Can we get there? How? We will examine the potential impacts of dozens of top solutions to understand where our actions have the most leverage. Solutions range from technical (green energy, buildings, and transportation) to non-technical (food choices and education). The best solutions not only mitigate global warming but also lead to economic benefits and a more just and equitable society. | Fall 2021 |
| CHP 522 | Health and Human Rights Research Methods | This seminar focuses on the application of human rights norms and tools to public health and particular challenges within public health. Building upon human rights frameworks, we will discuss current debates about the usefulness of a “human rights approach” to health, the methods and ethics of health-related human rights research, and case studies of human rights investigations and advocacy. The case studies are intended to examine how human rights abuses, including violations of economic and social rights and civil and political rights, can be understood as determinants of health. | Fall 2021 |
| CHP 684 | Sexual Orientations And Health | This course is intended as a first survey course that covers various health concerns and disparities associated with sexual orientations (focusing on the concerns of sexual minorities), ranging from mental health to HIV/AIDS to intimate partner violence. The paradigm that we will adopt as the foundation for our weekly discussions will emphasize how behaviors and outcomes are related to stress and stigma and other social determinants that sexual minorities experience as marginalized communities. | Fall 2021 |
| CHP 685 | Genders And Sexes And Health | This course is intended as a first survey course that covers various health concerns and disparities associated with sexes and genders (focusing on the concerns of gender minorities), ranging from violence to substance abuse to access to care. The paradigm that we will adopt as the foundation for our weekly discussions will emphasize how behaviors and outcomes are related to stress and stigma and other social determinants that gender minorities experience as marginalized communities. | Fall 2021 |
| CIVE 512 | Wood and Timber Design | Covers properties, species and grades of wood; definitions and general principles of wood and timber design including light wood frame construction and mass timber (CLT) construction; analysis and design of simple joists/beams and girders for flexure, shear, deflections, and bearing; analysis and design of compression and tension members, and beam-columns; shear walls and horizontal diaphragms; sustainability of mass timber construction; simple connections. The focus will be on the ASD method with a few examples using the LRFD method. | Fall 2021 |

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| CIVE 708 | Fundamentals of Structural Dynamics | Covers formulation of equations of motion, free vibration response, undamped and damped systems, harmonic analysis, resonance and vibration isolation, response to periodic loading, impulsive loading, response to general dynamic loading, shock and response spectra. Introduces multi-degree-of-freedom systems. | Fall 2021 |
| COM 574 | Organizational Communication in Project Management | Organizational communication is relevant for all types of sectors and institutions be it governmental, healthcare, for-profit or not-for-profit. In this context, project management is a required skill to accomplish team goals. Whether you are the leader of the team or a contributor - effective organizational communication is the number one skill needed by all team members. In this course, we will explore how to properly communicate with leaders, team members, stakeholders and more while exploring best practices for various types of project communication - including daily briefings, email updates, demos, executive summaries and more. | Fall 2021 |
| COM 614 | Social Media Concepts that Matter | Social media is volatile. This course examines the concepts that reflect “logics” through which the current media ecosystems work. This course, drawing on theoretical concepts, discusses how these fundamental logics play out or “matter” differently for media producers and users, consumers, readers, or audiences, and a potential tension between constituents that are involved in the media production and consumption. These logics are encapsulated in theory-based broad platform-specific affordances mapped onto practices in which users and media organizations operate in social media. Media organizational practices in their social and technical contexts are juxtaposed to the user or audience practices, that are currently mediated through automated and algorithmic means prevalent in social media. | Fall 2021 |
| COM 615 | Media Environments in a Digital World | This course examines theories of media environments and the application of those theories to our experiences living in a densely mediated world. We will examine media as media ecologists, focusing on how human thought and action are shaped through interactions with our media environments. We will define media in the broadest possible definition, including but not limited to communication, technology, literacy, the arts, and education. | Fall 2021 |
| COM 651 | Media and Communication Policy in a Digitized World | Understanding the foundations of the policies, laws and regulations that govern media and communication has become a necessity in the everyday lives of consumers and citizens and crucial knowledge for communication professionals. Issues like ‘Net neutrality’, ‘breaking up big tech’, ‘algorithmic privacy breaches’ and ‘trust in (public) media’ reflect the increasingly complex communications patterns and industries. This course offers an overview of media and communication policy, law and regulation from a critical perspective. We interrogate the regulatory and judicial systems that administer and interpret media policies, and the public policy apparatus those relationships create. Drawing on academic research and case studies, we assess American media law and policy in light of ‘the public interest’. | Fall 2021 |
| CRTV 505 | Creative Interdisciplinary Team Research: Principles and Practice | Course provides fluency with the foundational principles and processes that demonstrably enhance creative practice and problem-solving skills in interdisciplinary research teams. Students learn to identify and develop new, useful and high-quality ideas and products while practicing those skills and working as a member of an interdisciplinary team. A strong focus on theoretical principles of group dynamics provides the framework for participants to understand and experience best practices characteristic of highly productive collaborative research endeavors. Students with complementary interests work in teams to design an interdisciplinary project with STEM and social/educational components and apply learned concepts. | Fall 2021 |

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| CRTV 506 | Enhancing the Creativity of a Research Project | Course facilitates the development of a research idea. Participants learn proven creative practices to enhance their independent, problem-solving creative ability as practiced through developing a research project such as the selection of a thesis topic, an original research proposal, or the writing of a grant proposal. Students are required to formulate at least one potential research topic to iterate upon, develop, and hone. | Fall 2021 |
| CS 523 | Cryptography | Covers the underlying algorithms behind symmetric key and public key cryptography. Students will learn the underlying mathematics behind the algorithms and the necessary issues involved when implementing these algorithms. A variety of cryptosystems and methods of attack will be implemented and analyzed. Assumes knowledge of linear algebra and discrete math. | Fall 2021 |
| CS 629 | Software Defined Radio Laboratory | This laboratory course takes a Software-Defined Radio (SDR) implementation approach to learn about modern analog and digital communication systems. Software defined radio uses general purpose radio hardware that can be programmed in software to implement different communication standards. We will begin by discussing the basic principles of wireless radio frequency transmissions and leverage this knowledge to build analog and digital communication systems. Knowledge of these techniques and systems will provide a platform that can be used in the class project for further exploration of wireless networking topics such as cybersecurity, cognitive radio, smart cities, and the Internet of Things. | Fall 2021 |
| CT 500 | Introduction to the Digital Environment | Examines the digital environment and the technology within it. Topics include: Digitization, cognitive technologies, software, agile management processes, leading in the digital environment, and digital innovation. | Fall 2021 |
| CT 600 | Cloud Technology | Covers the many technologies all part of cloud computing. Topics include: virtual machines, application development, storage, databases, security, monitoring, analytics, solution design and case studies about businesses leveraging cloud technologies. | Fall 2021 |
| CT 605 | Cloud Security and Virtual Environments | Covers the elements that form cloud computing and virtualization technologies used in digital environments. Offers ways to determine which cloud computing and virtualization technologies to use given business and organizational needs. Provides methodologies to evaluate threats and vulnerabilities on these technologies. Provides methods to select and evaluate protections to secure cloud computing and virtualization technologies while ensuring business needs are met. | Fall 2021 |
| CT 610 | Disaster Recovery, Continuity Planning and Digital Risk Assessment | This course addresses Disaster Recovery & Continuity Planning specific to Emergency Recovery Procedures by incorporating digital risk assessment based on assets valuation, vulnerability and threats. Techniques for development of disaster recovery plans, procedures and testing methods. Strategies used by businesses to assure that sensitive data will not be lost in the event of a disaster. Risk migration methods that security professional use to protect valuable digital assets will also be studies. Issues, designed to foster critical thinking, are explored, as well as the standardized approaches to digital risk management. | Fall 2021 |
| CT 620 | Security, Policy and Governance | Covers the many techniques and practices for leading security governance of digital assets and for leading the policies that protect digital assets. Provides an understanding of the need for security governance and security policies for ensuring the protection of availability, confidentiality and integrity in the digital environment. | Fall 2021 |
| CT 630 | Application Software Construction and Operation | Presents a management perspective on current issues and trends affecting development and production operation of software systems. Explores implications of composing software systems from existing parts and only writing new code where necessary. Examines the automation of the software development, release packaging, and operation workflow. Current topics include: composition of software systems, software reuse, open source software, software as a service, DevOps and automated operations, VMs and containers. | Fall 2021 |

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| CTCN 540 | Approaches to Addictions and Recovery | This course will provide a basic foundation of the etiology, assessment, diagnosis, and the recovery and treatment of substance abuse and process addictions through bio-psycho-social models of theory and practice. Emphasis will be given to the transtheoretical approach of Motivational Interviewing and recovery models such the stages of change and mind-body approaches including the personal, social, and cultural attitudes and stereotypes that are often associated with chemical abuse and addictive behaviors and disorders. | Fall 2021 |
| CTCN 560 | Theory and Practice of Dance/Movement Therapy: Special Populations | This course will present a theoretical and experiential exploration of a variety of population specific foci in dance/movement therapy intervention examining how each area is interrelated and interdependent. Attention will be given to how dance/movement therapy theories are applied to practice in relationship to the following: (a) needs of specific populations, (b) socio-cultural and developmental considerations, (c) public policies, and (d) systems of health care. | Fall 2021 |
| CTCN 651 | Medical Dance/Movement Therapy | This course examines dance/movement therapy as a complementary approach for people with primary medical conditions. Using readings, experiential exercises, lecture, discussion and video formats, the course includes relevant theory from health psychology and mind/body perspectives, in order to motivate programming and research in this sub-specialty. | Fall 2021 |
| CTCN 654 | Crisis, Trauma, and the Body | This course will present the theory and practice of dance/movement therapy and counseling for crisis intervention and trauma. The roles, responsibilities, and techniques in providing trauma-informed interventions with individuals, groups, and community- based strategies will be highlighted. Prevention models utilizing approaches rooted in developmental affective neuroscience relevant to the mind-body impact of trauma will be of particular emphasis. | Fall 2021 |
| ECE 531 | Modern Transistors | This course teaches the underlying physics of the operation of modern bipolar and unipolar transistors which are used in modern electronics. This background is helpful for a) courses related to digital microelectronics, logical gates, memories, and sub circuits, and VLSI circuits; b) courses in analog electronics; and c) courses in microwave electronic systems. | Fall 2021 |
| ECE 532 | Modern Photonics | This course will teach students the principles that underline the interaction of light and matter, leading to the understanding of the basis of operation of photonic devices such as lasers, LEDs, solar cells, and photodetectors. The course starts with how understanding of light spectrum that is generated due to heat started the development of the field of quantum mechanics by Max Planck. This is then expanded by Einstein to include a quantum theory of light, on which basis absorption, stimulated and spontaneous emission are explained. Building on that work, we analyze light interaction with semiconductors and show how lasers, LEDs and photodetectors work, and how modern photonics is able to solve great challenges of humanity. | Fall 2021 |
| ECE 603 | Computing and Control | This course focuses on the practical aspects of implementing Computer Control using microcontrollers in such applications as: Automated Equipment, Robotics, Motor Control, Process Control and Aerospace. The course is essentially divided into two parts: (1) the computer in the loop and (2) addressing noisy measurements. | Fall 2021 |
| ECE 613 | Neuromorphic Computing | This course will cover the principles of neuromorphic computing. Topics will cover 1) fundamentals of spiking neural network (SNN), which mimics the computation in mammalian brain; 2) supervised and unsupervised learning algorithms for SNN; 3) novel applications of SNN, including in vision and time series processing; 4) architectures for implementing SNN in hardware, aka neuromorphic hardware; 5) introduction to non-volatile memory technologies to implement synaptic processing in neuromorphic hardware; 6) software stacks for neuromorphic computing; and 7) design challenges in dependable neuromorphic computing. | Fall 2021 |

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| EDEX 534 | Foundations of Inclusive Education | This course provides an overview of the essentials of special education and how to manage instruction for students with diverse learning and behavioral profiles. The course will cover the purposes and uses of various forms of assessment in special education with an emphasis on legal and ethical considerations in assessment as part of the eligibility process for students with disabilities. The etiology, characteristics and prevalence of specific disabilities will also be highlighted. Curricular, environmental and instructional intervention adaptations to address learning and behavioral needs in the inclusive classroom will be reviewed. Research on inclusive education approaches of collaboration, co-teaching, differentiated instructional delivery models and universal design for learning will be discussed. | Fall 2021 |
| EDGI 522 | Education for Global Citizenship, Sustainability, and Social Justice | Through the theoretical lens of global citizenship, the course investigates the role that education plays in sustainable development and examines the ways individuals, communities, organizations, businesses, and educational institutions are responding to the complex intersection of the local and global in the 21st Century. Students critically explore and evaluate educational approaches to global citizenship in the areas of sustainability and social justice. Students examine educational policies and responses relating to citizenship and sustainability, and develop the capacity to conceptualize global issues through global citizenship. In the end, students investigate the interplay of global citizenship, policy, and teacher education in response to global climate change and mass population migration. | Fall 2021 |
| EDGI 524 | Measuring the World: Education and National Development | This course critically examines the role of education as a primary agent of the socio-economic, cultural and technological advancement of nations. In the first part of the course, we familiarize ourselves with development more broadly, and in doing so conceptualize various measures of development progress and review theoretical perspectives often utilized in this work. Next, we consider the linkages between education and national development through the exploration of two country case studies of national development. The course concludes by considering the ways in which investments in health, alternative measures of well-being and development cooperation both promote national development and shape the relationship between education and development. | Fall 2021 |
| EDGI 552 | Gender, Education, and International Organizations | This course focuses on international organizations, foreign assistance, and their influence on educational policy and practice. We focus our analysis on organizations working at the intersection of gender equality and inclusive education, and particularly the role they play in global policy dialogues to develop a critical perspective of their work. Students examine how various multilateral, bilateral, financial, and civil society organizations work to shape policy, program planning, financing, implementation, and monitoring and evaluation of gender equality and education goals that are part of the Sustainable Development Goals (SDGs). Using a critical perspective, students discover how gender and education activists work to shape their institutions and the development agenda locally and globally. | Fall 2021 |
| EDGI 604 | Quantitative Literacy: Interpreting and Reporting Data for Educational Policy and Research | The course will focus on both the art and science of quantitative methods by identifying how to draw careful insights from quantitative analyses. Students will read & discuss existing educational studies as well as review the results from quantitative analysis with a focus on 1) understanding the analytic approach, 2) interpreting the quantitative results, 3) best practices for visually displaying findings in figures and tables, and 4) using quantitative data to tell a compelling narrative. The course addresses the types of questions that can be addressed through quantitative methods, the importance of samples & describing a sample; summary data, patterns, and trends; the comparison of groups; the results from multiple regression analysis, experimental, and quasi-experimental research. | Fall 2021 |

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| EDLT 591 | Learning Analytics: Lenses on Students, Teaching, and Curriculum Enactment | This course will prepare students to use data collected from classrooms and online programs to understand and help guide instructional practice. Using a range of information (ex: assessments, game/simulation telemetry, engagement with learning management systems, collaboration/ communication data, and administrative/demographic information) students will develop skills in developing dashboards, evaluating grading, and developing authentic datasets about practice. This course is targeted to course designers/developers, teachers, lead teachers/professional learning community coordinators, and media center specialists. | Fall 2021 |
| EDLT 592 | Information Enabled Change in Educational Organizations | This course will prepare students to frame systems issues with information and to lead organizational change in educational systems using data. Using a range of information (test scores across courses, learning goals and exemplars, surveys, and administrative data) students will develop a plan to lead teams and groups through a change process, including developing a project plan and success metrics. Students will gain experience in describing stakeholders, developing boundary objects for monitoring. This course is targeted to course designers, teachers, professional learning communities, and media specialists. | Fall 2021 |
| EDSP 700 | School Psychology Internship | This course is a required internship for all school psychology students. It is to be taken each academic quarter the students are on internship. During internship, students are required to be engaged in assessment, intervention and/or consultative activities, related to the field of school psychology. The practicum may take place in school settings, behavioral health settings, clinics and hospital settings. | Fall 2021 |
| EDUC 751 | Educational History and Foundations | This course provides a foundation for understanding how the educational systems in America function. Students will learn about various institutional-internal and external environments and systems that comprise the PK-20 education system. Students will be continuously asked to analyze how examined environments and systems influence changes in the education system. | Fall 2021 |
| EDUC 752 | Education, Learning, and Technology | This course provides a foundation for understanding some of the ways that learning, and technology takes place in education settings. Students will learn about scientific based research in education, design based research, and other related research topics on education, learning, and technology. Students will have a better understanding of how learning perspectives in research, educational technology, and examine different forms of research. | Fall 2021 |
| EDUC 753 | Educational Critical Theories and Practice | This course provides a foundation for understanding critical theories and practice in education research. Students will learn about the origins of critical theory, a wide variety of critical theories, and the ways that they are utilized in practice. Students will be continuously asked to reflect on how critical theories are implemented into each step of the research process. | Fall 2021 |
| EDUC 754 | Educational Change, Equity, and Social Action | This course is designed to move from students through the foundations of social justice, educational equity, and critical educational theory to application and action within the PK-20 system through a review of literature, experience sharing, reflection and dialogue. This course will push students to engage with foundational literature, pedagogy, and epistemology while contextualizing the experiences of others in education. | Fall 2021 |
| EDUC 857 | Advance Research in Mixed Methods and Survey Research | This course focuses on two commonly used research approaches in the social sciences: mixed methods research (MMR) and survey research. Fundamentals of designing and implementing both research approaches are covered with applied research skills developed in each area. | Fall 2021 |

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| EDUC 858 | Conceptualizing PK-20+ Education | This course will examine issues faced by schools and postsecondary education leaders associated with the preparation of students for educational advancement in a democratic society. This course was developed in response to growing educational concerns across the PK-16+ pipeline. The course is developed around three assumptions: 1) student academic progress is critical in optimizing individual talent in an increasingly knowledge-based society; 2) an important goal of the 21st century educational reform is to facilitate student preparedness for future academic and occupational success; and, 3) a more intentional alignment of the goals and emphases of K-12 education with postsecondary education should be considered a possible solution for educational reform. | Fall 2021 |
| EDUC 859 | Power and Politics in Education | This course provides an overview of the theoretical approaches to the connection between power and politics as applied to k-16 education at both the macro and micro levels. Through readings and discussions, we will explore the ways in which power, politics, and policy influence key issues in the k-12 and higher education contexts at the federal, state, and local levels. Course Purpose: A major purpose of this course will be the intersection of race, class and gender with power and politics in educational leadership, teaching, and scholarship. In addition, the course will examine policies in PK-16+ education, the elements of the policy-making process, and strategies for policy analysis. | Fall 2021 |
| EDUC 860 | Educational Policy and Advanced Critical Theories | This course is designed as an intensive introduction to PK-20 educational policy (formal and informal at all federal, state, local, and institutional levels) through a critical lens. This course is designed to move students through the foundations of and variations of policy making in educational systems in the United States. Additionally, will examine critical theories and their application in policy analysis, policy formation, and policy implementation. | Fall 2021 |
| EPI 804 | Causal Inference in Epidemiology: Application | This course is designed to provide a theoretical foundation and the practical tools necessary for addressing challenges to causal inference in epidemiological research. | Fall 2021 |
| FIN 605 | Business Valuation | This course provides a framework to understand value creation and maximization. The primary focus is on the valuation of equity in a public corporation, but the methods also apply to the valuation of private companies and small businesses. Topics include the analysis and projection of financial performance and the application of discounted cash flow and price-multiple valuation models. | Fall 2021 |
| FIN 615 | Environmental and Social Issues in Finance | This course focuses on how policies related to environmental and social (ES) issues affect firm performance. Using a mix of case studies, readings, discussions, and assignments, this class critically assesses ES issues affecting corporations today. Specific topics include activist and regulatory pressure, motivation for ES policies, greenwashing, and consequences for corporations that do and do not address these issues. | Fall 2021 |
| FIN 639 | FinTech | This course focuses on the growing area of fintech, defined as the set of new technologies and innovations that strive to compete with traditional financial methods in the delivery of financial services. Specific topics include cryptocurrencies, peer-to-peer lending, crowdfunding, initial coin offerings, the technology-based alternatives to personal advising / trading, and regulatory issues. For each, we will consider both the benefits of these ‘fintech’ innovations, as well as their limitations. | Fall 2021 |
| FIN 645 | Behavioral Finance | This course provides an introduction to the topic of behavioral finance. Much of traditional economics and finance is based on market participants and managers behaving rationally. However, financial decisions in the laboratory and in the field systematically deviate from rational benchmarks, despite large monetary incentives to get it right. Behavioral finance examines these deviations and their implications for investor welfare and asset prices. | Fall 2021 |

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| GEO 644 | Plate Tectonics | Plate tectonics is one of the Earth Sciences' foundational theories, underlying much of our understanding on the origin and distribution of volcanoes, earthquakes, ocean basins, and mountain chains. This course discusses vector analysis approaches as they apply to plate tectonics theory, plate rotation poles, analysis of triple-junction stability, mantle flow, plate motion reconstructions, and the driving forces of plate tectonics. | Fall 2021 |
| HMP 519 | Maternal & Child Health Policy | This course provides an introduction and overview of Maternal and Child Health (MCH)policy at the local, state, federal, and global level, with attention to grassroots community-centered/-led pro-grams and advocacy, all within a framework of identifying and defining the structural root causes that perpetuate inequities. Students learn about the principles of MCH policy and the impact of policy on maternal and child health. The course examines structural racism, in particular, its role as a root cause in creating and reproducing MCH inequities. Students will have the opportunity to analyze MCH policy issues and to engage with local organizations to learn more about current policy efforts within their chosen area. | Fall 2021 |
| HMP 557 | Public Health and the Complexity of Mental Health Policy: Exploring Past, Present, and Future | This course examines the past, present, and future of American mental health policy. It is impossible to understand mental health policy as it exists in the present or work on policies applicable to the future without an understanding of how we have ended up where we are today. The polarizing splits in discourse take many forms, all of which determine policy and are examined in this course thorough the questions of Who, What, When, Where, Why, and How. | Fall 2021 |
| HMP 661 | Disability and Measurement | Understanding the range of definitions and methods of measuring disability is essential to formulating effective policies and programs to support individuals with disabilities, their families and caregivers, and service providers. This course is grounded in the diverse methods for measuring the concept of disability and the presentation of disability across individuals and populations. Since the measurement of disability is a fundamental building block for the creation of policy, the linkage to policy processes and content will be a backdrop for discussion and course activities. The measurement of disability has a long history and is rapidly changing in the current policy environment. Historical and present-day approaches to disability measurement will be presented and discussed. | Fall 2021 |
| HMP 662 | Medicaid and Disability Policy | People who qualify for Medicaid based on a disability include adults and children with disabilities that they have had since birth and others who have disabling conditions acquired through illness, injury, or trauma. Medicaid beneficiaries enrolled through disability pathways include those with physical conditions; intellectual or developmental disabilities; and serious behavioral disorders or mental illness. As such, Medicaid is the essential public program providing life-sustaining benefits to the disabled in the U.S. This course examines the public policy components of the Medicaid program related to eligibility, coverage, financing, and administration. The course also examines the history of the program to provide the context for understanding its present and future challenges. | Fall 2021 |
| HMP 817 | Public Health Workforce: Pedagogy and Development | This course introduces doctoral students to key concepts in Public Health workforce development and training needs assessment. It will prepare students to assess training needs for their community, develop presentations, and design and teach learning modules for public health work-force development and undergraduate/graduate level courses. | Fall 2021 |
| HSAD 501 | Managerial Epidemiology | The focus of the course is on the role and use of epidemiologic tools in the field of health care administration. Epidemiologic techniques are applied to specific areas of health administration including needs assessment, planning, quality assurance, financing and economic analysis for the delivery of healthcare services to various populations. | Fall 2021 |

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| HSAD 527 | Intro to Long Term Care & Post Acute Care Admin | This course covers organization, administrative of long-term care services and post-acute services addressing the needs of the elderly and disabled populations. Long term care and post- acute care involves a description of the continuum of care, the types of providers and the range of services including nursing facilities, assisted living, housing, community-based services, and informal care giving. Also covered are the issues affecting integration across the continuum. | Fall 2021 |
| IHS 520S | Molecular & Cellular Bases of Medicine | In this course we will delve deeply into the basic molecular & cellular biology that underlies a number of diseases and therapeutic practice. The course will begin with a brief overview of fundamental molecular and cell biology concepts, and continue with a series of units, each focusing on the molecular and cell biological underpinnings of diseases or medical practices. The course will utilize exclusively online sources, including texts. Instructional modes will include live online, problem-based, and small group approaches. Students will be assessed via regular quizzes, group work, exams, and written presentations on specific applications of molecular and cell biology to biomedicine. Knowledge of college-level biology and chemistry will be assumed. | Fall 2021 |
| IHS 521S | Neurophysiology of the Senses | Neurophysiology of the Senses, is a semester#long, course designed to provide graduate students with a strong foundation in the broad discipline of neuroscience. It is the first in a three-course sequence that will introduce several key themes, such as the structure and function of the nervous system, neuro- and synaptic physiology, the major neurotransmitter systems, sensory physiology, motor systems, drugs and their actions, and neuropharmacology of neural systems. | Fall 2021 |
| INFO 800 | Science of Science | This course provides an overview and a guided practice of Science of Science, which studies the structure and dynamics of a research field as a unit of analysis. The word science is broadly defined, including social sciences and humanities as well as natural sciences. This course introduces multiple perspectives of research and research communities. The course aims to combine relevant theories and guidelines with research activities of researchers, especially doctoral students. The course introduces relevant resources and methods to facilitate the application of corresponding research strategies and procedures. | Fall 2021 |
| IPS 502 | Advanced Ethical Decision Making in Health Care | The focus of this course is to develop the student's ability to identify ethical dilemmas, apply moral reasoning, and then take action necessary to resolve the dilemma. Questions of clinical and applied ethics, including basic principles and theories that support and challenge the decision making process will be examined from various perspectives to address the moral difficulties the advance practice health care provider is likely to encounter. | Fall 2021 |
| IPS 503 | Confronting Issues in Contemporary Health Care Environments | Examines health care policy and politics in terms of contemporary issues relative to health care providers in advanced roles, health care access, quality, and cost. The focus of this course is the critical analysis of health policy and global health utilizing advanced professional roles in relation to the broader health landscape. | Fall 2021 |
| IPS 591 | Foundations of Healthcare Education | This course prepares the prospective healthcare educator with the foundational principles necessary for teaching in various settings: classroom, clinical and college laboratories, and health care agencies. | Fall 2021 |
| IPS 618 | Standardized Patients | Standardized Patients (SP) have been used extensively in medical education for over 50 years. The expansion into other health care professions has been seen in the last decade. This course will provide the simulation-based educator with the core skills to design an SP encounter, train SPs and evaluate the outcome. | Fall 2021 |
| IPS 619 | Advanced Debriefing and Reflective Practice | Debriefing is a key component of reflective practice and simulation based education. This course will build on foundational concepts of debriefing and engage the learner is a self-reflective process as a debriefing. Challenging debriefing situations, peer feedback and the skills to develop a peer faculty development model will be discussed. | Fall 2021 |

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| IPS 620 | Simulation Center Leadership | This course explores models of leadership for simulation Centers or Programs. The Learners will evaluate current policies and procedures using the benchmark of accreditation models for the Society of Simulation in Healthcare. Individual “frames” around feedback and negotiation will be explored through experiential learning and expert feedback. | Fall 2021 |
| IPS 621 | Evaluation in Simulation-Based Education | This course will explore the evidence-based tools for assessing outcomes in simulation-based education. Outcome evaluations will be approached from the learner, process and debriefer perspective. | Fall 2021 |
| IPS 622 | Simulation Capstone | This is the final course in the plan of study for the MS/MSN: Healthcare Simulation. The topic of the implementation project will be learner driven and decided in collaboration with your assigned mentor. This course is the integration of simulation-based education, patient safety and educational principles culminating in an implementation capstone. | Fall 2021 |
| IPS 860 | Interprofessional Research Experience | This course involves students from various health professions who learn about the history and goals of the Interprofessional Education and Research (IPER) movement. Students work in pairs or larger groups to immerse themselves in an IPER experience with an emphasis on one or several of the stages of the research process. Students engage in projects such as designing a pilot study, conducting a descriptive study, or conducting a program evaluation. Emphasis is placed on research projects that help to realize the goals and objectives of IPER generally or to advance how one health profession can realize an objective(s) of IPER in pre-professional formation or continuing professional education. | Fall 2021 |
| ISTM 511 | Foundations in Evidence-Based STEM Pedagogy | A graduate level introduction to evidence-based approaches to teaching STEM undergraduates. Evidence-based pedagogies have been demonstrated to be successful in promoting student learning and success. Students in this course will discuss, research, and practice a number of evidence-based pedagogical approaches and think about implementation strategies for the classroom. Through classroom activities we will engage with a survey of evidence-based teaching approaches so that students can make informed implementation decisions after the course is over. There will be an emphasis on understanding why changes to STEM teaching are important for promoting retention and diversity in STEM fields. | Fall 2021 |
| ISTM 512 | Advanced Undergraduate STEM Pedagogical Techniques | Students in this course will discuss, research, and practice a number of evidence-based pedagogical approaches and think about implementation strategies for the classroom. Through classroom activities we will engage with the vocabulary of evidence-based teaching so that students can continue to learn about these topics after the course is over. There will be an emphasis on understanding why changes to STEM teaching are important for promoting retention and diversity in STEM fields. In this course, students will address approaches to utilizing technology tools to support implementation of active-learning, confront how learning involves more than content and includes metacognition, epistemology, and affective features. | Fall 2021 |
| ISTM 515 | Seminar in UG STEM Education | This course provides graduate students in Undergraduate STEM Education with an anchor for their capstone experiences (rotations or projects). The course will expose students enrolled in the 1.0 credit section to literature on undergraduate STEM education, organized around the broad course themes of Scholarship of Teaching and Learning, Instructional Innovation, Curriculum Development, Assessment and Evaluation and provides them an opportunity to engage with these ideas against the background of their specific STEM disciplines. | Fall 2021 |
| LAW 657S | Contemplative Lawyering | Contemplative Lawyering is course about ethics and wellbeing, both personal and professional. Through readings, podcasts, journaling, and in-class discussion, you will learn how ethics and well-being are inextricably related. You will also learn mindfulness practices, both "sitting" and "portable," that help support the cultivation of ethics and well-being. At the end of the course you will have a new set of tools to help you move forward into your life as a practicing lawyer in a healthier, more ethical, more easeful way. | Fall 2021 |

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| LAW 741S | Estate Planning | This class will introduce students to the fundamental principles and objectives of estate planning. With these fundamentals, the course will then examine the basic tools and techniques used in planning an estate to meet the needs of an individual or married couple, such as wills, various types of trusts, and lifetime gift giving. Probate of an estate, durable power of attorneys, guardianships, and planning for other life situations will also be explored. | Fall 2021 |
| LAW 803S | Beginning Spanish for Lawyers | This course is an introduction to the Spanish language for law students and is intended for students with limited experience with the language. It is designed to help students develop basic communication skills in Spanish by engaging them in a variety of interactive tasks. As a skills course, it is student-centered in order to maximize students' active participation at the individual, small group and whole group levels. | Fall 2021 |
| LAW 804S | Intermediate Spanish for Lawyers | This course is intended for law students who possess some experience with the Spanish language or have taken LAW 803S. It is designed to help students develop formal, professional communication skills in Spanish by engaging them in a variety of interactive tasks that mimic those found at an entry level lawyer/paralegal position. It is a skills course, which is student-centered, interactive and conversation-based. In class activities are designed in order to maximize students' active participation at the individual, small group and whole group levels. | Fall 2021 |
| LAW 887S | Advanced Legal Analysis and Bar Skills | This course will prepare students for the written essays, performance tests and multiple-choice questions of the bar exam. Students will develop their exam-writing skills by taking practice questions under exam conditions and receiving critiques of their answers. Students will also review several areas of substantive law commonly tested on bar exams. NOTE: This course is not a substitute for a commercial bar review course. | Fall 2021 |
| LAW 897S | Technology for Law Practice | This course teaches the basic technological and software skills needed for a daily law practice. Topics will include legal document management, drafting, and collaboration; spreadsheets; timekeeping; billing; e-discovery; case and practice management; cybersecurity; technology ethics and professional responsibility; and PDF creation and manipulation. Students will complete a legal technology audit that they can use as a blueprint for their future practice. After successful completion of the course, students will receive a certificate from the National Society for Legal Technology noting that they have achieved competency in the use of legal practice technology. | Fall 2021 |
| MATE 603 | Advanced Polymer Characterization | This class covers advanced polymer characterization methods that are related to the structure and properties of polymeric materials. Focus will be devoted to scattering and microscopy techniques. X-ray/Neutron scattering and diffraction will be discussed to understand polymer crystalline and nanostructure. Various polymer microscopy techniques such as electron microscopy, scanning probe microscopy and polarized light microscopy will be discussed. Advanced polymer thermal analysis such as modulated differential scanning calorimetry and chip calorimetry will be covered to understand metastability of polymeric materials. The class will discuss how to use this suite of characterization tools to design experiments for targeted applications. | Fall 2021 |
| MGMT 604 | Strategic Change Management | Corporations are continuously adapting to changes and new opportunities in their environments to maintain a competitive advantage. However, if not planned and implemented properly, change not only runs the risk of undermining a firm's value proposition and customer base but might be difficult to manage. This course approaches the management of change from a strategic perspective. As such, we will consider how internal structures and external factors jointly facilitate (or hinder) change and innovation, covering topics such as organizational resistance to change, agility, strategic repositioning, and various sources of change. | Fall 2021 |

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| MIS 615 | Aligning Information Technologies and Operations | Information Technology (IT) infrastructure must be aligned with an organization's strategy and operations to ensure optimal benefits. This class uses the principles of DevOps to examine operational alignment for IT infrastructure. Students learn how different IT infrastructures are matched to different operational profiles to maximize effectiveness. Students will also be exposed to cross-domain alignment: the ways in which top-level IT and business strategies affect operations. This includes how IT strategy affects business operations and how business strategy guides IT operations and infrastructure. Finally, students learn how new modes of system delivery meet the needs of business operations in hypercompetitive environments. | Fall 2021 |
| MIS 625 | Management of Information Technology Operations | Contemporary Information Technology (IT) ecosystems include multiple infrastructure components, applications, and performance monitoring tools, which may be located within or external to an organization. In this course, students learn how a firm's IT assets are procured, deployed, integrated, and managed. This includes licensing and service level agreements (SLAs), cost center (shared services) and profit center approaches for IT infrastructure, approaches for identifying and remediating problems with IT operations, and best practices for securing IT assets. Machine learning for IT operations management is also covered. | Fall 2021 |
| MIS 643 | Digital Platform Management | Digital platforms exist in various forms, such as electronic markets where participants exchange products and services, or core IT products that bring communities of businesses and consumers together. Incumbents as well as start-ups can build digital platforms to enter new markets or launch digital innovations. This course introduces students to the various types of digital platforms and the opportunities they offer. By studying the dynamics in this arena, students learn about the various forms of coordination and competition that exist in digital ecosystems, and what strategies firms have employed to succeed there. Additionally, students gain understanding of the changes that take place in markets and industries when digital platforms emerge. | Fall 2021 |
| NFS 520 | Pediatric Nutrition | This course provides the learner with skills to perform pediatric nutrition assessment and medical nutrition therapy for the prevention and treatment of common medical conditions of newborns through adolescents. | Fall 2021 |
| NFS 636 | Maternal and Child Health Nutrition | This course will provide the learner with an understanding of the nutrient needs of women and children, with a focus on the periods of the first 1,000 days, pregnancy, breastfeeding, infancy, toddler and preschool -age, and children with special health care needs. Issues of adequacy of the diet and access to food will be investigated, as well as resulting health outcomes. Public health resources addressing these issues in the US and globally will be explored. | Fall 2021 |
| NHP 769 | Population Health: An Interprofessional Approach | The course integrates several components of both health care and public health systems such as access, health promotion, disease prevention, screening, and chronic care management by analyzing data to identify the nature and extent of health problems and determine effective and efficient systems of care. Emphasis is placed on the social determinants of health and innovate systems and policies that advance beyond care to overall wellness. Additionally, the nature and extent of health disparities—deficits or health enhancing—are reviewed. | Fall 2021 |
| NPM 610 | Fostering Diversity and Inclusion in the Workplace | Diversity in the workplace has moved beyond calculating a broad range of employee demographics. Employers, especially nonprofits, are focusing on including and elevating diverse voices and diverse perspectives and building teams that represent the populations they serve and for-profits to create and deliver more innovative services and products and gain a competitive edge. Evidence demonstrates diverse teams are more creative and productive. But, inclusion cannot happen in a vacuum. Leadership must foster and support diversity and inclusion and create an environment where all employees are empowered to be productive and innovative. | Fall 2021 |

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| NPM 615 | Program Evaluation | The course is designed to have students apply qualitative and quantitative methods to frame and implement an evaluation capable of being implemented in a broad range of nonprofit (and for-profit) organizational settings, including those found in education, health care, government and private sector organizations. Students will study the purposes and models of program evaluation, roles of the evaluator and stakeholders, and address ethical issues associated with an evaluation. To gain practical experience with “continuous program improvement,” students will conduct an evaluation of an existing program. | Fall 2021 |
| NPM 680 | Leading Nonprofit Organizations | Students will explore the different roles within the senior leadership team of nonprofit organizations to determine how those roles intersect to achieve the mission. Students will delve into leadership skills such as communication, motivating others, managing conflict, building partnerships and financial acumen to understand the necessity of those skills in developing a strategic vision, managing an effective team, and growing the organization to meet the needs of the community. The notion of servant leadership, ethics, and mission will be threaded throughout the course. Students will consider their own leadership skills to determine what skills they need to develop/enhance to be an effective nonprofit leader. This course is ideal for students already working in a nonprofit seeking a more senior role. | Fall 2021 |
| PENG 600 | Peace Engineering Experiential Learning | Peace Engineering Experiential learning will give students direct experience working and conducting field-based research in peacebuilding. Students will work with faculty advisors during the spring term to arrange opportunities with external partners involved in peacebuilding and community engagement. Students will then work and conduct research with these partners throughout the summer term. Students may elect to work locally, nationally, or internationally as long as the location is approved by Drexel’s International Studies office and the organization approved by Peace Engineering faculty advisors. Opportunities exist with program partners, USIP and Peace Tech Lab, and can be sought with other federal agencies, NGOs, and community service organizations. | Fall 2021 |
| PHYS 554 | Quantum Technology | The course provides an applied physics/engineering treatise of the fundamental building blocks of quantum computers. The topics include the physics of quantum computing, different quantum bit (qubit) technologies (ion trap/ superconducting/ semiconductor spin qubits), full hardware and system level aspects, the state-of-the-art, challenges, and near future outlook of the paradigm. | Fall 2021 |
| PHYS 558 | Quantum Information | Introduction to the principles of quantum information and quantum information processing. Covers the basic postulates of quantum physics (e.g. superposition, entanglement, measurement) necessary for quantum computing and examines the way in which quantum information is stored and processed (e.g. quantum bits, quantum gates, quantum algorithms). | Fall 2021 |
| PTRS 663 | Pediatric Physical Therapy I | This is the first of two required courses that emphasize the physical therapy management of infants, children and adolescents with disabilities and health conditions across various body systems, and different delivery settings. Didactic material for various system pathologies will be presented. Clinical reasoning applied and best evidence will guide students to choose appropriate examination tools, write meaningful goals and develop a physical therapy plan of care. Child development with an emphasis on functional movement, from the pre-natal period through adolescence will be discussed in the context of physical therapy management of infants, children, and adolescents. | Fall 2021 |

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| PSY 675 | Mindfulness and Acceptance-based Treatments | This course is designed to provide an introduction to third generation acceptance-based behavior theory and therapies (ABBTs), broadly writ. The goal is to enhance students' theoretical, empirical, and practical understanding of ABBTs as it relates to the etiology, maintenance, assessment, and treatment of various forms of psychopathology, and to lay the foundation for the development of basic competencies in various ABBT technologies. Readings and lectures will address a variety of topics, including basic learning, behavioral, cognitive, and biological processes and mechanisms, as well as various assessment and intervention strategies developed within or associated with the applied behavioral tradition. | Fall 2021 |
| PTRS 680 | Geriatric Physical Therapy | This is a required course for all entry-level Doctor of Physical Therapy students. This course addresses the physical, cognitive, emotional, and social-cultural aspects of aging, and the changes that occur throughout adulthood. Course content will provide foundational knowledge for concurrent and subsequent courses for physical therapy examination and intervention. | Fall 2021 |
| PTRS 665 | Pediatric Physical Therapy II | This is the second of two required courses that emphasize the physical therapy management of infants, children and adolescents with disabilities and health conditions across various body systems, and different delivery settings. Didactic material for various system pathologies will be presented. Clinical reasoning applied and best evidence will guide students to choose appropriate examination tools, write meaningful goals and develop a physical therapy plan of care. Child development with an emphasis on functional movement, from the pre-natal period through adolescence will be discussed in the context of physical therapy management of infants, children, and adolescents. | Fall 2021 |
| PTRS 791 | Clinical Experience I | This course is the first of three required full-time supervised clinical education experiences. This course is the student's opportunity to begin to apply classroom knowledge and laboratory skills with patients and clients. The student also begins to develop as a professional through role modeling by the clinical instructor. | Fall 2021 |
| PTRS 792 | Terminal Clinical Experience II | This course is the second of three required full-time supervised clinical education experiences. The student continues to apply classroom knowledge and laboratory skills and will be involved in all aspects of patient-client management (examination, evaluation, diagnosis, prognosis, intervention, discharge, and outcomes management). | Fall 2021 |
| PTRS 793 | Terminal Clinical Experience III | This course is a final, full-time, supervised clinical education experience. The student attains mastery of knowledge, skills, and attitudes to effectively and safely practice in today's healthcare environment. The student will experience the multiple roles of the physical therapist, such as those related to administration and health promotion. | Fall 2021 |

# Architectural Studies BS

## Program Requirements

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| **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 | |
| MATH 101 | Introduction to Analysis I | 4.0 |
| MATH 102 | Introduction to Analysis II | 4.0 |
| PHYS 182 | Applied Physics I | 3.0 |
| PHIL 317 | Ethics and Design Professions | 3.0 |
| UNIV A101 | The Drexel Experience | 2.0 |
| Arts and Humanities - students elect a minimum of 12 credits | | 12.0 |
| Natural Science - students elect a minimum of 3 credits | | 3.0 |
| Social Science - students elect a minimum of 9 credits | | 9.0 |
| Free Electives | | 24.0 |
| **Architecture Requirements** | | |
| **Studios (must be taken in sequence)** | | |
| ARCH 181 | Architecture Studio 1A | 4.0 |
| ARCH 182 | Architecture Studio 1B | 4.0 |
| ARCH 183 | Architecture Studio 1C | 4.0 |
| ARCH 281 | Architecture Studio 2A | 4.0 |
| ARCH 282 | Architecture Studio 2B | 4.0 |
| ARCH 283 | Architecture Studio 2C | 4.0 |
| **Required Professional Courses** | | |
| ARCH 141 | Architecture and Society I | 3.0 |
| ARCH 142 | Architecture and Society II | 3.0 |
| ARCH 143 | Architecture and Society III | 3.0 |
| ARCH 144 | Architecture and Society IV | 3.0 |
| ARCH 211 | Architectural Representation I | 2.0 |
| ARCH 212 | Architectural Representation II | 2.0 |
| ARCH 213 | Architectural Representation III | 2.0 |
| ARCH 221 | Materials & Methods I | 1.5 |
| ARCH 222 | Materials & Methods II | 1.5 |
| ARCH 223 | Materials & Methods III | 1.5 |
| ARCH 224 | Architectural Representation IV | 2.0 |
| ARCH 225 | Architectural Representation V | 2.0 |
| ARCH 226 | Architectural Representation VI | 2.0 |
| ARCH 251 | Structural Systems I | 1.5 |
| ARCH 252 | Structural Systems II | 1.5 |
| ARCH 253 | Structural Systems III | 1.5 |
| **Senior Project Sequence** | | |
| ARCH 490 | Capstone Project I | 4.0 |
| ARCH 492 | Capstone Project II | 4.0 |
| **Architecture Electives** | | **23.0** |
| ARCH 315 | Sustainable Built Environment I | |
| ARCH 320 | Sustainable Built Environment II | |
| ARCH 341 [WI] | Theories of Architecture I | |
| ARCH 342 [WI] | Theories of Architecture II | |
| ARCH 343 | Theories of Architecture III | |
| ARCH 346 [WI] | History of Philadelphia Architecture | |
| ARCH 347 [WI] | Intensive Architectural Studies | |
| ARCH 348 [WI] | Studies in Vernacular Architecture | |
| ARCH 350 | Contemporary Architecture | |
| ARCH 421 [WI] | Environmental Psychology and Design Theory | |
| ARCH 432 | The Development Process | |
| ARCH 441 | Urban Design Seminar | |
| ARCH 451 | Advanced Drawing | |
| ARCH 463 | Emerging Architectural Technology | |
| **Interdisciplinary Pathway Electives** | | **18.0** |
| Animation & Visual Effects | | |
| ANIM 140 | Computer Graphics Imagery I | |
| ANIM 141 | Computer Graphics Imagery II | |
| Art History | | |
| ARTH 150 | Building Skills in Object Analysis | |
| ARTH 300 [WI] | History of Modern Design | |
| ARTH 302 | Art of India | |
| ARTH 303 | Art of China | |
| ARTH 304 | Art of Japan | |
| ARTH 314 | Contemporary Art | |
| ARTH 316 | African Art | |
| ARTH 318 | Latin American Art | |
| ARTH 321 | Material Matters in Contemporary Art | |
| Construction Management | | |
| CMGT 263 | Understanding Construction Drawings | |
| CMGT 355 | Introduction to Sustainability in Construction | |
| CMGT 361 | Contracts And Specifications I | |
| CMGT 362 | Contracts and Specifications II | |
| CMGT 363 | Estimating I | |
| CMGT 467 | Techniques of Project Control | |
| Fine Arts and Visual Studies | | |
| VSST 102 | Design II | |
| VSST 103 | Design III | |
| VSST 114 | Tablet Drawing | |
| VSST 202 | Multimedia: Space | |
| VSST 203 | Multimedia: Materials | |
| VSST 304 | Materials Exploration | |
| Game Design & Production | | |
| CS 171 | Computer Programming I | |
| DIGM 105 | Overview of Digital Media | |
| DIGM 350 [WI] | Digital Storytelling | |
| GMAP 102 | Game Design Lab II | |
| GMAP 211 | Game User Interface Design | |
| GMAP 231 | Scripting for Game Design | |
| GMAP 260 | Overview of Computer Gaming | |
| GMAP 341 | Serious Games | |
| GMAP 342 | Experimental Games | |
| Graphic Design | | |
| VSCM 200 | Computer Imaging II | |
| VSCM 230 | Visual Communication I | |
| VSCM 231 | Visual Communication II | |
| VSCM 232 | Visual Communication III | |
| VSCM 240 | Typography I | |
| VSCM 242 | Typography II | |
| VSCM 350 [WI] | Graphic Design: 20th Century and Beyond | |
| Interior Design | | |
| INTR 200 | History of Modern Architecture and Interiors | |
| INTR 211 | Textiles for Interiors | |
| INTR 250 | Interior Materials | |

| | |
|---|---|
| INTR 300 [WI] | Visual Culture: Interiors |
| INTR 305 [WI] | Visual Culture: Furniture |
| INTR 441 | Furniture Design |
| Photography | |
| PHTO 110 | Photography |
| PHTO 141 | Digital Photographic Post Production |
| PHTO 210 | Intermediate Photography |
| PHTO 275 [WI] | History of Photography I |
| PHTO 276 [WI] | History of Photography II |
| Product Design | |
| PROD 101 | History and Analysis of Product Design |
| PROD 205 | Applied Making I |
| PROD 210 | Introduction to Product Design |
| PROD 215 | Design Thinking in Product Design |
| PROD 235 | Applied Design Visualization |
| PROD 240 | Smart Product Design |
| PROD 340 | Interdisciplinary Product Design Studio |
| Virtual Reality & Immersive Media | |
| VRIM 100 | Digital Tools for VR/AR Media |
| VRIM 110 | Digital Imaging for VR/AR Media |
| VRIM 120 | VR/AR Production Lab I |
| **Total Credits** | **181.0** |

Students not participating in co-op will take one additional credit of ARCH Elective instead of COOP 101

# Sample Plan of Study

## 4 YR., 1 COOP

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ARCH 141 | 3.0 | ARCH 142 | 3.0 | ARCH 143 | 3.0 | VACATION | |
| ARCH 181 | 4.0 | ARCH 182 | 4.0 | ARCH 183 | 4.0 | | |
| ARCH 211 | 2.0 | ARCH 212 | 2.0 | ARCH 213 | 2.0 | | |
| ENGL 101 or 111 | 3.0 | ENGL 102 or 112 | 3.0 | CIVC 101 | 1.0 | | |
| MATH 101 | 4.0 | MATH 102 | 4.0 | ENGL 103 or 113 | 3.0 | | |
| UNIV A101 | 1.0 | UNIV A101 | 1.0 | PHYS 182 | 3.0 | | |
| | **17** | | **17** | | **16** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ARCH 221 | 1.5 | ARCH 144 | 3.0 | ARCH 223 | 1.5 | COOP 101* | 1.0 |
| ARCH 224 | 2.0 | ARCH 222 | 1.5 | ARCH 226 | 2.0 | Architecture Elective | 6.0 |
| ARCH 251 | 1.5 | ARCH 225 | 2.0 | ARCH 253 | 1.5 | Arts & Humanities Elective | 3.0 |
| ARCH 281 | 4.0 | ARCH 252 | 1.5 | ARCH 283 | 4.0 | Elective | 3.0 |
| Arts & Humanities Elective | 3.0 | ARCH 282 | 4.0 | Architecture Elective | 2.0 | | |
| Interdisciplir Pathway Elective | 3.0 | Elective | 3.0 | Elective | 3.0 | | |
| | | | | Natural Science Elective | 3.0 | | |
| | **15** | | **15** | | **17** | | **13** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| Architecture Elective | 3.0 | Architecture Elective | 3.0 | COOP EXPERIENCE | | COOP EXPERIENCE | |
| Arts and Humanities Elective | 3.0 | Arts & Humanities Elective | 3.0 | | | | |
| Interdisciplinary Pathway Elective | 3.0 | Interdisciplinary Pathway Elective | 3.0 | | | | |
| Social Science Elective | 3.0 | Social Science Elective | 3.0 | | | | |
| Elective | 3.0 | Elective | 3.0 | | | | |
| | **15** | | **15** | | **0** | | **0** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| Architecture Elective | 6.0 | ARCH 490 | 4.0 | ARCH 492 | 4.0 |
| Arts & Humanities Elective | 3.0 | Architecture Elective | 3.0 | PHIL 317 | 3.0 |
| Interdisciplinary Pathway Elective | 3.0 | Interdisciplinary Pathway Elective | 3.0 | Interdisciplinary Pathway Elective | |

* 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.

## 4 YR., No COOP

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ARCH 141 | 3.0 | ARCH 142 | 3.0 | ARCH 143 | 3.0 | VACATION | |
| ARCH 181 | 4.0 | ARCH 182 | 4.0 | ARCH 183 | 4.0 | | |
| ARCH 211 | 2.0 | ARCH 212 | 2.0 | ARCH 213 | 2.0 | | |
| ENGL 101 or 111 | 3.0 | ENGL 102 or 112 | 3.0 | ENGL 103 or 113 | 3.0 | | |
| MATH 101 | 4.0 | MATH 102 | 4.0 | PHYS 182 | 3.0 | | |
| UNIV A101 | 1.0 | UNIV A101 | 1.0 | CIVC 101 | 1.0 | | |
| | **17** | | **17** | | **16** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ARCH 221 | 1.5 | ARCH 144 | 3.0 | ARCH 223 | 1.5 | VACATION | |
| ARCH 224 | 2.0 | ARCH 222 | 1.5 | ARCH 226 | 2.0 | | |
| ARCH 251 | 1.5 | ARCH 225 | 2.0 | ARCH 253 | 1.5 | | |
| ARCH 281 | 4.0 | ARCH 252 | 1.5 | ARCH 283 | 4.0 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Arts & Humanities Elective | 3.0 | ARCH 282 | 4.0 | Architecture Elective | 3.0 | | |
| Elective | 3.0 | Arts & Humanites Elective | 3.0 | Natural Science Elective | 3.0 | | |
| | **15** | | **15** | | **15** | | **0** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| Architecture Elective | 3.0 | Architecture Elective | 6.0 | PHIL 317 | 3.0 | VACATION | |
| Arts & Humanites Elective | 3.0 | Arts & Humanities Elective | 3.0 | Architecture Elective | 3.0 | | |
| Interdisciplinary Pathway Elective | 3.0 | Interdisciplinary Pathway Elective | 3.0 | Interdisciplinary Pathway Elective | 3.0 | | |
| Social Science Elective | 3.0 | Elective | 3.0 | Social Science Elective | 3.0 | | |
| Elective | 3.0 | | | Elective | 3.0 | | |
| | **15** | | **15** | | **15** | | **0** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| Architecture Elective | 6.0 | ARCH 490 | 4.0 | ARCH 492 | 4.0 |
| Interdisciplir Pathway Elective | 3.0 | Architecture Elective | 3.0 | Interdisciplir Pathway Elective | 3.0 |
| Social Science Elective | 3.0 | Interdisciplinary Pathway Elective | 3.0 | Elective | 6.0 |
| Elective | 3.0 | Elective | 3.0 | | |
| | **15** | | **13** | | **13** |

**Total Credits 181**

# 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

| | | |
|---|---|---|
| **Required Courses** | | **11.0** |
| 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 | |
| **Choose one track** | | **8.0** |
| 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 | |
| **Actuarial Science Electives** | | |
| Select 2 of the following * | | 6.0 |
| FIN 321 | Investment Securities & Markets ** | |
| MATH 318 [WI] | Mathematical Applications of Statistical Software | |
| MATH 320 | Actuarial Mathematics | |
| MATH 449 | Mathematical Finance | |
| **Total Credits** | | **25.0** |

* 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.

# Behavioral Economics, Business, and Organizations

## Degree Requirements

| | | |
|---|---|---|
| **University Requirements** | | **4.0** |
| CIVC 101 | Introduction to Civic Engagement | 1.0 |
| COOP 101 | Career Management and Professional Development | 1.0 |
| UNIV B101 | The Drexel Experience | 1.0 |
| UNIV B201 [WI] | Career Management | 1.0 |
| **General Education Requirements** | | |
| 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 | |
| **Mathematics and Statistics Requirements** | | |
| ECON 350 [WI] | Applied Econometrics | 4.0 |
| ECON 370 | Experiments and Causality in Economics | 4.0 |
| MATH 121 | Calculus I | 4.0 |
| MATH 122 | Calculus II | 4.0 |
| STAT 201 | Introduction to Business Statistics | 4.0 |
| **Economics Requirements** | | |
| ECON 201 | Principles of Microeconomics | 4.0 |
| ECON 202 | Principles of Macroeconomics | 4.0 |
| ECON 250 | Game Theory and Applications | 4.0 |
| ECON 301 | Microeconomics | 4.0 |
| ECON 322 [WI] | Economics Seminar | 4.0 |
| **Behavioral Economics Requirements** | | |
| ECON 365 | Behavioral Economics | 4.0 |
| ECON 366 | Topics in Behavioral Economics | 4.0 |
| **Behavioral Science and Business Requirements** | | |
| MKTG 201 | Introduction to Marketing Management | 4.0 |
| MKTG 356 | Consumer Behavior | 4.0 |
| ORGB 300 [WI] | Organizational Behavior | 4.0 |
| PSY 101 | General Psychology I | 3.0 |
| or PSY 111 | Pre-Professional General Psychology I | |
| **Behavioral Economics Electives** | | |
| Choose 2 courses from the following | | 8.0 |
| ECON 330 | Managerial Economics | |
| ECON 334 | Public Finance | |
| ECON 336 | Labor Economics | |
| ECON 361 | Health Economics | |
| FIN 150 | Financial Literacy | |
| FIN 350 | Personal Finance | |
| **Behavioral Science and Business Electives** | | |
| A total of 5 courses must be chosen. | | 16.0 |
| Choose at least 3 courses from the following | | |
| MKTG 326 | Marketing Insights | |
| MKTG 367 | Data-Driven Digital Marketing | |
| MGMT 301 | Designing Innovative Organizations | |
| ORGB 320 | Leadership: Theory and Practice | |
| ORGB 370 | Dynamic Team Consulting | |
| ORGB 400 | Team Development and Leadership | |
| ORGB 420 | Negotiations and Conflict Resolution | |
| PSY 312 | Cognitive Neuroscience | |
| PSY 330 | Cognitive Psychology | |
| You can choose up to 2 courses from the following | | |
| ENTP 225 [WI] | Mindfulness & Wellbeing | |
| ENTP 270 | Social Entrepreneurship | |
| SOC 318 | Social Networks and Health | |
| WGST 324 | Retail Intersections: Social & Cultural Issues | |
| **Empirical/Research Methods Elective** | | |
| Choose 1 course from the following: | | 3.0 |
| ECON 270 | Using Big Data to Solve Economic and Social Problems | |
| INFO 371 | Data Mining Applications | |
| MKTG 366 | Customer Analytics | |
| STAT 331 | Introduction to Data Mining for Business | |
| STAT 335 | Introduction to Experimental Design | |
| **Economics Electives** | | |
| A total of 4 courses must be chosen. Any ECON course from the above categories can be chosen if it is not used to fulfill the corresponding category requirements. | | 16.0 |
| ECON 203 [WI] | Survey of Economic Policy | |
| ECON 260 | Economics of Small Business | |
| ECON 321 | Macroeconomics | |
| ECON 326 [WI] | Economic Ideas | |
| ECON 330 | Managerial Economics | |
| ECON 331 | International Macroeconomics | |
| ECON 334 | Public Finance | |
| ECON 336 | Labor Economics | |
| ECON 338 | Industrial Organization | |
| ECON 342 | Economic Development | |
| ECON 344 | Comparative Economic Systems | |
| ECON 348 | Mathematical Economics | |
| ECON 351 | Resource and Environmental Economics | |
| ECON 354 | Money and Banking | |
| ECON 360 | Time Series Econometrics | |
| ECON 361 | Health Economics | |
| ECON T480 | Special Topics in ECON | |
| INTB 332 | Multinational Corporations | |
| INTB 334 | International Trade | |
| INTB 336 | International Money and Finance | |
| INTB 338 | Regional Studies in Economic Policies and International Business | |
| INTB 440 | Seminar in International Business | |
| SMT 320 | Sport Economics | |
| **Free Electives** | | **54.0** |
| **Total Credits** | | **180.0** |

* Students not participating in co-op will not take COOP 101; 1 credit of Free electives will be added in place of COOP 101.
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 who elect higher credit courses will have fewer free electives

# Sample Plan of Study

## 5 Year 3 Coop

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CIVC 101 | 1.0 | ECON 202 | 4.0 | COM 230 | 3.0 | VACATION | |
| ECON 201 | 4.0 | ECON 270 (or Free elective) | 4.0 | COOP 101* | 1.0 | | |
| ENGL 101 or 111 | 3.0 | ENGL 102 or 112 | 3.0 | ECON 203 (or Free elective) | 4.0 | | |
| MATH 121 | 4.0 | MATH 122 | 4.0 | ENGL 103 or 113 | 3.0 | | |
| PSY 101 | 3.0 | | | Free elective | 3.0 | | |
| UNIV B101 | 1.0 | | | | | | |
| | **16** | | **15** | | **14** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ECON 301 | 4.0 | ECON 250 | 4.0 | COOP EXPERIENCE | | COOP EXPERIENCE | |
| MKTG 201 | 4.0 | ECON 350 | 4.0 | | | | |
| PSY 330 (or Behavioral Science and Business elective) | 3.0 | ECON 365 | 4.0 | | | | |
| STAT 201 | 4.0 | MKTG 356 | 4.0 | | | | |
| | **15** | | **16** | | **0** | | **0** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ECON 366 | 4.0 | Behavioral Science and Business electives | 8.0 | COOP EXPERIENCE | | COOP EXPERIENCE | |
| ECON 370 | 4.0 | Empirical-Research elective/ Free elective | 4.0 | | | | |
| ORGB 300 | 4.0 | Free elective | 3.0 | | | | |
| Free elective | 3.0 | | | | | | |
| | **15** | | **15** | | **0** | | **0** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| Behavioral Economics elective | 4.0 | Behavioral Economics elective | 4.0 | COOP EXPERIENCE | | COOP EXPERIENCE | |
| Behavioral Science and Business elective | 4.0 | Behavioral Science and Business elective | 4.0 | | | | |
| ECON elective | 4.0 | ECON elective | 4.0 | | | | |
| Free elective | 3.0 | Free elective | 3.0 | | | | |
| | **15** | | **15** | | **0** | | **0** |

**Fifth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| UNIV B201 | 1.0 | ECON 322 | 4.0 | Free electives | 13.0 |
| ECON elective | 4.0 | ECON elective/ Free elective | 4.0 | | |
| Free electives | 10.0 | Free electives | 8.0 | | |
| | **15** | | **16** | | **13** |

**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.

## 4 Year 1 Coop

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CIVC 101 | 1.0 | ECON 202 | 4.0 | COM 230 | 3.0 | VACATION | |
| ECON 201 | 4.0 | ECON 270 (or Free elective) | 4.0 | COOP 101* | 1.0 | | |
| ENGL 101 or 111 | 3.0 | ENGL 102 or 112 | 3.0 | ECON 203 (or Free elective) | 4.0 | | |
| MATH 121 | 4.0 | MATH 122 | 4.0 | ENGL 103 or 113 | 3.0 | | |
| PSY 101 | 3.0 | | | Free elective | 3.0 | | |
| UNIV B101 | 1.0 | | | | | | |
| | **16** | | **15** | | **14** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ECON 301 | 4.0 | ECON 250 | 4.0 | Behavioral Science and Business electives | 8.0 | Behavioral Economics elective | 4.0 |
| MKTG 201 | 4.0 | ECON 350 | 4.0 | Empirical-Research elective/ Free elective | 4.0 | Behavioral Science and Business elective | 4.0 |
| PSY 330 (or Behavioral Science and Business elective) | 3.0 | ECON 365 | 4.0 | Free elective | 3.0 | ECON elective | 4.0 |
| STAT 201 | 4.0 | MKTG 356 | 4.0 | | | Free elective | 3.0 |
| | **15** | | **16** | | **15** | | **15** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ECON 366 | 4.0 | Behavioral Economics elective | 4.0 | COOP EXPERIENCE | | COOP EXPERIENCE | |
| ECON 370 | 4.0 | Behavioral Science and Business elective | 4.0 | | | | |
| ORGB 300 | 4.0 | ECON elective | 4.0 | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Free elective | 3.0 | Free elective | 3.0 | | | | |
| | **15** | | **15** | | **0** | | **0** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | | |
|---|---|---|---|---|---|---|---|
| UNIV B201 | 1.0 | ECON 322 | 4.0 | Free electives | 13.0 | | |
| ECON elective | 4.0 | ECON elective/ Free elective | 4.0 | | | | |
| Free electives | 10.0 | Free electives | 8.0 | | | | |
| | **15** | | **16** | | **13** | | |

**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.

## 4 Year No Coop

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CIVC 101 | 1.0 | ECON 202 | 4.0 | COM 230 | 3.0 | VACATION | |
| ECON 201 | 4.0 | ECON 270 (or Free elective) | 4.0 | ENGL 103 or 113 | 3.0 | | |
| ENGL 101 or 111 | 3.0 | ENGL 102 or 112 | 3.0 | ECON 203 (or Free elective) | 4.0 | | |
| MATH 121 | 4.0 | MATH 122 | 4.0 | Free Elective | 4.0 | | |
| PSY 101 | 3.0 | | | | | | |
| UNIV B101 | 1.0 | | | | | | |
| | **16** | | **15** | | **14** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ECON 301 | 4.0 | ECON 250 | 4.0 | Behavioral Science and Business elective | 4.0 | VACATION | |
| STAT 201 | 4.0 | ECON 350 | 4.0 | Behavioral Science and Business elective | 4.0 | | |
| PSY 330 (or Behavioral Science and Business elective) | 3.0 | ECON 365 | 4.0 | Empirical-Research elective/ Free elective | 4.0 | | |
| MKTG 201 | 4.0 | MKTG 356 | 4.0 | Free elective | 3.0 | | |
| | **15** | | **16** | | **15** | | **0** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ECON 366 | 4.0 | Behavioral Economics elective | 4.0 | Behavioral Economics elective | 4.0 | VACATION | |
| ECON 370 | 4.0 | Behavioral Science and Business elective | 4.0 | Behavioral Science and Business elective | 4.0 | | |
| ORGB 300 | 4.0 | ECON elective | 4.0 | ECON elective | 4.0 | | |
| Free elective | 3.0 | Free elective | 3.0 | Free elective | 3.0 | | |
| | **15** | | **15** | | **15** | | **0** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | | |
|---|---|---|---|---|---|---|---|
| UNIV B201 | 1.0 | ECON 322 | 4.0 | Free electives | 13.0 | | |
| ECON elective | 4.0 | ECON elective/ Free elective | 4.0 | | | | |
| Free electives | 10.0 | Free electives | 8.0 | | | | |
| | **15** | | **16** | | **13** | | |

**Total Credits 180**

# Minor in Climate Change

## Program Requirements

| | | |
|---|---|---|
| **Core Course (one of the following three courses is required)** | | **3.0** |
| GEO 201 [WI] | Earth Systems Processes | |
| ENVS 275 | Global Climate Change | |
| PHEV 145 | Weather I: Climate and Global Change | |
| **Social Science and Humanities Courses (at least 3 courses are required)** | | **12.0** |
| 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 | |
| **Natural Science, Engineering and Design Courses (at least 3 courses are required)** | | **9.0** |
| 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 | |
| **Total Credits** | | **24.0** |

# DragonsTeach Certification Minor

## Program Requirements

| | | |
|---|---|---|
| **Introductory Courses** | | |
| ESTM 201 | DragonsTeach: Step 1 | 1.5 |
| ESTM 210 | DragonsTeach: Step 2 | 1.5 |
| **STEM Education Core Courses** | | |
| ESTM 301 | Knowing and Learning in Mathematics and Science | 3.0 |
| ESTM 302 | Classroom Interactions | 3.0 |
| ESTM 350 | Project-Based Instruction | 4.0 |
| **History of Science or Mathematics Course** * | | |
| ESTM 362 | Perspectives in Science and Mathematics Education | 3.0 |
| or MTED 428 | Cultural and Historical Significance of Mathematics | |
| or HIST 285 | Technology in Historical Perspective | |
| **STEM Teaching Methods Course** | | |
| MTED 419 | Teaching Secondary Mathematics | 3.0 |
| or EDUC 315 | Secondary Science Teaching Methods | |
| or ESTM 335 | Teaching Secondary Computer Science | |
| **STEM Research Methods** ** | | |
| ESTM 364 | Methods of Research and Inquiry in Science and Mathematics | 3.0 |
| **Special Education and English Language Learner Courses** | | |
| EDEX 142 | Special Education Foundations: Referral and Assessment | 3.0 |
| EDEX 344 | Inclusionary Practices for Exceptional Students | 3.0 |
| EDUC 365 | Foundations in Instructing English Language Learners | 3.0 |
| **Student Teaching** | | |
| ESTM 409 | Student Teaching Seminar | 3.0 |
| **Total Credits** | | **34.0** |

* Specific course selected in consultation with a School of Education academic advisor and is dependent on student's aspirations for teacher certification.

** A Research/Methods/Design course from a student's home department may be substituted in consultation with a School of Education academic advisor.

NOTE: In addition, students specifically pursuing secondary level Mathematics PA Teacher Certification must also complete ESTM T380: Functions and Modeling.

# DragonsTeach Math Certification Minor

| | | |
|---|---|---|
| **Introductory Courses** | | |
| ESTM 201 | DragonsTeach: Step 1 | 1.5 |
| ESTM 210 | DragonsTeach: Step 2 | 1.5 |
| **STEM Education Core Courses** | | |
| ESTM 301 | Knowing and Learning in Mathematics and Science | 3.0 |
| ESTM 302 | Classroom Interactions | 3.0 |
| ESTM 350 | Project-Based Instruction | 4.0 |
| **History of Science or Mathematics Course** * | | |
| ESTM 362 | Perspectives in Science and Mathematics Education | 3.0 |
| or MTED 428 | Cultural and Historical Significance of Mathematics | |
| or HIST 285 | Technology in Historical Perspective | |
| **STEM Teaching Methods Course** | | |
| MTED 419 | Teaching Secondary Mathematics | 3.0 |
| or EDUC 315 | Secondary Science Teaching Methods | |
| or ESTM 335 | Teaching Secondary Computer Science | |
| **STEM Research Methods** ** | | |
| ESTM 364 | Methods of Research and Inquiry in Science and Mathematics | 3.0 |
| **Special Education and English Language Learner Courses** | | |
| EDEX 142 | Special Education Foundations: Referral and Assessment | 3.0 |
| EDEX 344 | Inclusionary Practices for Exceptional Students | 3.0 |
| EDUC 365 | Foundations in Instructing English Language Learners | 3.0 |
| **Student Teaching** | | |
| ESTM 409 | Student Teaching Seminar | 3.0 |
| **Math Certification Course** | | |
| ESTM T380 | Special topics in ESTM | 3.0 |
| **Total Credits** | | **37.0** |

* Specific course selected in consultation with a School of Education academic advisor and is dependent on student's aspirations for teacher certification.

** A Research/Methods/Design course from a student's home department may be substituted in consultation with a School of Education academic advisor.

NOTE: In addition, students specifically pursuing secondary level Mathematics PA Teacher Certification must also complete ESTM T380

# DragonsTeach Middle Years Certification Minor

| | | |
|---|---|---|
| **Introductory Course** | | |
| ESTM 201 | DragonsTeach: Step 1 | 1.5 |
| **Special Education and English Language Learner Courses** | | |
| EDEX 142 | Special Education Foundations: Referral and Assessment | 3.0 |
| EDEX 344 | Inclusionary Practices for Exceptional Students | 3.0 |
| EDEX 368 | Literacy and Content Skill Development PK-12 | 3.0 |
| EDUC 365 | Foundations in Instructing English Language Learners | 3.0 |
| **Pedagogy Courses** | | |
| EDUC 223 | Teaching the Middle School Child | 3.0 |
| EDUC 308 | Creating a Positive Classroom Climate | 3.0 |
| EDUC 316 | Teaching in Urban Contexts | 3.0 |
| EDUC 328 | Language Arts Processes 4-8 | 3.0 |
| **Pre-residency** | | |
| EDUC 360 | English/Language Arts Teaching Methods for the Middle Years | 1.5 |
| EDUC 361 | Middle Years Science Methods | 1.5 |
| EDUC 362 | Middle Years Social Studies Methods | 1.5 |
| MTED 363 | Middle Years Mathematics Methods (4-8) | 1.5 |
| **Student Teaching** | | |
| ESTM 409 | Student Teaching Seminar (repeat 3-credit course twice) | 6.0 |
| **Total Credits** | | **37.5** |

# DragonsTeach Middle Years Minor

| | | |
|---|---|---|
| **Introductory Courses** | | |
| ESTM 201 | DragonsTeach: Step 1 | 1.5 |
| ESTM 210 | DragonsTeach: Step 2 | 1.5 |
| **Special Education and English Language Learner Courses** | | |
| EDEX 142 | Special Education Foundations: Referral and Assessment | 3.0 |
| EDEX 344 | Inclusionary Practices for Exceptional Students | 3.0 |
| EDEX 368 | Literacy and Content Skill Development PK-12 | 3.0 |
| EDUC 365 | Foundations in Instructing English Language Learners | 3.0 |
| **Pedagogy Courses** | | |
| EDUC 223 | Teaching the Middle School Child | 3.0 |
| EDUC 308 | Creating a Positive Classroom Climate | 3.0 |
| EDUC 316 | Teaching in Urban Contexts | 3.0 |
| **Total Credits** | | **24.0** |

# Economics and Business

## Degree Requirements

**University Requirements**

| | | |
|---|---|---|
| COOP 101 | Career Management and Professional Development * | 1.0 |
| CIVC 101 | Introduction to Civic Engagement | 1.0 |
| UNIV B101 | The Drexel Experience | 1.0 |
| UNIV B201 [WI] | Career Management | 1.0 |
| or UNIV S201 | Looking Forward: Academics and Careers | |
| General Education Courses | | |
| 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 | |
| COM 230 | Techniques of Speaking | 3.0 |
| CS 150 | Computer Science Principles | 3.0 |
| or CS 164 | Introduction to Computer Science | |
| CS 171 | Computer Programming I | 3.0 |
| CS 172 | Computer Programming II | 3.0 |
| One course in PHIL, PSY, SOC, HIST or PSCI | | 3.0 |
| One course in BIO, CHEM, ENVS or PHYS | | 3.0 |
| 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 [WI] | Introduction to Mathematical Reasoning | 3.0 |
| MATH 311 | Probability and Statistics I | 4.0 |
| MATH 312 | Probability and Statistics II | 4.0 |
| MATH 401 | Elements of Modern Analysis I | 3.0 |
| Mathematics Electives: Choose 14 credits from the following | | 14.0 |
| MATH 222 [WI] | Combinatorics | |
| 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 313 | Probability and Statistics III | |
| MATH 318 [WI] | Mathematical Applications of Statistical Software | |
| 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 402 | Elements of Modern Analysis II | |
| MATH 449 | Mathematical Finance | |
| MATH 450 | Introduction to Graph Theory | |
| MATH 475 | Cryptography | |
| MATH 483 | Introduction to Monte Carlo Methods | |
| Economics Requirements | | |
| ECON 201 | Principles of Microeconomics | 4.0 |
| ECON 202 | Principles of Macroeconomics | 4.0 |
| ECON 250 | Game Theory and Applications | 4.0 |
| ECON 301 | Microeconomics | 4.0 |
| ECON 321 | Macroeconomics | 4.0 |
| ECON 322 [WI] | Economics Seminar | 4.0 |
| ECON 348 | Mathematical Economics | 4.0 |
| ECON 350 [WI] | Applied Econometrics | 4.0 |
| ECON 360 | Time Series Econometrics | 4.0 |
| or ECON 370 | Experiments and Causality in Economics | |
| Economics Electives -- choose 4 of the following courses | | 16.0 |
| ECON 203 [WI] | Survey of Economic Policy | |
| ECON 260 | Economics of Small Business | |
| ECON 270 | Using Big Data to Solve Economic and Social Problems | |
| ECON 326 [WI] | Economic Ideas | |
| ECON 330 | Managerial Economics | |
| ECON 331 | International Macroeconomics | |
| ECON 334 | Public Finance | |
| ECON 336 | Labor Economics | |
| ECON 338 | Industrial Organization | |
| ECON 342 | Economic Development | |
| ECON 344 | Comparative Economic Systems | |
| ECON 351 | Resource and Environmental Economics | |
| ECON 354 | Money and Banking | |
| ECON 360 | Time Series Econometrics | |
| ECON 361 | Health Economics | |
| ECON 365 | Behavioral Economics | |
| ECON 366 | Topics in Behavioral Economics | |
| ECON 370 | Experiments and Causality in Economics | |
| ECON T480 | Special Topics in ECON | |
| INTB 332 | Multinational Corporations | |
| INTB 334 | International Trade | |
| INTB 336 | International Money and Finance | |
| INTB 338 | Regional Studies in Economic Policies and International Business | |
| INTB 440 | Seminar in International Business | |
| SMT 320 | Sport Economics | |
| Free Electives | | 45.0 |
| **Total Credits** | | **180.0** |

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

### 5 Year 3 Coop

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CIVC 101 | 1.0 | CS 171 | 3.0 | COOP 101** | 1.0 | VACATION | |
| CS 150 or 164 | 3.0 | ECON 202 | 4.0 | CS 172 | 3.0 | | |
| ECON 201 | 4.0 | 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 | ECON Elective* | 4.0 | MATH 200 | 4.0 | | |
| UNIV B101 | 1.0 | | | ECON Elective*** | 4.0 | | |
| | **16** | | **18** | | **19** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ECON 301 | 4.0 | ECON 250 | 4.0 | COOP EXPERIENCE | | COOP EXPERIENCE | |
| MATH 220 | 3.0 | ECON 321 | 4.0 | | | | |
| MATH 311 | 4.0 | MATH 312 | 4.0 | | | | |
| Science elective | 3.0 | PHIL or Social Science Elective | 3.0 | | | | |
| | **14** | | **15** | | **0** | | **0** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ECON 350 | 4.0 | ECON 360 or 370 | 4.0 | COOP EXPERIENCE | | COOP EXPERIENCE | |
| MATH 201 | 4.0 | MATH 210 | 4.0 | | | | |
| ECON Elective | 4.0 | MATH Elective | 4.0 | | | | |
| MATH Elective | 4.0 | Free Elective | 4.0 | | | | |
| | **16** | | **16** | | **0** | | **0** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ECON Elective | 4.0 | ECON 348 | 4.0 | COOP EXPERIENCE | | COOP EXPERIENCE | |
| MATH Elective | 3.0 | MATH Elective | 3.0 | | | | |
| Free Electives | 8.0 | Free Electives | 7.0 | | | | |
| | **15** | | **14** | | **0** | | **0** |

**Fifth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| ECON 322 | 4.0 | Free Electives | 12.0 | Free Electives | 12.0 |
| UNIV B201 or S201 | 1.0 | | | | |
| Free Electives | 8.0 | | | | |
| | **13** | | **12** | | **12** |

**Total Credits 180**

* ECON 270 recommended

** 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.

*** ECON 203 [WI] recommended

## 4 Year 1 Coop

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CIVC 101 | 1.0 | CS 171 | 3.0 | COOP 101** | 1.0 | VACATION | |
| CS 150 or 164 | 3.0 | ECON 202 | 4.0 | CS 172 | 3.0 | | |
| ECON 201 | 4.0 | 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 | ECON Elective* | 4.0 | MATH 200 | 4.0 | | |
| UNIV B101 | 1.0 | | | ECON Elective*** | 4.0 | | |
| | **16** | | **18** | | **19** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ECON 301 | 4.0 | ECON 250 | 4.0 | ECON 350 | 4.0 | MATH 210 | 4.0 |
| MATH 220 | 3.0 | ECON 321 | 4.0 | MATH 201 | 4.0 | ECON Elective | 4.0 |
| MATH 311 | 4.0 | MATH 312 | 4.0 | ECON Elective | 4.0 | MATH Elective | 3.0 |
| Science elective | 3.0 | PHIL of Social Science Elective | 4.0 | MATH Elective | 3.0 | Free Electives | 3.0 |
| | **14** | | **16** | | **15** | | **14** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ECON 360 or 370 | 4.0 | ECON 348 | 4.0 | COOP EXPERIENCE | | COOP EXPERIENCE | |
| Free Elective | 7.0 | MATH Elective | 3.0 | | | | |
| MATH Elective | 3.0 | Free Electives | 7.0 | | | | |
| | **14** | | **14** | | **0** | | **0** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| ECON 322 | 4.0 | Free Electives | 14.0 | Free Electives | 13.0 |
| UNIV B101 or S201 | 1.0 | | | | |
| Free Electives | 8.0 | | | | |
| | **13** | | **14** | | **13** |

**Total Credits 180**

* ECON 270 recommended

** 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.

*** ECON 203 [WI] recommended

## 4 Year No Coop

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CIVC 101 | 1.0 | CS 171 | 3.0 | CS 172 | 3.0 | VACATION | |
| CS 150 or 164 | 3.0 | ECON 202 | 4.0 | ENGL 103 or 113 | 3.0 | | |
| ECON 201 | 4.0 | ENGL 102 or 112 | 3.0 | MATH 123 | 4.0 | | |
| ENGL 101 or 111 | 3.0 | MATH 122 | 4.0 | MATH 200 | 4.0 | | |
| MATH 121 | 4.0 | ECON Elective* | 4.0 | ECON Elective** | 4.0 | | |
| UNIV B101 | 1.0 | | | | | | |
| | **16** | | **18** | | **18** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ECON 301 | 4.0 | ECON 250 | 4.0 | ECON 350 | 4.0 | VACATION | |
| MATH 220 | 3.0 | ECON 321 | 4.0 | MATH 201 | 4.0 | | |
| MATH 311 | 4.0 | MATH 312 | 4.0 | ECON Elective | 4.0 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Science elective | 3.0 | PHIL or Social Science Elective | 3.0 | MATH Elective | 3.0 | | |
| | **14** | | **15** | | **15** | | **0** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ECON 360 or 370 | 4.0 | ECON Electives | 8.0 | ECON 348 | 4.0 | VACATION | |
| MATH 210 | 4.0 | MATH Elective | 3.0 | MATH Elective | 4.0 | | |
| MATH Elective | 3.0 | Free Elective | 3.0 | Free Electives | 8.0 | | |
| Free Elective | 4.0 | | | | | | |
| | **15** | | **14** | | **16** | | **0** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| ECON 322 | 4.0 | Free Electives | 13.0 | Free Electives | 13.0 |
| UNIV B201 or S201 | 1.0 | | | | |
| Free Electives | 8.0 | | | | |
| | **13** | | **13** | | **13** |

**Total Credits 180**

* ECON 270 recommended

** ECON 203 [WI] recommended

# Economics and Data Science

## Degree Requirements

| | | |
|---|---|---|
| **University Requirements** | | |
| UNIV B101 | The Drexel Experience | 1.0 |
| or UNIV C101 | The Drexel Experience | |
| CIVC 101 | Introduction to Civic Engagement | 1.0 |
| COOP 101 | Career Management and Professional Development | 1.0 |
| UNIV B201 [WI] | Career Management | 1.0 |
| **General Education Requirements** | | |
| English Requirements | | |
| 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 | |
| Communications Requirement | | |
| COM 230 | Techniques of Speaking | 3.0 |
| Mathematics and Statistics | | |
| MATH 121 | Calculus I | 4.0 |
| MATH 180 | Discrete Computational Structures | 4.0 |
| MATH 201 | Linear Algebra | 4.0 |
| STAT 201 | Introduction to Business Statistics | 4.0 |
| STAT 202 | Business Statistics II | 4.0 |
| Computer Science | | |
| CS 150 | Computer Science Principles | 3.0 |
| or CS 164 | Introduction to Computer Science | |
| CS 171 | Computer Programming I | 3.0 |
| CS 172 | Computer Programming II | 3.0 |
| **Economics Requirements** | | |
| ECON 201 | Principles of Microeconomics | 4.0 |
| ECON 202 | Principles of Macroeconomics | 4.0 |
| ECON 250 | Game Theory and Applications | 4.0 |
| ECON 270 | Using Big Data to Solve Economic and Social Problems | 4.0 |
| ECON 301 | Microeconomics | 4.0 |
| ECON 321 | Macroeconomics | 4.0 |
| ECON 322 [WI] | Economics Seminar | 4.0 |
| ECON 350 [WI] | Applied Econometrics | 4.0 |
| ECON 360 | Time Series Econometrics | 4.0 |
| or ECON 370 | Experiments and Causality in Economics | |
| **Data Science Requirements** | | |
| CS 260 | Data Structures | 3.0 |
| CS 265 | Advanced Programming Tools and Techniques | 3.0 |
| DSCI 351 | Recommender Systems | 3.0 |
| DSCI 471 | Applied Deep Learning | 3.0 |
| INFO 101 | Introduction to Computing and Security Technology | 3.0 |
| INFO 103 | Introduction to Data Science | 3.0 |
| INFO 210 | Database Management Systems | 3.0 |
| INFO 212 | Data Science Programming I | 3.0 |
| INFO 213 | Data Science Programming II | 3.0 |
| INFO 250 | Information Visualization | 3.0 |
| INFO 323 | Cloud Computing and Big Data | 3.0 |
| INFO 332 | Exploratory Data Analytics | 3.0 |
| INFO 440 | Social Media Data Analysis | 3.0 |
| INFO 442 | Data Science Projects | 3.0 |
| **Economics Electives** | | |
| Select 12 credits from the following | | 12.0 |
| ECON 203 [WI] | Survey of Economic Policy | |
| ECON 260 | Economics of Small Business | |
| ECON 326 [WI] | Economic Ideas | |
| ECON 330 | Managerial Economics | |
| ECON 331 | International Macroeconomics | |
| ECON 334 | Public Finance | |
| ECON 336 | Labor Economics | |
| ECON 338 | Industrial Organization | |
| ECON 342 | Economic Development | |
| ECON 344 | Comparative Economic Systems | |
| ECON 348 | Mathematical Economics | |
| ECON 351 | Resource and Environmental Economics | |
| ECON 354 | Money and Banking | |
| ECON 360 | Time Series Econometrics | |
| ECON 361 | Health Economics | |
| ECON 365 | Behavioral Economics | |
| ECON 366 | Topics in Behavioral Economics | |
| ECON 370 | Experiments and Causality in Economics | |
| ECON T480 | Special Topics in ECON | |
| INTB 332 | Multinational Corporations | |
| INTB 334 | International Trade | |
| INTB 336 | International Money and Finance | |
| INTB 338 | Regional Studies in Economic Policies and International Business | |
| INTB 440 | Seminar in International Business | |
| SMT 320 | Sport Economics | |
| **Data Science Electives** | | |
| Select 6 credits from the following courses | | 6.0 |
| CS 270 | Mathematical Foundations of Computer Science | |
| CS 380 | Artificial Intelligence | |
| CS 383 | Machine Learning | |
| INFO 315 | Advanced Database Management Systems | |
| INFO 371 | Data Mining Applications | |
| INFO 432 | Advanced Data Analytics | |
| Free Electives | | 39.0 |
| **Total Credits** | | **180.0** |

## Sample Plan of Study

### 5 Year 3 Coop

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CIVC 101 | 1.0 | COOP 101* | 1.0 | CS 150 or 164 | 3.0 | VACATION | |
| ECON 201 | 4.0 | ECON 202 | 4.0 | ENGL 103 or 113 | 3.0 | | |
| ENGL 101 or 111 | 3.0 | ECON 270 | 4.0 | INFO 103 | 3.0 | | |
| INFO 101 | 3.0 | ENGL 102 or 112 | 3.0 | MATH 180 | 4.0 | | |
| MATH 121 | 4.0 | MATH 201 | 4.0 | | | | |
| UNIV B101 or C101 | 1.0 | | | | | | |
| | **16** | | **16** | | **13** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | CS 171 | 3.0 | COM 230 | 3.0 |
| | | | | ECON 301 | 4.0 | CS 172 | 3.0 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | INFO 210 | 3.0 | ECON 250 | 4.0 |
| | | | | STAT 201 | 4.0 | STAT 202 | 4.0 |
| | **0** | | **0** | | **14** | | **14** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | CS 265 | 3.0 | CS 260 | 3.0 |
| | | | | ECON 321 | 4.0 | INFO 213 | 3.0 |
| | | | | ECON 350 | 4.0 | INFO 250 | 3.0 |
| | | | | INFO 212 | 3.0 | ECON Elective | 4.0 |
| | | | | INFO 440 | 3.0 | Free Elective | 4.0 |
| | **0** | | **0** | | **17** | | **17** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | DSCI 351 | 3.0 | DSCI 471 | 3.0 |
| | | | | INFO 323 | 3.0 | INFO 332 | 3.0 |
| | | | | ECON Elective | 4.0 | Free Electives | 8.0 |
| | | | | Free Elective | 4.0 | | |
| | **0** | | **0** | | **14** | | **14** |

**Fifth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| ECON 360 or 370 | 4.0 | UNIV B201 | 1.0 | ECON 322 | 4.0 |
| Free Electives | 8.0 | Data Science Elective | 3.0 | INFO 442 | 3.0 |
| Data Science Elective | 3.0 | ECON Elective | 4.0 | Free Electives | 8.0 |
| | | Free Elective | 7.0 | | |
| | **15** | | **15** | | **15** |

**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 001 in place of COOP 101.

## 4 Year 1 Coop

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| UNIV B101 or C101 | 1.0 | ENGL 102 or 112 | 3.0 | ENGL 103 or 113 | 3.0 | VACATION | |
| CIVC 101 | 1.0 | MATH 201 | 4.0 | MATH 180 | 4.0 | | |
| ENGL 101 or 111 | 3.0 | ECON 202 | 4.0 | CS 150 or 164 | 3.0 | | |
| MATH 121 | 4.0 | ECON 270 | 4.0 | INFO 103 | 3.0 | | |
| INFO 101 | 3.0 | | | Free Elective | 3.0 | | |
| ECON 201 | 4.0 | | | | | | |
| | **16** | | **15** | | **16** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP 101* | 1.0 | CS 172 | 3.0 | ECON 350 | 4.0 | INFO 213 | 3.0 |
| CS 171 | 3.0 | ECON 321 | 4.0 | COM 230 | 3.0 | INFO 250 | 3.0 |
| STAT 201 | 4.0 | STAT 202 | 4.0 | INFO 212 | 3.0 | CS 260 | 3.0 |
| ECON 301 | 4.0 | Free Elective | 3.0 | CS 265 | 3.0 | Free Electives | 7.0 |
| INFO 210 | 3.0 | | | | | | |
| | **15** | | **14** | | **13** | | **16** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | ECON 370 or 360 | 4.0 | ECON 250 | 4.0 |
| | | | | INFO 323 | 3.0 | INFO 332 | 3.0 |
| | | | | INFO 440 | 3.0 | Free Electives | 7.0 |
| | | | | Econ Elective | 4.0 | | |
| | **0** | | **0** | | **14** | | **14** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| UNIV B201 | 1.0 | DSCI 351 | 3.0 | DSCI 471 | 3.0 |
| ECON 322 | 4.0 | Data Science Elective | 3.0 | INFO 442 | 3.0 |
| Econ Elective | 4.0 | Econ Elective | 4.0 | Free Electives | 10.0 |
| Data Science Elective | 3.0 | Free Electives | 6.0 | | |
| Free Elective | 3.0 | | | | |
| | **15** | | **16** | | **16** |

**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 001 in place of COOP 101,

# Economics and Mathematics

## Degree Requirements

**University Requirements**

| | | |
|---|---|---|
| COOP 101 | Career Management and Professional Development * | 1.0 |
| CIVC 101 | Introduction to Civic Engagement | 1.0 |
| UNIV B101 | The Drexel Experience | 1.0 |
| UNIV B201 [WI] | Career Management | 1.0 |
| or UNIV S201 | Looking Forward: Academics and Careers | |
| General Education Courses | | |
| 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 | |
| COM 230 | Techniques of Speaking | 3.0 |
| CS 150 | Computer Science Principles | 3.0 |
| or CS 164 | Introduction to Computer Science | |
| CS 171 | Computer Programming I | 3.0 |
| CS 172 | Computer Programming II | 3.0 |
| One course in PHIL, PSY, SOC, HIST or PSCI | | 3.0 |
| One course in BIO, CHEM, ENVS or PHYS | | 3.0 |
| 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 [WI] | Introduction to Mathematical Reasoning | 3.0 |
| MATH 311 | Probability and Statistics I | 4.0 |
| MATH 312 | Probability and Statistics II | 4.0 |
| MATH 401 | Elements of Modern Analysis I | 3.0 |
| Mathematics Electives: Choose 14 credits from the following | | 14.0 |
| MATH 222 [WI] | Combinatorics | |
| 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 313 | Probability and Statistics III | |
| MATH 318 [WI] | Mathematical Applications of Statistical Software | |
| 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 402 | Elements of Modern Analysis II | |
| MATH 449 | Mathematical Finance | |
| MATH 450 | Introduction to Graph Theory | |
| MATH 475 | Cryptography | |
| MATH 483 | Introduction to Monte Carlo Methods | |
| Economics Requirements | | |
| ECON 201 | Principles of Microeconomics | 4.0 |
| ECON 202 | Principles of Macroeconomics | 4.0 |
| ECON 250 | Game Theory and Applications | 4.0 |
| ECON 301 | Microeconomics | 4.0 |
| ECON 321 | Macroeconomics | 4.0 |
| ECON 322 [WI] | Economics Seminar | 4.0 |
| ECON 348 | Mathematical Economics | 4.0 |
| ECON 350 [WI] | Applied Econometrics | 4.0 |
| ECON 360 | Time Series Econometrics | 4.0 |
| or ECON 370 | Experiments and Causality in Economics | |
| Economics Electives -- choose 4 of the following courses | | 16.0 |
| ECON 203 [WI] | Survey of Economic Policy | |
| ECON 260 | Economics of Small Business | |
| ECON 270 | Using Big Data to Solve Economic and Social Problems | |
| ECON 326 [WI] | Economic Ideas | |
| ECON 330 | Managerial Economics | |
| ECON 331 | International Macroeconomics | |
| ECON 334 | Public Finance | |
| ECON 336 | Labor Economics | |
| ECON 338 | Industrial Organization | |
| ECON 342 | Economic Development | |
| ECON 344 | Comparative Economic Systems | |
| ECON 351 | Resource and Environmental Economics | |
| ECON 354 | Money and Banking | |
| ECON 360 | Time Series Econometrics | |
| ECON 361 | Health Economics | |
| ECON 365 | Behavioral Economics | |
| ECON 366 | Topics in Behavioral Economics | |
| ECON 370 | Experiments and Causality in Economics | |
| ECON T480 | Special Topics in ECON | |
| INTB 332 | Multinational Corporations | |
| INTB 334 | International Trade | |
| INTB 336 | International Money and Finance | |
| INTB 338 | Regional Studies in Economic Policies and International Business | |
| INTB 440 | Seminar in International Business | |
| SMT 320 | Sport Economics | |
| Free Electives | | 45.0 |
| **Total Credits** | | **180.0** |

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

### 5 Year 3 Coop

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CIVC 101 | 1.0 | CS 171 | 3.0 | COOP 101** | 1.0 | VACATION | |
| CS 150 or 164 | 3.0 | ECON 202 | 4.0 | CS 172 | 3.0 | | |
| ECON 201 | 4.0 | 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 | ECON Elective* | 4.0 | MATH 200 | 4.0 | | |
| UNIV B101 | 1.0 | | | ECON Elective*** | 4.0 | | |
| | **16** | | **18** | | **19** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ECON 301 | 4.0 | ECON 250 | 4.0 | COOP EXPERIENCE | | COOP EXPERIENCE | |
| MATH 220 | 3.0 | ECON 321 | 4.0 | | | | |
| MATH 311 | 4.0 | MATH 312 | 4.0 | | | | |
| Science elective | 3.0 | PHIL or Social Science Elective | 3.0 | | | | |
| | **14** | | **15** | | **0** | | **0** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ECON 350 | 4.0 | ECON 360 or 370 | 4.0 | COOP EXPERIENCE | | COOP EXPERIENCE | |
| MATH 201 | 4.0 | MATH 210 | 4.0 | | | | |
| ECON Elective | 4.0 | MATH Elective | 4.0 | | | | |
| MATH Elective | 4.0 | Free Elective | 4.0 | | | | |
| | **16** | | **16** | | **0** | | **0** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ECON Elective | 4.0 | ECON 348 | 4.0 | COOP EXPERIENCE | | COOP EXPERIENCE | |
| MATH Elective | 3.0 | MATH Elective | 3.0 | | | | |
| Free Electives | 8.0 | Free Electives | 7.0 | | | | |
| | **15** | | **14** | | **0** | | **0** |

**Fifth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| ECON 322 | 4.0 | Free Electives | 12.0 | Free Electives | 12.0 |
| UNIV B201 or S201 | 1.0 | | | | |
| Free Electives | 8.0 | | | | |
| | **13** | | **12** | | **12** |

**Total Credits 180**

* ECON 270 recommended

** 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.

*** ECON 203 [WI] recommended

## 4 Year 1 Coop

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CIVC 101 | 1.0 | CS 171 | 3.0 | COOP 101** | 1.0 | VACATION | |
| CS 150 or 164 | 3.0 | ECON 202 | 4.0 | CS 172 | 3.0 | | |
| ECON 201 | 4.0 | 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 | ECON Elective* | 4.0 | MATH 200 | 4.0 | | |
| UNIV B101 | 1.0 | | | ECON Elective*** | 4.0 | | |
| | **16** | | **18** | | **19** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ECON 301 | 4.0 | ECON 250 | 4.0 | ECON 350 | 4.0 | MATH 210 | 4.0 |
| MATH 220 | 3.0 | ECON 321 | 4.0 | MATH 201 | 4.0 | ECON Elective | 4.0 |
| MATH 311 | 4.0 | MATH 312 | 4.0 | ECON Elective | 4.0 | MATH Elective | 3.0 |
| Science elective | 3.0 | PHIL of Social Science Elective | 4.0 | MATH Elective | 3.0 | Free Electives | 3.0 |
| | **14** | | **16** | | **15** | | **14** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ECON 360 or 370 | 4.0 | ECON 348 | 4.0 | COOP EXPERIENCE | | COOP EXPERIENCE | |
| Free Elective | 7.0 | MATH Elective | 3.0 | | | | |
| MATH Elective | 3.0 | Free Electives | 7.0 | | | | |
| | **14** | | **14** | | **0** | | **0** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| ECON 322 | 4.0 | Free Electives | 14.0 | Free Electives | 13.0 |
| UNIV B101 or S201 | 1.0 | | | | |
| Free Electives | 8.0 | | | | |
| | **13** | | **14** | | **13** |

**Total Credits 180**

* ECON 270 recommended

** 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.

*** ECON 203 [WI] recommended

## 4 Year No Coop

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CIVC 101 | 1.0 | CS 171 | 3.0 | CS 172 | 3.0 | VACATION | |
| CS 150 or 164 | 3.0 | ECON 202 | 4.0 | ENGL 103 or 113 | 3.0 | | |
| ECON 201 | 4.0 | ENGL 102 or 112 | 3.0 | MATH 123 | 4.0 | | |
| ENGL 101 or 111 | 3.0 | MATH 122 | 4.0 | MATH 200 | 4.0 | | |
| MATH 121 | 4.0 | ECON Elective* | 4.0 | ECON Elective** | 4.0 | | |
| UNIV B101 | 1.0 | | | | | | |
| | **16** | | **18** | | **18** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ECON 301 | 4.0 | ECON 250 | 4.0 | ECON 350 | 4.0 | VACATION | |
| MATH 220 | 3.0 | ECON 321 | 4.0 | MATH 201 | 4.0 | | |
| MATH 311 | 4.0 | MATH 312 | 4.0 | ECON Elective | 4.0 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Science elective | 3.0 | PHIL or Social Science Elective | 3.0 | MATH Elective | 3.0 | | |
| | **14** | | **15** | | **15** | | **0** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ECON 360 or 370 | 4.0 | ECON Electives | 8.0 | ECON 348 | 4.0 | VACATION | |
| MATH 210 | 4.0 | MATH Elective | 3.0 | MATH Elective | 4.0 | | |
| MATH Elective | 3.0 | Free Elective | 3.0 | Free Electives | 8.0 | | |
| Free Elective | 4.0 | | | | | | |
| | **15** | | **14** | | **16** | | **0** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| ECON 322 | 4.0 | Free Electives | 13.0 | Free Electives | 13.0 |
| UNIV B201 or S201 | 1.0 | | | | |
| Free Electives | 8.0 | | | | |
| | **13** | | **13** | | **13** |

**Total Credits 180**

* ECON 270 recommended

** ECON 203 [WI] recommended

# Economics and Public Health

## Degree Requirements

| | | |
|---|---|---|
| **General Education Requirements** | | |
| **University Requirements** | | |
| COOP 101 | Career Management and Professional Development | 1.0 |
| CIVC 101 | Introduction to Civic Engagement | 1.0 |
| UNIV B101 | The Drexel Experience | 1.0 |
| UNIV B201 [WI] | Career Management | 1.0 |
| **Common Competency Requirements** | | |
| COM 230 | Techniques of Speaking | 3.0 |
| or COM 270 | Business Communication | |
| PBHL 101 | Public Health 101 | 3.0 |
| PSY 101 | General Psychology I | 3.0 |
| SOC 101 | Introduction to Sociology | 3.0 |
| English | | |
| 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 of the the following math sequences | | 8.0 |
| MATH 101<br>& MATH 102<br>& MATH 239 | Introduction to Analysis I<br>and Introduction to Analysis II<br>and Mathematics for the Life Sciences | |
| Or | | |
| MATH 121<br>& MATH 122<br>& MATH 123 | Calculus I<br>and Calculus II<br>and Calculus III | |
| Physical Sciences | | |
| Select one of the following biology sequences * | | 8.0 |
| BIO 107<br>& BIO 108<br>& BIO 109<br>& BIO 110 | Cells, Genetics & Physiology<br>and Cells, Genetics and Physiology Laboratory<br>and Biological Diversity, Ecology & Evolution<br>and Biological Diversity, Ecology and Evolution Laboratory | |
| Or | | |
| BIO 131 | Cells and Biomolecules | |
| BIO 134 | Cells and Biomolecules Lab | |
| BIO 132 | Genetics and Evolution | |
| BIO 135 | Genetics and Evolution Lab | |
| Select one of the following chemistry sequences | | 8.0 |
| CHEM 101<br>& CHEM 102 | General Chemistry I<br>and General Chemistry II | |
| Or | | |
| CHEM 111<br>& CHEM 112 | General Chemistry I<br>and General Chemistry II | |
| **Public Health Core Requirements** | | |
| PBHL 301 | Epidemiology in Public Health | 3.0 |
| PBHL 302 | Introduction to the History of Public Health | 3.0 |
| PBHL 303 | Overview of Issues in Global Health | 3.0 |
| PBHL 304 | Introduction to Health & Human Rights | 3.0 |
| PBHL 308 | The U.S. Public Health System | 3.0 |
| PBHL 314 | Environmental and Occupational Health | 3.0 |
| **Economics Core Requirements** | | |
| ECON 201 | Principles of Microeconomics | 4.0 |
| ECON 202 | Principles of Macroeconomics | 4.0 |
| ECON 301 | Microeconomics | 4.0 |
| ECON 350 [WI] | Applied Econometrics | 4.0 |
| ECON 361 | Health Economics | 4.0 |
| ECON 370 | Experiments and Causality in Economics | 4.0 |
| STAT 201 | Introduction to Business Statistics | 4.0 |
| **Interdisciplinary Public Health Requirements** | | |
| Select one course from each public health Department – CHP, EOH, EPI, HMP | | 12.0 |
| Select 6 additional public health credits | | 6.0 |
| **Public Health Capstone Experience** | | |
| PBHL 498 | Capstone Experience II | 3.0 |
| PBHL 499 | Capstone Experience III | 3.0 |
| **Economics Electives** | | |
| ECON 203 [WI] | Survey of Economic Policy | 4.0 |
| Select 16 credits from the courses below | | 16.0 |
| ECON 250 | Game Theory and Applications | |
| ECON 260 | Economics of Small Business | |
| ECON 270 | Using Big Data to Solve Economic and Social Problems | |
| ECON 321 | Macroeconomics | |
| ECON 322 [WI] | Economics Seminar | |
| ECON 326 [WI] | Economic Ideas | |
| ECON 330 | Managerial Economics | |
| ECON 331 | International Macroeconomics | |
| ECON 334 | Public Finance | |
| ECON 336 | Labor Economics | |
| ECON 338 | Industrial Organization | |
| ECON 342 | Economic Development | |
| ECON 348 | Mathematical Economics | |
| ECON 351 | Resource and Environmental Economics | |
| ECON 354 | Money and Banking | |
| ECON 360 | Time Series Econometrics | |
| ECON 365 | Behavioral Economics | |
| ECON 366 | Topics in Behavioral Economics | |
| ECON T480 | Special Topics in ECON | |
| INTB 332 | Multinational Corporations | |
| INTB 334 | International Trade | |
| INTB 336 | International Money and Finance | |
| INTB 338 | Regional Studies in Economic Policies and International Business | |
| INTB 440 | Seminar in International Business | |
| SMT 320 | Sport Economics | |
| Free Electives | | 41.0 |
| **Total Credits** | | **180.0** |

* Students who elect the BIO 131, BIO 132,BIO 134, BIO 135 sequence will have two fewer free elective credits.

## Sample Plan of Study

### 5 Year, 3 COOP

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CIVC 101 | 1.0 | ECON 202 | 4.0 | COOP 101** | 1.0 | VACATION | |
| ECON 201 | 4.0 | ENGL 102 or 112 | 3.0 | ENGL 103 or 113 | 3.0 | | |
| ENGL 101 or 111 | 3.0 | MATH 102 or 122 | 4.0 | MATH 239 or 123 | 4.0 | | |
| MATH 101 or 121 | 4.0 | Economics Elective* | 4.0 | PSY 101 | 3.0 | | |
| PBHL 101 | 3.0 | | | Economics Elective*** | 4.0 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| UNIV B101 | 1.0 | | | | | | |
| | **16** | | **15** | | **15** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ECON 301 | 4.0 | COM 230 or 270 | 3.0 | COOP EXPERIENCE | | COOP EXPERIENCE | |
| SOC 101 | 3.0 | ECON 361 | 4.0 | | | | |
| PBHL 301 | 3.0 | STAT 201 | 4.0 | | | | |
| BIO Course | 4.0 | BIO Course | 4.0 | | | | |
| | **14** | | **15** | | **0** | | **0** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ECON 350 | 4.0 | ECON 370 | 4.0 | COOP EXPERIENCE | | COOP EXPERIENCE | |
| PBHL 302 | 3.0 | PBHL 303 | 3.0 | | | | |
| ECON Elective | 4.0 | ECON Elective | 4.0 | | | | |
| CHEM Course | 4.0 | CHEM Course | 4.0 | | | | |
| | **15** | | **15** | | **0** | | **0** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| PBHL 304 | 3.0 | PBHL 308 | 3.0 | COOP EXPERIENCE | | COOP EXPERIENCE | |
| CHP Elective | 3.0 | EOH Elective | 3.0 | | | | |
| ECON Elective | 4.0 | ECON Elective | 4.0 | | | | |
| Free Elective | 4.0 | Free Elective | 4.0 | | | | |
| | **14** | | **14** | | **0** | | **0** |

**Fifth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| PBHL 314 | 3.0 | PBHL 498 | 3.0 | PBHL 499 | 3.0 |
| UNIV B201 | 1.0 | HMP Elective | 3.0 | PBHL Electives | 6.0 |
| EPI Elective | 3.0 | Free Electives | 10.0 | Free Electives | 7.0 |
| Free Electives | 8.0 | | | | |
| | **15** | | **16** | | **16** |

**Total Credits 180**

* ECON 270 recommended

** 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 (http://catalog.drexel.edu/search/?P=COOP%20101) 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 (http://catalog.drexel.edu/search/?P=COOP%20001) in place of COOP 101 (http://catalog.drexel.edu/search/?P=COOP%20101).

*** ECON 203 [WI] recommended

## 4 Year, One COOP

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CIVC 101 | 1.0 | ECON 202 | 4.0 | COOP 101** | 1.0 | VACATION | |
| ECON 201 | 4.0 | ENGL 102 or 112 | 3.0 | ENGL 103 or 113 | 3.0 | | |
| ENGL 101 | 3.0 | MATH 102 or 122 | 4.0 | MATH 239 or 123 | 4.0 | | |
| MATH 101 | 4.0 | Economics Elective* | 4.0 | PSY 101 | 3.0 | | |
| PBHL 101 | 3.0 | | | Economics Elective*** | 4.0 | | |
| UNIV B101 | 1.0 | | | | | | |
| | **16** | | **15** | | **15** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ECON 301 | 4.0 | COM 230 or 270 | 3.0 | ECON 350 | 4.0 | ECON Electives | 8.0 |
| SOC 101 | 3.0 | ECON 361 | 4.0 | PBHL 302 | 3.0 | Free Electives | 8.0 |
| PBHL 301 | 3.0 | STAT 201 | 4.0 | ECON Elective | 4.0 | | |
| BIO Course | 4.0 | BIO Course | 4.0 | CHEM Course | 4.0 | | |
| | **14** | | **15** | | **15** | | **16** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| PBHL 303 | 3.0 | ECON 370 | 4.0 | COOP EXPERIENCE | | COOP EXPERIENCE | |
| ECON Elective | 4.0 | PBHL 304 | 3.0 | | | | |
| Free Elective | 4.0 | CHP Elective | 3.0 | | | | |
| CHEM Course | 4.0 | ECON Elective | 4.0 | | | | |
| | **15** | | **14** | | **0** | | **0** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| PBHL 308 | 3.0 | PBHL 498 | 3.0 | PBHL 499 | 3.0 |
| PBHL 314 | 3.0 | EPI Elective | 3.0 | PBHL Electives | 6.0 |
| UNIV B201 | 1.0 | HMP Elective | 3.0 | Free Electives | 7.0 |
| Free Elective | 3.0 | Free Electives | 7.0 | | |
| EOH Elective | 3.0 | | | | |
| | **13** | | **16** | | **16** |

**Total Credits 180**

* ECON 270 recommended

** 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 (http://catalog.drexel.edu/search/?P=COOP%20101) 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 (http://catalog.drexel.edu/search/?P=COOP%20001) in place of COOP 101 (http://catalog.drexel.edu/search/?P=COOP%20101).

*** ECON 203 [WI] recommended

# Minor in Law

## About the Minor

The undergraduate minor in Law provides foundational knowledge of the American legal system and how law interacts with every aspect of society, including policy, technology, and multiple career fields. The choice of electives allows students the opportunity for a more in-depth exploration of how the law applies to their major area of interest or study.

## Program requirements

| | | |
|---|---|---|
| **Required Courses** | | |
| LAW 101 | Law & Society | 4.0 |
| LAW 110 | American Legal Systems | 4.0 |
| **Electives** * | | **16.0** |
| Select four undergraduate LAW courses; at least three must be 200-level or above | | |
| LAW 102 | Law Lab | |
| LAW 201 | The Role of the Common Law in the American Legal System | |
| LAW 210 | Public Law: Legislation and Regulation | |
| LAW 211 | Public Law II | |
| LAW 215 | Law & Religion in America Today | |
| LAW 301 | Legal Reasoning | |
| LAW 304 | Comparative Legal Institutions | |
| LAW 305 | Mediation, Arbitration, and the Law of Alternate Dispute Resolution | |
| LAW 310 | Environmental Law | |
| LAW 312 | Immigration Law | |
| LAW 340 | Regulating the Commons | |
| **Total Credits** | | **24.0** |

* Students may substitute one Law elective with a non-Law course with advisor permission

# Minor in Linguistics

## 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 [WI] | 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.

# Special Education PK-12

## Degree Requirements

| | | |
|---|---|---|
| **General Education/Content Requirements** | | |
| Art History or Music Elective (Choose one): | | 3.0 |
| ARTH 101 | History of Art I | |
| ARTH 102 | History of Art II | |
| ARTH 103 | History of Art III | |
| ARTH 316 | African Art | |
| MUSC 130 | Introduction to Music | |
| BIO 161 | General Biology I | 3.0 |
| BIO 162 | General Biology II | 3.0 |
| Science Elective (Choose One): | | 3.0-4.0 |
| CHEM 111 | General Chemistry I | |
| ENVS 260 | Environmental Science and Society | |
| PHYS 131 | Survey of the Universe | |
| PHYS 151 | Applied Physics | |
| COM 111 | Principles of Communication | 3.0 |
| ECON 201 | Principles of Microeconomics | 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 | |
| English (Literature) elective: Select course between ENGL 200 - ENGL 360 | | 3.0 |
| HIST 275 | History of Pennsylvania | 3.0 |
| MATH 107 | Probability and Statistics for Liberal Arts | 3.0 |
| MATH 110 | Precalculus | 3.0 |
| MATH 171 | Introduction to Analysis A | 3.0 |
| MATH 172 | Introduction to Analysis B | 3.0 |
| NFS 100 | Nutrition, Foods, and Health | 2.0 |
| NFS 101 | Introduction to Nutrition & Food | 1.0 |
| PSY 101 | General Psychology I | 3.0 |
| PSY 320 [WI] | Educational Psychology | 3.0 |
| PSY 330 | Cognitive Psychology | 3.0 |
| SOC 335 | Sociology of Education | 3.0 |
| **Pedagogy Requirements** | | |
| EDLT 325 | Design for Learning with Digital Media | 3.0 |
| EDUC 101 | Foundations in Education I: A Historical and Philosophical Perspective | 3.0 |
| EDUC 120 | Child Development I: Typical Development | 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 121 | Child Development II: Atypical Development | 3.0 |
| EDUC 205 | Sophomore Pedagogy Seminar | 1.0 |
| EDUC 216 | Diversity and Today's Teacher | 3.0 |
| EDUC 236 | Early Literacy I | 3.0 |
| EDUC 305 [WI] | Junior Pedagogy Seminar | 1.0 |
| EDUC 308 | Creating a Positive Classroom Climate | 3.0 |
| EDUC 312 | Educational Policy, Law & Advocacy | 3.0 |
| EDUC 314 | Science Teaching Methods | 3.0 |
| EDUC 316 | Teaching in Urban Contexts | 3.0 |
| EDUC 322 | Evaluation of Instruction | 3.0 |
| EDUC 324 | Current Research in Curriculum & Instruction | 3.0 |
| EDUC 336 | Early Literacy II | 3.0 |
| EDUC 355 | Social Studies Teaching Methods | 3.0 |
| EDUC 360 | English/Language Arts Teaching Methods for the Middle Years | 1.5 |
| EDUC 361 | Middle Years Science Methods | 1.5 |
| EDUC 362 | Middle Years Social Studies Methods | 1.5 |
| EDUC 363 | Middle Years Mathematics Methods | 1.5 |
| EDUC 365 | Foundations in Instructing English Language Learners | 3.0 |
| EDUC 405 | Senior Pedagogy Seminar | 1.0 |
| EDUC 411 | Family and Community Partnerships | 3.0 |
| MTED 417 | Mathematics Methods and Content: Early Childhood | 3.0 |
| MTED 418 | Mathematics Methods and Content | 3.0 |
| **Special Education Core Courses** | | |
| EDEX 142 | Special Education Foundations: Referral and Assessment | 3.0 |
| EDEX 336 | Special Education Law and Processes PK-12 | 3.0 |
| EDEX 344 | Inclusionary Practices for Exceptional Students | 3.0 |
| EDEX 348 | Emotional and Behavioral Support of Individuals with Disabilities | 3.0 |
| EDEX 349 | High Incident Disabilities | 3.0 |
| EDEX 350 | Teaching Individuals with Low Incident Disabilities | 3.0 |
| EDEX 352 | Integrating Technology for Learning & Achievement | 3.0 |
| EDEX 355 | Teaching Students with Autism Spectrum Disorders | 3.0 |
| EDEX 368 | Literacy and Content Skill Development PK-12 | 3.0 |
| EDEX 375 | Teaching STEAM in an Inclusive Environment PK-12 | 3.0 |
| EDEX 378 | Special Education: Methods & Practices PK-12 | 3.0 |
| EDEX 388 | Implementing Academic Interventions in Inclusive Educational Environments | 3.0 |
| **Student Teaching Experience** | | |
| EDUC 409 | Student Teaching Seminar I | 9.0 |
| EDEX 414 [WI] | Special Education Student Teaching Seminar | 9.0 |
| **Total Credits** | | **181.0-182.0** |

## Sample Plan of Study

**First Year (Part-Time)**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| EDUC 101 | 3.0 | EDUC 120 | 3.0 | EDEX 142 | 3.0 | EDUC 216 | 3.0 |
| ENGL 101 | 3.0 | EDUC 107 | 1.0 | EDUC 121 | 3.0 | ENGL 103 | 3.0 |
| EDUC 106 | 1.0 | ENGL 102 | 3.0 | EDUC 108 | 1.0 | HIST 275 | 3.0 |
| PSY 101 | 3.0 | MATH 171 | 3.0 | MATH 172 | 3.0 | | |
| | **10** | | **10** | | **10** | | **9** |

**Second Year (Part-Time)**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| BIO 161 | 3.0 | BIO 162 | 3.0 | EDUC 236 | 3.0 | Art History or Music Elective | 3.0 |
| EDEX 344 | 3.0 | EDEX 368 | 3.0 | EDUC 305 | 1.0 | EDEX 336 | 3.0 |
| EDUC 205 | 1.0 | EDUC 322 | 3.0 | EDUC 308 | 3.0 | EDUC 312 | 3.0 |
| MATH 107 | 3.0 | | | EDUC 365 | 3.0 | | |
| | **10** | | **9** | | **10** | | **9** |

**Third Year (Part-Time)**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| EDEX 349 | 3.0 | EDEX 355 | 3.0 | EDEX 352 | 3.0 | EDEX 350 | 3.0 |
| EDEX 375 | 3.0 | EDUC 316 | 3.0 | Literature Elective | 3.0 | EDLT 325 | 3.0 |
| MATH 110 | 3.0 | NFS 100 | 2.0 | Science Elective | 3.0-4.0 | EDUC 355 | 3.0 |
| | | NFS 101 | 1.0 | | | | |
| | **9** | | **9** | | **9-10** | | **9** |

**Fourth Year (Part-Time)**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| EDEX 378 | 3.0 | EDEX 348 | 3.0 | EDEX 388 | 3.0 | EDUC 360 | 1.5 |
| EDUC 324 | 3.0 | EDUC 314 | 3.0 | EDUC 336 | 3.0 | EDUC 361 | 1.5 |
| EDUC 411 | 3.0 | PSY 320 | 3.0 | MTED 417 | 3.0 | EDUC 362 | 1.5 |
| | | | | | | EDUC 363 | 1.5 |
| | **9** | | **9** | | **9** | | **6** |

**Fifth Year (Part-Time)**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| EDUC 405 | 1.0 | EDEX 414 | 9.0 | COM 111 | 3.0 | MTED 418 | 3.0 |
| EDUC 409 | 9.0 | | | ECON 201 | 4.0 | PSY 330 | 3.0 |
| | | | | SOC 335 | 3.0 | | |
| | **10** | | **9** | | **10** | | **6** |

**Total Credits 181-182**

# Teacher Education: Computer Science

## Degree Requirements

| | | |
|---|---|---|
| **General Education 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 |
| 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 | |
| HIST 285 | Technology in Historical Perspective | 4.0 |
| MATH 121 | Calculus I | 4.0 |
| MATH 122 | Calculus II | 4.0 |
| MATH 123 | Calculus III | 4.0 |
| MATH 221 | Discrete Mathematics | 3.0 |
| MATH 311 | Probability and Statistics I | 4.0 |
| or MATH 410 | Scientific Data Analysis I | |
| PHIL 311 | Ethics and Information Technology | 3.0 |
| PSY 101 | General Psychology I | 3.0 |
| PSY 320 [WI] | Educational Psychology | 3.0 |
| UNIV T101 | The Drexel Experience | 1.0 |
| or CI 120 | CCI Transfer Student Seminar | |
| **Science Requirements** | | **12.0-15.0** |
| Choose one lab sequence | | |
| BIO 131<br>& BIO 134 | Cells and Biomolecules<br>and Cells and Biomolecules Lab | |
| BIO 132<br>& BIO 135 | Genetics and Evolution<br>and Genetics and Evolution Lab | |
| BIO 133<br>& BIO 136 | Physiology and Ecology<br>and Anatomy and Ecology Lab | |
| CHEM 101<br>& CHEM 102<br>& CHEM 103 | General Chemistry I<br>and General Chemistry II<br>and General Chemistry III | |
| PHYS 101<br>& PHYS 102<br>& PHYS 201 | Fundamentals of Physics I<br>and Fundamentals of Physics II<br>and Fundamentals of Physics III | |
| **Computer Science Requirements** | | |
| CS 150 | Computer Science Principles | 3.0 |
| CS 171 | Computer Programming I | 3.0 |
| or CS 175 | Advanced Computer Programming I | |
| CS 172 | Computer Programming II | 3.0 |
| or CS 176 | Advanced Computer Programming II | |
| CS 260 | Data Structures | 3.0 |
| CS 265 | Advanced Programming Tools and Techniques | 3.0 |
| CS 270 | Mathematical Foundations of Computer Science | 3.0 |
| CS 375 | Web Development | 3.0 |
| **CS Electives** | | **24.0** |
| Recommended: | | |
| CS 277 | Algorithms and Analysis | |
| CS 281 | Systems Architecture | |
| SE 181 | Introduction to Software Engineering and Development | |
| SE 310 | Software Architecture I | |
| Choose additional courses from CCI: CS, SE, INFO, CT 200 level and above | | |
| **Computing & Informatics Requirements** | | |
| CI 101 | Computing and Informatics Design I | 2.0 |
| CI 102 | Computing and Informatics Design II | 2.0 |
| CI 103 | Computing and Informatics Design III | 2.0 |
| **Pedagogy Requirements** | | |
| EDEX 142 | Special Education Foundations: Referral and Assessment | 3.0 |
| EDEX 344 | Inclusionary Practices for Exceptional Students | 3.0 |
| EDEX 368 | Literacy and Content Skill Development PK-12 | 3.0 |
| EDLT 326 | Technology Applications for Learning | 3.0 |
| EDUC 101 | Foundations in Education I: A Historical and Philosophical Perspective | 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 113 | Organizational Structure of Secondary Schools | 3.0 |
| EDUC 123 | Adolescent Development | 3.0 |
| EDUC 205 | Sophomore Pedagogy Seminar | 1.0 |
| EDUC 216 | Diversity and Today's Teacher | 3.0 |
| EDUC 223 | Teaching the Middle School Child | 3.0 |
| EDUC 305 [WI] | Junior Pedagogy Seminar | 1.0 |
| EDUC 308 | Creating a Positive Classroom Climate | 3.0 |
| EDUC 312 | Educational Policy, Law & Advocacy | 3.0 |
| EDUC 316 | Teaching in Urban Contexts | 3.0 |
| EDUC 322 | Evaluation of Instruction | 3.0 |
| EDUC 324 | Current Research in Curriculum & Instruction | 3.0 |
| EDUC 365 | Foundations in Instructing English Language Learners | 3.0 |
| EDUC 405 | Senior Pedagogy Seminar | 1.0 |
| EDUC 409 | Student Teaching Seminar I | 9.0 |
| EDUC 410 [WI] | Student Teaching | 9.0 |
| ESTM 335 | Teaching Secondary Computer Science | 3.0 |
| **Total Credits** | | **183.0-186.0** |

## Sample Plan of Study

### 4 year, 1 co-op

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CI 101 | 2.0 | CI 102 | 2.0 | CI 103 | 2.0 | VACATION | |
| CS 150 | 3.0 | CIVC 101 | 1.0 | CS 172 | 3.0 | | |
| EDUC 101 | 3.0 | CS 171 | 3.0 | EDEX 142 | 3.0 | | |
| EDUC 106 | 1.0 | EDUC 107 | 1.0 | EDUC 108 | 1.0 | | |
| ENGL 101 or 111 | 3.0 | EDUC 113 | 3.0 | EDUC 123 | 3.0 | | |
| MATH 121 | 4.0 | ENGL 102 or 112 | 3.0 | ENGL 103 or 113 | 3.0 | | |
| UNIV T101 | 1.0 | MATH 122 | 4.0 | MATH 123 | 4.0 | | |
| | **17** | | **17** | | **19** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP 101 | 1.0 | CS 260 | 3.0 | CS 375 | 3.0 | EDLT 326 | 3.0 |
| CS 265 | 3.0 | ECON 201 | 4.0 | EDEX 368 | 3.0 | EDUC 322 | 3.0 |
| CS 270 | 3.0 | EDUC 216 | 3.0 | EDUC 305 | 1.0 | PSY 101 | 3.0 |
| EDEX 344 | 3.0 | MATH 221 | 3.0 | EDUC 308 | 3.0 | CCI Electives | 6.0 |
| EDUC 205 | 1.0 | | | PHYS 101 | 4.0 | | |
| EDUC 365 | 3.0 | | | PHIL 311 | 3.0 | | |
| | **14** | | **13** | | **17** | | **15** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | EDUC 316 | 3.0 | EDUC 312 | 3.0 |
| ESTM 335 | 3.0 | | | HIST 285 | 4.0 | EDUC 324 | 3.0 |
| | | | | MATH 311 | 4.0 | PHYS 102 | 4.0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | PSY 320 | 3.0 | CCI Electives 6.0 |
| | **3** | | **0** | | **14** | **16** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| EDUC 223 | 3.0 | EDUC 410 | 9.0 | EDUC 405 | 1.0 |
| EDUC 409 | 9.0 | PHYS 201 | 4.0 | CCI Electives | 12.0 |
| | **12** | | **13** | | **13** |

**Total Credits 183**

# Post-Baccalaureate Certificate in Applied Artificial Intelligence/ Machine Learning for Data Science

## Program Requirements

| | | |
|---|---|---|
| **Required Courses** | | |
| DSCI 501 | Quantitative Foundations of Data Science | 3.0 |
| DSCI 521 | Data Analysis and Interpretation | 3.0 |
| DSCI 631 | Applied Machine Learning for Data Science | 3.0 |
| **Choose 2 of the electives below** | | **6.0** |
| CS 501 | Introduction to Programming | |
| or CS 570 | Programming Foundations | |
| CS 502 | Data Structures and Algorithms | |
| CS 503 | Systems Basics | |
| CS 510 | Introduction to Artificial Intelligence | |
| CS 613 | Machine Learning | |
| CS 615 | Deep Learning | |
| DSCI 591 | Data Science Capstone I | |
| DSCI 592 | Data Science Capstone II | |
| **Total Credits** | | **15.0** |

## Sample Plan of Study

**First Year**

| Fall | Credits | Winter | Credits |
|---|---|---|---|
| DSCI 501 | 3.0 | DSCI 631 | 3.0 |
| DSCI 521 | 3.0 | Electives | 6.0 |
| | **6** | | **9** |

**Total Credits 15**

# Graduate Minor in Arts in Public Health

## Degree Requirements

| | | |
|---|---|---|
| Required Courses | | |
| CHP 530 | Arts for Community Health and Wellbeing | 3.0 |
| CHP 531 | Community-Engaged Practice in Arts and Community Health | 3.0 |
| Electives (Choose Two) | | 6.0 |
| Dornsife School of Public Health | | |
| CHP 550 | Community Based Prevention Practices | |
| CHP 670 | Multicultural Competence in Community Health and Prevention | |
| CHP 671 | Community Organizing and Community Assessment for Health and Wellness | |
| CHP 683 | Intersectional Perspectives | |
| CHP 692 | Migration and Health | |
| CHP 802 | Theory & Practice of Community Health and Prevention II | |
| CHP 804 | Qualitative Research in Community Health | |
| CHP 806 | Community Based Participatory Research | |
| EPI 563 | Interprofessional Collaboration for Urban Health | |
| EOH 550 | Introduction to Urban Health | |
| HMP 550 | Health Disparities: Systemic, Structural, Environmental & Economic | |
| HMP 555 | Violence, Trauma and Adversity in Public Health | |
| HMP 600 | Public Health Advocacy and Activism | |
| HMP 802 | Health and Human Rights | |
| Antoinette Westphal College of Media Arts and Design | | |
| AADM 741 | Arts Entrepreneurship | |
| AADM 745 | Arts in Education | |
| AADM 746 | Creative Placemaking | |
| AADM 755 | Community Cultural Planning | |
| AADM 757 | Political Activism in the Arts | |
| URBS 610 | Civic Engagement & Participatory Methods | |
| URBS 650 | Urbanism, Health & the Built Environment | |
| College of Nursing and Health Professions | | |
| CATX 501 | Foundations of Creative Arts Therapies | |
| Center for Food and Hospitality Management | | |
| FOOD 605 | Culture and Gastronomy | |
| School of Education | | |
| CRTV 501 | Foundations in Creativity | |
| CRTV 502 | Tools and Techniques in Creativity | |
| CRTV 660 | Diagnostic Creative Intervention | |
| **Total Credits** | | **12.0** |

# Post-Baccalaureate Certificate in Big Data Analytics

## Program Requirements

| | | |
|---|---|---|
| **Required Courses** | | |
| CS 660 | Data Analysis at Scale | 3.0 |
| DSCI 632 | Applied Cloud Computing | 3.0 |
| **Choose 3 of the electives below** | | **9.0** |
| CS 676 | Parallel Programming | |
| DSCI 591 | Data Science Capstone I * | |
| DSCI 592 | Data Science Capstone II * | |
| DSCI 691 | Natural Language Processing with Deep Learning | |
| INFO 633 | Information Visualization | |
| **Total Credits** | | **15.0** |

* DSCI 591 and DSCI 592 are recommended if a student wants to pursue an MSDS.

## Sample Plan of Study

**First Year**

| Fall | Credits | Winter | Credits |
|---|---|---|---|
| DSCI 632 | 3.0 | CS 660 | 3.0 |
| Elective | 3.0 | Electives | 6.0 |
| | **6** | | **9** |

**Total Credits 15**

# Business Information Technology MSBIT

## Degree Requirements

| | | |
|---|---|---|
| **Required Courses - Information Technology & Management** | | |
| CT 500 | Introduction to the Digital Environment | 3.0 |
| CT 600 | Cloud Technology | 3.0 |
| CT 610 | Disaster Recovery, Continuity Planning and Digital Risk Assessment | 3.0 |
| MIS 615 | Aligning Information Technologies and Operations | 3.0 |
| MIS 625 | Management of Information Technology Operations | 3.0 |
| **Choose 2 of the following elective areas** | | **30.0** |
| **Organizational Security** | | |
| CT 605 | Cloud Security and Virtual Environments | |
| CT 620 | Security, Policy and Governance | |
| INFO 517 | Principles of Cybersecurity | |
| INFO 710 | Information Forensics | |
| INFO 712 | Information Assurance | |
| **Information Technology Strategy & Execution** | | |
| MIS 612 | Aligning Information Systems and Business Strategies | |
| MIS 641 | MIS Policy and Strategy | |
| ORGB 602 | Leading and Executing Change | |
| SE 630 | Software Engineering Economics | |
| SE 638 | Software Project Management | |
| **Information Sytems Development** | | |
| CT 630 | Application Software Construction and Operation | |
| INFO 540 | Perspectives on Information Systems | |
| INFO 605 | Database Management Systems | |
| MIS 624 | Systems Analysis & Design | |
| MIS 652 | Business Agility and IT | |
| **Digital Transformation** | | |
| MGMT 602 | Innovation Management | |
| MGMT 603 | Technology Strategy | |
| MIS 642 | Emerging Information Technologies in Business | |
| MIS 643 | Digital Platform Management | |
| MIS 653 | Design Thinking for Digital Innovations | |
| **Total Credits** | | **45.0** |

## Sample Plan of Study

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CT 500 | 3.0 | CT 600 | 3.0 | CT 610 | 3.0 | MIS 615 | 3.0 |
| Elective Area 1 | 3.0 | Elective Area 2 | 3.0 | Elective Area 1 | 3.0 | Elective Area 2 | 3.0 |
| | **6** | | **6** | | **6** | | **6** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| MIS 625 | 3.0 | Elective Area 1 | 3.0 | Elective Area 1 | 3.0 |
| Elective Area 1 | 3.0 | Elective Area 2 | 3.0 | Elective Area 2 | 6.0 |
| | **6** | | **6** | | **9** |

**Total Credits 45**

# Post-Baccalaureate Certificate in Change Leadership Strategy

## Program Requirements

| | | |
|---|---|---|
| MGMT 600 | Introduction to Change Management: An Integration of Macro and Micro Perspectives | 3.0 |
| MGMT 604 | Strategic Change Management | 3.0 |
| MGMT 690 | Change Management Experiential Capstone | 3.0 |
| ORGB 602 | Leading and Executing Change | 3.0 |
| **Total Credits** | | **12.0** |

## Sample Plan of Study

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| MGMT 600 | 3.0 | ORGB 602 | 3.0 | MGMT 604 | 3.0 | MGMT 690 | 3.0 |
| | **3** | | **3** | | **3** | | **3** |

**Total Credits 12**

# Graduate Minor in Change Leadership Strategy

## Program Requirements

| | | |
|---|---|---|
| MGMT 600 | Introduction to Change Management: An Integration of Macro and Micro Perspectives | 3.0 |
| MGMT 604 | Strategic Change Management | 3.0 |
| MGMT 690 | Change Management Experiential Capstone | 3.0 |
| ORGB 602 | Leading and Executing Change | 3.0 |
| **Total Credits** | | **12.0** |

# Post-Baccalaureate Certificate in Computing Systems Security and Privacy

## Program Requirements

| | | |
|---|---|---|
| **Required Courses** | | |
| CS 590 | Privacy | 3.0 |
| CS 645 | Network Security | 3.0 |
| SE 578 | Security Engineering | 3.0 |
| **Elective Courses (choose 2)** | | **6.0** |
| CS 523 | Cryptography | |
| CS 543 | Operating Systems | |
| CS 544 | Computer Networks | |
| CS 613 | Machine Learning | |
| Consult departmental advisor for additional electives | | |
| **Total Credits** | | **15.0** |

## Sample Plan of Study

**First Year**

| Fall | Credits | Winter | Credits |
|---|---|---|---|
| SE 578 | 3.0 | CS 590 | 3.0 |
| Elective | 3.0 | CS 645 | 3.0 |
| | | Elective | 3.0 |
| | **6** | | **9** |

**Total Credits 15**

# Creative Education and Entrepreneurship

## Degree Requirements

| | | |
|---|---|---|
| **Required Courses** | | |
| **Creativity & Innovation Core:** | | |
| CRTV 501 | Foundations in Creativity | 3.0 |
| CRTV 502 | Tools and Techniques in Creativity | 3.0 |
| CRTV 503 | Creativity in the Workplace | 3.0 |
| CRTV 610 | Creativity and Change Leadership | 3.0 |
| CRTV 615 | Neuroscience, Creativity and Innovation | 3.0 |
| **Entrepreneurship Core:** | | |
| ENTP 501 | Entrepreneurship Practice & Mindset | 3.0 |
| ENTP 515 | Pitch It! | 3.0 |
| ENTP 575 | Entrepreneurship in Education | 3.0 |
| ENTP 611 | Learning from Failure | 3.0 |
| ENTP 621 | Innovation & Ideation | 3.0 |
| **Capstone Coursework:** | | |
| CRTV 695 | Applied Project in Creativity Studies I | 3.0 |
| CRTV 696 | Applied Project in Creativity Studies II | 3.0 |
| **Electives:** | | |
| Choose three from the following suggested graduate electives list (with advisor approval): | | 9.0 |
| Creativity and Innovation | | |
| CRTV 620 | Research Methods and Assessment of Creative and Innovative Thinking | |
| CRTV 630 | Global Perspectives on Creativity | |
| CRTV 650 | Current Trends in Creativity & Innovation | |
| CRTV 660 | Diagnostic Creative Intervention | |
| Design Research | | |
| DSRE 620 | Design Problem Solving | |
| DSRE 630 | Data Visualization for Design Professionals | |
| DSRE 635 | Translational Design Research | |
| Entrepreneurship | | |
| ENTP 535 | Social Entrepreneurship | |
| ENTP 601 | Social and Sustainable Innovation | |
| ENTP 660 | Early Stage Venture Funding | |
| **Total Credits** | | **45.0** |

## Sample Plan of Study

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CRTV 501 | 3.0 | CRTV 502 | 3.0 | CRTV 503 | 3.0 | CRTV 610 | 3.0 |
| ENTP 501 | 3.0 | ENTP 621 | 3.0 | ENTP 535 | 3.0 | ENTP 575 | 3.0 |
| | **6** | | **6** | | **6** | | **6** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| CRTV 615 | 3.0 | CRTV 695 | 3.0 | CRTV 696 | 3.0 |
| ENTP 515 | 3.0 | Suggested Elective (See List/ Advisor) | 3.0 | Suggested Electives (See List/ Advisor) | 6.0 |
| | **6** | | **6** | | **9** |

**Total Credits 45**

# Post-Baccalaureate Certificate in Creativity Tools and Techniques for the Classroom and Workplace

## Program Requirements

| Require Courses | | |
|---|---|---|
| CRTV 502 | Tools and Techniques in Creativity | 3.0 |
| CRTV 503 | Creativity in the Workplace | 3.0 |
| CRTV 615 | Neuroscience, Creativity and Innovation | 3.0 |
| or CRTV 650 | Current Trends in Creativity & Innovation | |
| **Total Credits** | | **9.0** |

## Sample Plan of Study

### Sample Plan for 1 Course Per Term Enrollment:

| First Year | | | | | |
|---|---|---|---|---|---|
| **Fall** | **Credits** | **Winter** | **Credits** | **Spring** | **Credits** |
| CRTV 502 | 3.0 | CRTV 503 | 3.0 | CRTV 615 or 650 | 3.0 |
| | **3** | | **3** | | **3** |
| **Total Credits 9** | | | | | |

### Sample Plan for Multiple Courses Per Term Enrollment:

| First Year | | | |
|---|---|---|---|
| **Fall** | **Credits** | **Winter** | **Credits** |
| CRTV 502 | 3.0 | CRTV 503 | 3.0 |
| CRTV 615 or 650 | 3.0 | | |
| | **6** | | **3** |
| **Total Credits 9** | | | |

# Post-Baccalaureate Certificate in Digital Transformation

## Program Requirements

| | | |
|---|---|---|
| MGMT 602 | Innovation Management | 3.0 |
| MGMT 603 | Technology Strategy | 3.0 |
| MIS 642 | Emerging Information Technologies in Business | 3.0 |
| MIS 643 | Digital Platform Management | 3.0 |
| MIS 653 | Design Thinking for Digital Innovations | 3.0 |
| **Total Credits** | | **15.0** |

## Sample Plan of Study

**First Year**

| Fall | Credits | Winter | Credits |
|---|---|---|---|
| MIS 642 | 3.0 | MIS 643 | 3.0 |
| MGMT 602 | 3.0 | MIS 653 | 3.0 |
| | | MGMT 603 | 3.0 |
| | **6** | | **9** |

**Total Credits 15**

# Post-Baccalaureate Certificate in Disability and Health Equity Policy

| | | |
|---|---|---|
| HMP 661 | Disability and Measurement | 3.0 |
| HMP 660 | Public Policy and Advocacy | 3.0 |
| Selectives (pick 2) | | 6.0 |
| HMP 662 | Medicaid and Disability Policy | |
| HMP 519 | Maternal & Child Health Policy | |
| HMP 551 | Historical and Contemporary Developments in Social Justice | |
| CHP 683 | Intersectional Perspectives | |

# Finance MS

## Degree Requirements

| | | |
|---|---|---|
| **Required Courses** | | |
| BUSN 501 | Measuring and Maximizing Financial Performance | 3.0 |
| or ACCT 510 | Essentials of Financial Reporting | |
| FIN 601 | Corporate Financial Management | 3.0 |
| **Students may choose (1) one of the following Specializations** | | **15.0** |
| **Strategic Finance and Risk** | | |
| FIN 649 | Comparative Financial Analysis | |
| Select (4) four of the following: | | |
| FIN 602 | Advanced Financial Management | |
| FIN 605 | Business Valuation | |
| FIN 624 | Risk Management | |
| FIN 626 | Investment Management | |
| FIN 610 | Corporate Governance | |
| FIN 640 | Mergers and Acquisitions | |
| FIN 790 | Seminar in Finance | |
| MGMT 676 | Sustainability and Value Creation | |
| ORGB 640 | Negotiations for Leaders | |
| **Corporate Finance** | | |
| FIN 602 | Advanced Financial Management | |
| Select (4) four of the following: | | |
| ACCT 601 | Managerial Accounting | |
| FIN 610 | Corporate Governance | |
| FIN 615 | Environmental and Social Issues in Finance | |
| FIN 635 | Entrepreneurial Finance | |
| FIN 640 | Mergers and Acquisitions | |
| FIN 648 | International Financial Management | |
| FIN 649 | Comparative Financial Analysis | |
| FIN 790 | Seminar in Finance | |
| **Investments** | | |
| FIN 626 | Investment Management | |
| Select (4) four of the following: | | |
| FIN 622 | Financial Institutions & Markets | |
| FIN 624 | Risk Management | |
| FIN 639 | FinTech | |
| FIN 645 | Behavioral Finance | |
| FIN 648 | International Financial Management | |
| FIN 649 | Comparative Financial Analysis | |
| FIN 650 | Derivative Securities | |
| FIN 794 | Seminar in Investments | |
| STAT 610 | Statistics for Business Analytics | |
| **FinTech** | | |
| FIN 639 | FinTech | |
| Select (4) four of the following: | | |
| FIN 602 | Advanced Financial Management | |
| FIN 622 | Financial Institutions & Markets | |
| FIN 635 | Entrepreneurial Finance | |
| FIN 642 | Business Conditions and Forecasting | |
| FIN 649 | Comparative Financial Analysis | |
| MIS 636 | Python Programming for Business Applications | |
| STAT 632 | Datamining for Managers | |
| **Non-Specialization** | | |
| | Students who do not choose a Specialization can complete 39 credits in the following subject codes: Accounting (ACCT), Statistics (STAT), Economics (ECON), Finance (FIN), General Business (BUSN), International Business (INTB), Legal Studies (BLAW), Management (MGMT), Management Information Systems (MIS), Marketing (MKTG), Operations management (OPM), Operations Research (OPR), Organizational Behavior (ORGB), Production Operations Management (POM), Sport Management (SMT) or Taxation (TAX), with course number range between 600-799, and a maximum of fifteen (15) credits can be from outside the area of Finance (FIN) | |
| **Required Elective Courses** | | **24.0** |
| | Students who selected a Specialization will select 24 credits in the following subject codes: Accounting (ACCT), Statistics (STAT), Economics (ECON), Finance (FIN), General Business (BUSN), International Business (INTB), Legal Studies (BLAW), Management (MGMT), Management Information Systems (MIS), Marketing (MKTG), Operations management (OPM), Operations Research (OPR), Organizational Behavior (ORGB), Production Operations Management (POM), Sport Management (SMT) or Taxation (TAX), with course number range between 600-799, and a maximum of fifteen (15) credits can be from outside the area of Finance (FIN) | |
| **Total Credits** | | **45.0** |

## Sample Plan of Study

### Sample Full-Time

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| BUSN 501 or ACCT 510 | 3.0 | FIN 648 | 3.0 | FIN 622 | 3.0 | VACATION | |
| FIN 601 | 3.0 | FIN 649 | 3.0 | FIN 626 | 3.0 | | |
| Elective Course | 3.0 | Elective Course | 3.0 | Elective Course | 3.0 | | |
| | **9** | | **9** | | **9** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits |
|---|---|---|---|
| FIN 602 | 3.0 | FIN 650 | 3.0 |
| FIN 624 | 3.0 | FIN 794 | 3.0 |
| Elective Course | 3.0 | Elective Course | 3.0 |
| | **9** | | **9** |

**Total Credits 45**

### Sample Part-Time

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| BUSN 501 or ACCT 510 | 3.0 | FIN 648 | 3.0 | FIN 622 | 3.0 | VACATION | |
| FIN 601 | 3.0 | FIN 649 | 3.0 | FIN 626 | 3.0 | | |
| | **6** | | **6** | | **6** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| FIN 602 | 3.0 | FIN 650 | 3.0 | Electives | 6.0 | VACATION | |
| FIN 624 | 3.0 | FIN 794 | 3.0 | | | | |
| | **6** | | **6** | | **6** | | **0** |

**Third Year**

| Fall | Credits | Winter | Credits |
|---|---|---|---|
| Electives | 6.0 | Elective | 3.0 |
| | **6** | | **3** |

**Total Credits 45**

# Post-Baccalaureate Certificate in Hardware Systems Engineering

## Program Requirements

| | | |
|---|---|---|
| Required System Engineering Courses | | |
| SYSE 533 | Systems Integration and Test | 3.0 |
| SYSE 685 | Systems Engineering Management | 3.0 |
| SYSE 688 | Systems Engineering Analysis | 3.0 |
| Systems Engineering Course Elective | | |
| SYSE 530 | Systems Engineering Design | 3.0 |
| or SYSE 531 | Systems Architecture Development | |
| or SYSE 682 | Introduction to Systems Science | |
| COE Technical Electives (2 Courses ECEC, ECEE, ECEP, ECET, ECES, ET, MEM or MATE)* | | 6.0 |
| **Total Credits** | | **18.0** |

* Technical Electives must be graduate level courses (500, 600 or 700 level)

## Sample Plan of Study

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| SYSE 685 | 3.0 | SYSE 688 | 3.0 | SYSE 533 | 3.0 | SYSE 530, 533, or 682 | 3.0 |
| | **3** | | **3** | | **3** | | **3** |

**Second Year**

| Fall | Credits | Winter | Credits |
|---|---|---|---|
| Technical Elective 1* | 3.0 | Technical Elective 2* | 3.0 |
| | **3** | | **3** |

**Total Credits 18**

* Technical Elective courses must be graduate level 500, 600 or 700 level courses from COE

# Healthcare Simulation MS

## Degree Requirements

| | | |
|---|---|---|
| IPS 502 | Advanced Ethical Decision Making in Health Care | 3.0 |
| IPS 503 | Confronting Issues in Contemporary Health Care Environments | 3.0 |
| IPS 544 | Quality and Safety in Healthcare | 3.0 |
| IPS 585 | Science of Safety, Human Factors, and System Thinking | 3.0 |
| IPS 586 | Creating a Culture of Safety | 2.0 |
| IPS 591 | Foundations of Healthcare Education | 3.0 |
| IPS 617 | Simulation in Healthcare Education | 4.5 |
| IPS 618 | Standardized Patients | 3.0 |
| IPS 619 | Advanced Debriefing and Reflective Practice | 3.0 |
| IPS 620 | Simulation Center Leadership | 3.0 |
| IPS 621 | Evaluation in Simulation-Based Education | 3.0 |
| IPS 622 | Simulation Capstone | 5.5 |
| RSCH 503 | Research Methods and Biostatistics | 3.0 |
| RSCH 504 | Evaluation and Translation of Health Research | 3.0 |
| **Total Credits** | | **45.0** |

## Sample Plan of Study

**First Year (Part-Time)**

| Fall | Credits | Winter | Credits | Spring | Credits | Winter | Credits |
|---|---|---|---|---|---|---|---|
| IPS 503 | 3.0 | IPS 502 | 3.0 | IPS 617 | 4.5 | IPS 618 | 3.0 |
| IPS 591 | 3.0 | IPS 544 | 3.0 | | | RSCH 503 | 3.0 |
| | **6** | | **6** | | **4.5** | | **6** |

**Second Year (Part-Time)**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| IPS 619 | 3.0 | IPS 585 | 3.0 | IPS 620 | 3.0 | IPS 622 | 5.5 |
| RSCH 504 | 3.0 | IPS 586 | 2.0 | IPS 621 | 3.0 | | |
| | **6** | | **5** | | **6** | | **5.5** |

**Total Credits 45**

# Post-Baccalaureate Certificate in Higher Education Leadership

## Degree Requirements

| | | |
|---|---|---|
| Choose 3 of the following. | | 9.0 |
| EDHE 501 | Foundations of Higher Education and Governance | |
| EDHE 521 | Student Development Theory and Application | |
| EDHE 531 | Legal Issues & Ethics in Higher Education | |
| EDHE 541 | Institutional Assessment, Accreditation and Effectiveness | |
| **Total Credits** | | **9.0** |

## Sample Plan of Study

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| EDHE 501, 521, 531, or 541 | 3.0 | EDHE 501, 521, 531, or 541 | 3.0 | EDHE 501, 521, 531, or 541 | 3.0 |
| | **3** | | **3** | | **3** |

**Total Credits 9**

# Post-Baccalaureate Certificate in Information Systems Development

## Program Requirements

| | | |
|---|---|---|
| CT 630 | Application Software Construction and Operation | 3.0 |
| INFO 540 | Perspectives on Information Systems | 3.0 |
| INFO 605 | Database Management Systems | 3.0 |
| MIS 624 | Systems Analysis & Design | 3.0 |
| MIS 652 | Business Agility and IT | 3.0 |

## Sample Plan of Study

**First Year**

| Fall | Credits | Winter | Credits |
|---|---|---|---|
| INFO 540 | 3.0 | CT 630 | 3.0 |
| MIS 624 | 3.0 | INFO 605 | 3.0 |
| | | MIS 652 | 3.0 |
| | **6** | | **9** |

**Total Credits 15**

# Post-Baccalaureate Certificate in Information Technology and Management

## Program Requirements

| | | |
|---|---|---|
| CT 500 | Introduction to the Digital Environment | 3.0 |
| CT 600 | Cloud Technology | 3.0 |
| CT 610 | Disaster Recovery, Continuity Planning and Digital Risk Assessment | 3.0 |
| MIS 615 | Aligning Information Technologies and Operations | 3.0 |
| MIS 625 | Management of Information Technology Operations | 3.0 |
| **Total Credits** | | **15.0** |

## Sample Plan of Study

**First Year**

| Fall | Credits | Winter | Credits |
|---|---|---|---|
| CT 500 | 3.0 | CT 600 | 3.0 |
| MIS 615 | 3.0 | CT 610 | 3.0 |
| | | MIS 625 | 3.0 |
| | **6** | | **9** |

**Total Credits 15**

# Post-Baccalaureate Certificate in Information Technology Strategy & Execution

## Program Requirements

| | | |
|---|---|---|
| MIS 612 | Aligning Information Systems and Business Strategies | 3.0 |
| MIS 641 | MIS Policy and Strategy | 3.0 |
| ORGB 602 | Leading and Executing Change | 3.0 |
| SE 630 | Software Engineering Economics | 3.0 |
| SE 638 | Software Project Management | 3.0 |
| **Total Credits** | | **15.0** |

## Sample Plan of Study

**First Year**

| Fall | Credits | Winter | Credits |
|---|---|---|---|
| MIS 612 | 3.0 | MIS 641 | 3.0 |
| SE 630 | 3.0 | ORGB 602 | 3.0 |
| | | SE 638 | 3.0 |
| | **6** | | **9** |

**Total Credits 15**

# Introduction to Data Science PBC

Program Requirements

| | | |
|---|---|---|
| **Required Courses** | | |
| CS 570 | Programming Foundations | 3.0 |
| DSCI 511 | Data Acquisition and Pre-Processing | 3.0 |
| INFO 659 | Introduction to Data Analytics | 3.0 |
| **Choose 2 of the electives below** | | **6.0** |
| CS 500 | Fundamentals of Databases | |
| CS 590 | Privacy | |
| INFO 605 | Database Management Systems | |
| INFO 623 | Social Network Analytics | |
| INFO 648 | Healthcare Informatics | |
| INFO 712 | Information Assurance | |
| INFO 725 | Information Policy and Ethics | |
| **Total Credits** | | **15.0** |

## Sample Plan of Study

**First Year**

| Fall | Credits | Winter | Credits |
|---|---|---|---|
| CS 570 | 3.0 | INFO 659 | 3.0 |
| DSCI 511 | 3.0 | Electives | 6.0 |
| | **6** | | **9** |

**Total Credits 15**

# Post-Baccalaureate Certificate in Instructional Design for e-Learning

## Degree Requirements

| | | |
|---|---|---|
| EDLT 551 | Instructional Design Methods | 3.0 |
| EDLT 552 | Instructional Design: Project Management | 3.0 |
| ELL 503 | Teaching and Learning Issues in E-Learning | 3.0 |
| **Total Credits** | | **9.0** |

## Sample Plan of Study

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| EDLT 551 | 3.0 | EDLT 552 | 3.0 | ELL 503 | 3.0 |
| | **3** | | **3** | | **3** |

**Total Credits 9**

# Post-Baccalaureate Certificate in Learning Analytics

## Degree Requirements

| | | |
|---|---|---|
| EDLT 591 | Learning Analytics: Lenses on students, teaching, and curriculum enactment | 3.0 |
| EDLT 592 | Information Enabled Change in Educational Organizations | 3.0 |
| EDLT 593 | Using Data to Understand Educational Systems | 3.0 |
| **Total Credits** | | **9.0** |

## Sample Plan of Study

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| EDLT 591 | 3.0 | EDLT 592 | 3.0 | EDLT 593 | 3.0 |
| | **3** | | **3** | | **3** |

**Total Credits 9**

# Middle Level (grades 4-8) Certification: English Language Arts Concentration

## Degree Requirements

### Middle Years (grades 4-8) Certification

| | | |
|---|---|---|
| EDEX 542 | Fundamentals of Special Education | 3.0 |
| EDEX 544 | The Inclusive Classroom | 3.0 |
| EDEX 568 | Literacy and Content Skill Development PK-12 | 3.0 |
| EDLT 525 | Design for Learning with Digital Media | 3.0 |
| EDUC 507 | Teaching the Middle School Child | 3.0 |
| EDUC 520 | Professional Studies in Instruction (Middle ) | 3.0 |
| EDUC 522 | Evaluation of Instruction | 3.0 |
| EDUC 540 | Field Experience | 3.0 |
| EDUC 562 | Middle Years Social Studies Methods | 1.5 |
| EDUC 564 | English/Language Arts Teaching Methods for the Middle Years | 1.5 |
| EDUC 565 | Foundations in Instructing English Language Learners | 3.0 |
| EDUC 567 | Middle Years Science Methods | 1.5 |
| MTED 563 | Middle Years Mathematical Methods (4-8) | 1.5 |
| **Total Credits** | | **33.0** |

* Candidates seeking Middle Level certification with a concentration in English Language Arts will be required to complete their student teaching placement in an approved 7th or 8th grade ELA classroom.

## Sample Plan of Study

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| EDUC 520 | 3.0 | EDEX 544 | 3.0 | EDUC 565 | 3.0 | EDUC 564 | 1.5 |
| EDEX 542 | 3.0 | EDUC 507 | 3.0 | EDEX 568 | 3.0 | EDUC 567 | 1.5 |
| | | | | | | MTED 563 | 1.5 |
| | **6** | | **6** | | **6** | | **4.5** |

**Second Year**

| Fall | Credits | Winter | Credits |
|---|---|---|---|
| EDUC 562 | 1.5 | EDUC 522 | 3.0 |
| EDUC 540 | 3.0 | EDLT 525 | 3.0 |
| | **4.5** | | **6** |

**Total Credits 33**

# Middle Level (grades 4-8) Certification: General Science Concentration

## Degree Requirements

### Middle Years (grades 4-8) Certification

| | | |
|---|---|---|
| EDEX 542 | Fundamentals of Special Education | 3.0 |
| EDEX 544 | The Inclusive Classroom | 3.0 |
| EDEX 568 | Literacy and Content Skill Development PK-12 | 3.0 |
| EDLT 525 | Design for Learning with Digital Media | 3.0 |
| EDUC 507 | Teaching the Middle School Child | 3.0 |
| EDUC 520 | Professional Studies in Instruction (Middle ) | 3.0 |
| EDUC 522 | Evaluation of Instruction | 3.0 |
| EDUC 540 | Field Experience | 3.0 |
| EDUC 562 | Middle Years Social Studies Methods | 1.5 |
| EDUC 564 | English/Language Arts Teaching Methods for the Middle Years | 1.5 |
| EDUC 565 | Foundations in Instructing English Language Learners | 3.0 |
| EDUC 567 | Middle Years Science Methods | 1.5 |
| MTED 563 | Middle Years Mathematical Methods (4-8) | 1.5 |
| **Total Credits** | | **33.0** |

* Candidates seeking Middle Level certification with a concentration in Science will be required to complete their student teaching placement in an approved Science classroom.

## Sample Plan of Study

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| EDUC 520 | 3.0 | EDEX 544 | 3.0 | EDUC 565 | 3.0 | EDUC 564 | 1.5 |
| EDEX 542 | 3.0 | EDUC 507 | 3.0 | EDEX 568 | 3.0 | EDUC 567 | 1.5 |
| | | | | | | MTED 563 | 1.5 |
| | **6** | | **6** | | **6** | | **4.5** |

**Second Year**

| Fall | Credits | Winter | Credits |
|---|---|---|---|
| EDUC 562 | 1.5 | EDUC 522 | 3.0 |
| EDUC 540 | 3.0 | EDLT 525 | 3.0 |
| | **4.5** | | **6** |

**Total Credits 33**

# Middle Level (grades 4-8) Certification: Mathematics Concentration

## Degree Requirements

### Middle Years (grades 4-8) Certification

| | | |
|---|---|---|
| EDEX 542 | Fundamentals of Special Education | 3.0 |
| EDEX 544 | The Inclusive Classroom | 3.0 |
| EDEX 568 | Literacy and Content Skill Development PK-12 | 3.0 |
| EDLT 525 | Design for Learning with Digital Media | 3.0 |
| EDUC 507 | Teaching the Middle School Child | 3.0 |
| EDUC 520 | Professional Studies in Instruction (Middle ) | 3.0 |
| EDUC 522 | Evaluation of Instruction | 3.0 |
| EDUC 540 | Field Experience | 3.0 |
| EDUC 562 | Middle Years Social Studies Methods | 1.5 |
| EDUC 564 | English/Language Arts Teaching Methods for the Middle Years | 1.5 |
| EDUC 565 | Foundations in Instructing English Language Learners | 3.0 |
| EDUC 567 | Middle Years Science Methods | 1.5 |
| MTED 563 | Middle Years Mathematical Methods (4-8) | 1.5 |
| **Total Credits** | | **33.0** |

* Candidates seeking Middle Level certification with a concentration in Mathematics will be required to complete their student teaching placement in an approved Math classroom.

## Sample Plan of Study

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| EDUC 520 | 3.0 | EDEX 544 | 3.0 | EDUC 565 | 3.0 | EDUC 564 | 1.5 |
| EDEX 542 | 3.0 | EDUC 507 | 3.0 | EDEX 568 | 3.0 | EDUC 567 | 1.5 |
| | | | | | | MTED 563 | 1.5 |
| | **6** | | **6** | | **6** | | **4.5** |

**Second Year**

| Fall | Credits | Winter | Credits |
|---|---|---|---|
| EDUC 562 | 1.5 | EDUC 522 | 3.0 |
| EDUC 540 | 3.0 | EDLT 525 | 3.0 |
| | **4.5** | | **6** |

**Total Credits 33**

# Middle Level (grades 4-8) Certification: Social Studies Concentration

## Degree Requirements

### Middle Years (grades 4-8) Certification

| | | |
|---|---|---|
| EDEX 542 | Fundamentals of Special Education | 3.0 |
| EDEX 544 | The Inclusive Classroom | 3.0 |
| EDEX 568 | Literacy and Content Skill Development PK-12 | 3.0 |
| EDLT 525 | Design for Learning with Digital Media | 3.0 |
| EDUC 507 | Teaching the Middle School Child | 3.0 |
| EDUC 520 | Professional Studies in Instruction (Middle ) | 3.0 |
| EDUC 522 | Evaluation of Instruction | 3.0 |
| EDUC 540 | Field Experience | 3.0 |
| EDUC 562 | Middle Years Social Studies Methods | 1.5 |
| EDUC 564 | English/Language Arts Teaching Methods for the Middle Years | 1.5 |
| EDUC 565 | Foundations in Instructing English Language Learners | 3.0 |
| EDUC 567 | Middle Years Science Methods | 1.5 |
| MTED 563 | Middle Years Mathematical Methods (4-8) | 1.5 |
| **Total Credits** | | **33.0** |

* Candidates seeking Middle Level certification with a concentration in Social Studies will be required to complete their student teaching placement in an approved Social Studies classroom.

## Sample Plan of Study

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| EDUC 520 | 3.0 | EDEX 544 | 3.0 | EDUC 565 | 3.0 | EDUC 564 | 1.5 |
| EDEX 542 | 3.0 | EDUC 507 | 3.0 | EDEX 568 | 3.0 | EDUC 567 | 1.5 |
| | | | | | | MTED 563 | 1.5 |
| | **6** | | **6** | | **6** | | **4.5** |

**Second Year**

| Fall | Credits | Winter | Credits |
|---|---|---|---|
| EDUC 562 | 1.5 | EDUC 522 | 3.0 |
| EDUC 540 | 3.0 | EDLT 525 | 3.0 |
| | **4.5** | | **6** |

**Total Credits 33**

# MSN: Healthcare Simulation

## Degree Requirements

| | | |
|---|---|---|
| IPS 585 | Science of Safety, Human Factors, and System Thinking | 3.0 |
| IPS 586 | Creating a Culture of Safety | 2.0 |
| IPS 617 | Simulation in Healthcare Education | 4.5 |
| IPS 618 | Standardized Patients | 3.0 |
| IPS 619 | Advanced Debriefing and Reflective Practice | 3.0 |
| IPS 620 | Simulation Center Leadership | 3.0 |
| IPS 621 | Evaluation in Simulation-Based Education | 3.0 |
| IPS 622 | Simulation Capstone | 5.5 |
| NURS 500 [WI] | Confronting Issues in Contemporary Health Care Environments | 3.0 |
| NURS 502 | Advanced Ethical Decision Making in Health Care | 3.0 |
| NURS 544 | Quality and Safety in Healthcare | 3.0 |
| NURS 591 | Foundations of Healthcare Education | 3.0 |
| RSCH 503 | Research Methods and Biostatistics | 3.0 |
| RSCH 504 | Evaluation and Translation of Health Research | 3.0 |
| **Total Credits** | | **45.0** |

## Sample Plan of Study

**First Year (Part-Time)**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| NURS 500 | 3.0 | NURS 502 | 3.0 | IPS 617 | 4.5 | IPS 618 | 3.0 |
| NURS 591 | 3.0 | NURS 544 | 3.0 | | | RSCH 503 | 3.0 |
| | **6** | | **6** | | **4.5** | | **6** |

**Second Year (Part-Time)**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| IPS 619 | 3.0 | IPS 585 | 3.0 | IPS 620 | 3.0 | IPS 622 | 5.5 |
| RSCH 504 | 3.0 | IPS 586 | 2.0 | IPS 621 | 3.0 | | |
| | **6** | | **5** | | **6** | | **5.5** |

**Total Credits 45**

# Post-Baccalaureate Certificate in Online Teaching and Learning

## Program Requirements

| | | |
|---|---|---|
| Choose 3 of 4 courses | | 9.0 |
| EDLT 503 | The Learning Sciences | |
| EDLT 512 | Using and Integrating Learning Technologies | |
| EDLT 551 | Instructional Design Methods | |
| ELL 504 | Learning Technologies & Disabilities | |
| **Total Credits** | | **9.0** |

## Sample Plan of Study

**First Year**

| Fall | Credits | Winter | Credits | Summer | Credits |
|---|---|---|---|---|---|
| EDLT 512 or 551 | 3.0 | EDLT 503 | 3.0 | ELL 504 | 3.0 |
| | **3** | | **3** | | **3** |

**Total Credits 9**

# Post-Baccalaureate Certificate in Organization and Talent Development

## Degree Requirements

| Program Requirements | | |
|---|---|---|
| EHRD 500 | Foundations of Human Resources Development | 3.0 |
| EHRD 602 | Coaching and Mentoring for Sustainable Learning | 3.0 |
| EHRD 611 | Organization Development and Change | 3.0 |
| **Total Credits** | | **9.0** |

## Sample Plan of Study

**First Year (Part-Time)**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| EHRD 500 | 3.0 | EHRD 602 | 3.0 | EHRD 611 | 3.0 |
| | **3** | | **3** | | **3** |

**Total Credits 9**

# Post-Baccalaureate Certificate in Quantum Technology and Quantum Information

## Degree Requirements

| | | |
|---|---|---|
| **Required Core Courses** | | |
| PHYS 554 | Quantum Technology | 3.0 |
| PHYS 558 | Quantum Information | 3.0 |
| **Elective Courses (Select two)** | | **6.0** |
| MATE 512 | Introduction to Solid State Materials | |
| MATE 514 | Structure, Symmetry, and Properties of Materials | |
| PHYS 516 | Quantum Mechanics I | |
| PHYS 517 | Quantum Mechanics II | |
| PHYS 553 | Nanoscience | |
| PHYS 626 | Solid State Physics I | |
| PHYS 627 | Solid State Physics II | |
| **Total Credits** | | **12.0** |

## Sample Plan of Study

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| PHYS 558 | 3.0 | PHYS 554 | 3.0 | Elective | 3.0 |
| Elective | 3.0 | | | | |
| | **6** | | **3** | | **3** |

**Total Credits 12**

# Post-Baccalaureate Certificate in Software Architecture

## Degree Requirements

| | | |
|---|---|---|
| **Core Courses** | | |
| SE 575 | Software Design | 3.0 |
| SE 577 | Software Architecture | 3.0 |
| **Core electives** | | **6.0** |
| Choose 2 from the following | | |
| CS 500 | Fundamentals of Databases | |
| SE 572 | Web Services and Mobile Architectures | |
| SE 576 | Software Reliability and Testing | |
| SE 627 | Requirements Engineering and Management | |
| **Elective** | | **3.0** |
| Choose from the following or approved by the department | | |
| CS 647 | Distributed Systems Software | |
| INFO 608 | Human-Computer Interaction | |
| INFO 659 | Introduction to Data Analytics | |
| SE 578 | Security Engineering | |
| SE 610 | Open Source Software Engineering | |
| SE 630 | Software Engineering Economics | |
| SE 638 | Software Project Management | |
| **Total Credits** | | **15.0** |

## Sample Plan of Study

**First Year**

| Fall | Credits | Winter | Credits |
|---|---|---|---|
| SE 575 | 3.0 | SE 577 | 3.0 |
| Core Elective | 3.0 | Core Elective | 3.0 |
| | | Elective | 3.0 |
| | **6** | | **9** |

**Total Credits 15**

# Post-Baccalaureate Certificate in Software Management

## Degree Requirements

| | | |
|---|---|---|
| **Required Courses** | | |
| INFO 646 | Information Systems Management | 3.0 |
| SE 627 | Requirements Engineering and Management | 3.0 |
| SE 630 | Software Engineering Economics | 3.0 |
| SE 638 | Software Project Management | 3.0 |
| **Elective Course - choose 1** | | **3.0** |
| CS 647 | Distributed Systems Software | |
| INFO 608 | Human-Computer Interaction | |
| INFO 659 | Introduction to Data Analytics | |
| SE 570 | Agile Software Development Process | |
| SE 572 | Web Services and Mobile Architectures | |
| SE 575 | Software Design | |
| SE 576 | Software Reliability and Testing | |
| SE 577 | Software Architecture | |
| SE 578 | Security Engineering | |
| SE 610 | Open Source Software Engineering | |
| Consult with your advisor for additional appropriate courses. | | |
| **Total Credits** | | **15.0** |

## Sample Plan of Study

**First Year**

| Fall | Credits | Winter | Credits |
|---|---|---|---|
| SE 627 | 3.0 | INFO 646 | 3.0 |
| SE 630 | 3.0 | SE 638 | 3.0 |
| | | Elective | 3.0 |
| | **6** | | **9** |

**Total Credits 15**

# Post-Baccalaureate Certificate in Sport Leadership

## Degree Requirements

| | | |
|---|---|---|
| SCL 501 | Coaching Theory and Principles | 3.0 |
| SCL 503 | Pedagogical Strategies in Coaching | 3.0 |
| SCL 504 | Coaching Psychology | 3.0 |
| SMT 629 | Managing Coaches & Teams | 3.0 |
| **Total Credits** | | **12.0** |

## Sample Plan of Study

**First Year (Part-Time)**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| SCL 501 | 3.0 | SCL 503 | 3.0 | SCL 504 | 3.0 | SMT 629 | 3.0 |
| | **3** | | **3** | | **3** | | **3** |

**Total Credits 12**

# Strategic and Digital Communication MS

## Degree 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 | |
| **Graduate Electives** * | | **12.0** |
| **Total Credits** | | **45.0** |

* 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, ENVS, 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

### Full Time

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COM 500 | 3.0 | COM 610 | 3.0 | COM 698 | 3.0 | COM 574 | 3.0 |
| COM 613 | 3.0 | COM 651 | 3.0 | Program Elective | 3.0 | Program Elective | 3.0 |
| Program Elective | 3.0 | Program Elective | 3.0 | Graduate Elective | 3.0 | Graduate Elective | 3.0 |
| | **9** | | **9** | | **9** | | **9** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| INTERNSHIP* | | INTERNSHIP* | | COM 615 | 3.0 |
| | | | | Graduate Electives | 6.0 |
| | **0** | | **0** | | **9** |

**Total Credits 45**

* Internships are required but are non-credit bearing. Some students complete two 3-month internships; other students complete 12 months part time. Six months of full-time experience is required.The terms in which internships are taken will vary depending on the student's plan of study. Students who come in to the program with relevant prior professional experience can get the internship waived. Students are only eligible for financial aid during terms in which they enroll for a minimum of 4.5 credits that count toward degree completion.

### Part-Time

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COM 613 | 3.0 | COM 615 | 3.0 | COM 651 | 3.0 | COM 574 | 3.0 |
| Program Elective | 3.0 | Program Elective | 3.0 | Program Elective | 3.0 | Program Elective | 3.0 |
| | **6** | | **6** | | **6** | | **6** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COM 500 | 3.0 | Graduate Electives | 6.0 | COM 610 | 3.0 | Graduate Elective | 3.0 |
| COM 698 | 3.0 | INTERNSHI | | Graduate Elective | 3.0 | INTERNSHI | |
| INTERNSHIP* | | | | INTERNSHIP* | | | |
| | **6** | | **6** | | **6** | | **3** |

**Total Credits 45**

* Internships are required but are non-credit bearing. Some students complete two 3-month internships; other students complete 12 months part time. Six months of full-time experience is required.The terms in which internships are taken will vary depending on the student's plan of study. Students who come in to the program with relevant prior professional experience can get the internship waived. Students are only eligible for financial aid during terms in which they enroll for a minimum of 4.5 credits that count toward degree completion.

# Undergraduate STEM Education

## Degree Requirements

| | | |
|---|---|---|
| **Core** | | |
| ISTM 511 | Foundations in Evidence-Based STEM Pedagogy | 3.0 |
| ISTM 512 | Advanced Undergraduate STEM Pedagogical Techniques | 3.0 |
| ISTM 513 | Improving STEM Education Through Research | 3.0 |
| ISTM 514 | STEM Program Evaluation and Assessment | 3.0 |
| **Electives (choose two of the following, in consultation with advisor)** | | **6.0** |
| EDCR 510 | Leadership in Educational Contexts and Systems | |
| EDCR 512 | Using and Integrating Learning Technologies | |
| EDLT 535 | Researching & Evaluating Instructional Technology | |
| EDUC 514 | Science Teaching Methods | |
| EDUC 840 | Theories of Individual Cognition in STEM Education ** | |
| EDUC 842 | Social Foundation and Group Cognition in STEM Education ** | |
| EDUC 844 | Creativity and Innovation in STEM Education ** | |
| **PhD Content Area Knowledge** ‡ | | **9.0** |
| **PhD Research Experience** † | | **9.0** |
| **Capstone Experience** | | **9.0** |
| ISTM 515 | Seminar in UG STEM Education * | |
| ISTM 516 | Rotations in STEM Education * | |
| or ISTM 517 | Projects in Undergraduate STEM Education | |
| **Total Credits** | | **45.0** |

* ISTM 515 is taken 3 times for a total of 3.0 credits. ISTM 516 or ISTM 517 is taken 3 times for a total of 6.0 credits.

** EDUC 840, EDUC 842, and EDUC 844 can only be taken by PhD students.

‡ Courses selected from student's PhD coursework in their STEM content area.

† 9.0 credits of student's supervised PhD research.

# Post-Baccalaureate Certificate in U.S. Education Policy

## Degree Requirements

| | | |
|---|---|---|
| EDPO 620 | Education Policy: Concepts, Issues, and Applications | 3.0 |
| EDPO 628 | American Educational Policy and U.S. Competitiveness | 3.0 |
| EDPO 636 | Access & Equity in Educational Policy Making | 3.0 |
| **Total Credits** | | **9.0** |

## Sample Plan of Study

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| EDPO 620 | 3.0 | EDPO 628 | 3.0 | EDPO 636 | 3.0 |
| | **3** | | | **3** | **3** |

**Total Credits 9**

# Communication BS / Strategic & Digital Communication MS

## 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 | |
| **Methods Sequence** | | |
| 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 | |
| **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 |
| **Required Concentration Courses** | | |
| Select one of the following concentrations (Communication, Public Relations, or Technical and Science Communication) | | 30.0-36.0 |
| **Communication** | | |
| COM 160 | Introduction to Journalism | |
| COM 181 | Public Relations Principles and Theory | |
| COM 261 | Advanced Journalism | |
| or COM 282 | Public Relations Writing | |
| COM 310 [WI] | Technical Communication | |
| Two COM Electives at 300 level or higher | | |
| Six COM Electives | | |
| **Public Relations** | | |
| COM 160 | 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 | Digital Publishing | |
| or COM 340 | Modern Desktop Publishing | |
| COM 386 | Public Relations Campaign Planning | |
| MKTG 201 | Introduction to Marketing Management | |
| Three COM Electives | | |
| **Technical & Science Communication** | | |
| COM 160 | Introduction to Journalism | |
| COM 181 | Public Relations Principles and Theory | |
| COM 310 [WI] | Technical Communication | |
| COM 320 [WI] | Science Writing | |
| COM 335 | Digital Publishing | |
| COM 350 [WI] | Document Design and Evaluation | |
| COM 420 | Technical, Science and Health Editing | |
| Three COM Electives | | |
| **Free Electives** | | **43.0** |
| **MS Strategic and 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 | |
| **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, CRTV, CW, DIGM, ECON, EDAM, EDHE, EDLT, EDUC, ENTP, ENVP, ENVS, 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

## 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 | | | | |
| | **17** | | **15** | | **15** | | **0** |

**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 Concentratic 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) Internationa or Diversity Elective | 3.0 | | |
| | **18** | | **16** | | **18** | | **15** |

**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 | | | | | | |
| | **15** | | **18** | | **0** | | **3** |

**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 Concentratic Course | 3.0 | (UG) COM Elective | 3.0 | (UG) COM Elective Course or COM Concentratic 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 | | |
| | **18** | | **18** | | **18** | | **0** |

**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 | | |
| | **9** | | **6** | | **6** | | |

**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 | | | | |
| | **17** | | **18** | | **18** | | **0** |

**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 Concentratic Course | 3.0 | | | | |
| (UG) Free Elective | 2.0 | (UG) Science Sequence Course | 4.0 | | | | |
| (UG) Humanities Elective | 3.0 | (UG) Free Elective | 3.0 | | | | |
| | **18** | | **19** | | **0** | | **0** |

**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 Concentratic Courses | 6.0 | (UG) COM Concentratic 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 Diveristy Elective | 3.0 | | | | |
| | | COM 610 | 3.0 | | | | |
| | **15** | | **18** | | **3** | | **3** |

**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 | | | | | | |
| | **18** | | **18** | | **3** | | **3** |

**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 | | |
| | **18** | | **18** | | **18** |

**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 BA / Strategic & Digital Communication MS

## Degree Requirements

| | | |
|---|---|---|
| **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 | |
| 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 |
| **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 221 | Quantitative Research Methods in Communication | 3.0 |
| or COM 284 | Public Relations Research, Measurement and Evaluation | |
| **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 |
| **Required Concentration Courses** | | |
| Select one of the following concentrations (Communication, Public Relations, or Journalism): | | 31.0-45.0 |
| **Communication** | | |
| COM 160 | Introduction to Journalism | |
| COM 181 | Public Relations Principles and Theory | |
| COM 261 | Advanced Journalism | |
| or COM 282 | Public Relations Writing | |
| COM 310 [WI] | Technical Communication | |
| Two COM Electives at 300 level or higher | | |
| Six COM Electives | | |
| **Public Relations** | | |
| COM 181 | Public Relations Principles and Theory | |
| COM 160 | Introduction to Journalism | |
| COM 282 [WI] | Public Relations Writing | |
| COM 286 | Public Relations Strategies and Tactics | |
| COM 335 | Digital Publishing | |
| or COM 340 | Modern Desktop Publishing | |
| COM 386 | Public Relations Campaign Planning | |
| MKTG 201 | Introduction to Marketing Management | |
| Three COM Electives | | |
| **Journalism** | | |
| COM 160 | Introduction to Journalism | |
| COM 181 | Public Relations Principles and Theory | |
| COM 261 | Advanced Journalism | |
| COM 266 | Copy Editing for the Media | |
| COM 315 | Investigative Journalism | |
| COM 365 | Journalists, the Courts, and the Law | |
| TVPR 220 | TV News Writing | |
| Six COM Electives | | |
| **Free Electives** | | **38.0** |
| **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 | |

| | |
|---|---|
| **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, CRTV, CW, DIGM, ECON, EDAM, EDHE, EDLT, EDUC, ENTP, ENVP, ENVS, 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

## 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 | | | | |
| | **17** | | **17-18** | | **15-16** | | **0** |

**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 Concentratic Course | 3.0 | (UG) Internationa Elective | 3.0 | (UG) COM Concentratic 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 |
| | **18-19** | | **18-19** | | **18** | | **15** |

**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) Internationa 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 | | | | | | |
| | **16** | | **15** | | **0** | | **3** |

**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 | | | | |
| | **18** | | **18** | | **16** | | **0** |

**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 |
| | **9** | | **6** | | **6** |

**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 | | | | |
| | **17** | | **18-19** | | **18-19** | | **0** |

**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 Course | 3.0-4.0 | (UG) COM Concentratic 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 | | | | |
| | **19-20** | | **18-19** | | **0** | | **0** |

**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 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) Internationa Elective | 3.0 | (UG) Free Elective | 3.0 | | | | |
| COM 500 | 3.0 | (UG) Diversity Elective | 3.0 | | | | |
| | | COM 610 | 3.0 | | | | |
| | **15** | | **18** | | **3** | | **3** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| 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 | | | | | | |
| | **18** | | **18** | | **3** | | **3** |

**Fifth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| 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 |
| | **18** | | **18** | | **18** |

**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.

# Computer Engineering BSCE / Cybersecurity MS

## Program Requirements

*Note:* Students majoring in Computer Engineering must have a 2.0 cumulative overall GPA and a 2.0 cumulative GPA in their Professional Requirements courses.

| | | |
|---|---|---|
| **General Education/Liberal Studies Requirements** | | |
| COOP 101 | Career Management and Professional Development * | 1.0 |
| 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 | |
| PHIL 315 | Engineering Ethics | 3.0 |
| UNIV E101 | The Drexel Experience | 1.0 |
| Communications Elective | | 3.0 |
| COM 230 | Techniques of Speaking | |
| or COM 310 | Technical Communication | |
| General Education Requirements ** | | 15.0 |
| **Foundation Requirements** | | |
| CHEM 101 | General Chemistry I | 3.5 |
| CS 260 | Data Structures | 3.0 |
| CS 265 | Advanced Programming Tools and Techniques | 3.0 |
| ENGR 111 | Introduction to Engineering Design & Data Analysis | 3.0 |
| ENGR 113 | First-Year Engineering Design | 3.0 |
| ENGR 131 | Introductory Programming for Engineers | 3.0 |
| or ENGR 132 | Programming for Engineers | |
| ENGR 231 | Linear Engineering Systems | 3.0 |
| ENGR 232 | Dynamic Engineering Systems | 3.0 |
| MATH 121 | Calculus I | 4.0 |
| MATH 122 | Calculus II | 4.0 |
| MATH 200 | Multivariate Calculus | 4.0 |
| MATH 221 | Discrete Mathematics | 3.0 |
| MATH 291 | Complex and Vector Analysis for Engineers | 4.0 |
| PHYS 101 | Fundamentals of Physics I | 4.0 |
| PHYS 102 | Fundamentals of Physics II | 4.0 |
| PHYS 201 | Fundamentals of Physics III | 4.0 |
| **Science Elective** | | **3.0** |
| Choose any BIO, CHEM, or PHYS | | |
| **Professional Requirements** | | |
| ECE 101 | Electrical and Computer Engineering in the Real World | 1.0 |
| ECE 105 | Programming for Engineers II | 3.0 |
| ECE 200 | Digital Logic Design | 4.0 |
| ECE 201 | Foundations of Electric Circuits I | 4.0 |
| ECE 301 | Foundations of Electric Circuits II | 4.0 |
| ECE 303 | ECE Laboratory | 3.0 |
| ECE 350 | Introduction to Computer Organization | 3.0 |
| ECE 361 | Probability and Data Analytics for Engineers | 4.0 |
| ECEC 201 | Advanced Programming for Engineers | 3.0 |
| ECEC 204 | Design with Microcontrollers | 3.0 |
| ECES 301 | Signals and Systems I | 4.0 |
| Senior Design *** | | |
| ECE 491 [WI] | Senior Design Project I | 3.0 |
| ECE 492 [WI] | Senior Design Project II | 3.0 |
| ECE 493 [WI] | Senior Design Project III | 3.0 |
| **CE Core Elective (select one)** | | **3.0** |
| ECE 370 | Electronic Devices | |
| or ECE 371 | Foundations of Electromagnetics for Computing & Wireless Systems | |
| or ECE 380 | Fundamentals of Power and Energy | |
| ECE Electives † | | 6.0 |
| ECE 400-level Electives †† | | 9.0 |
| Free Electives | | 27.0 |
| **Master's Degree Courses** | | |
| INFO 517 | Principles of Cybersecurity | 3.0 |
| INFO 725 | Information Policy and Ethics | 3.0 |
| SE 578 | Security Engineering | 3.0 |
| **Cybersecurity Track-Specific Technical Electives** | | **27.0** |
| Choose from lists below depending on track | | |
| Computer Science Track Electives | | |
| CS 500 | Fundamentals of Databases | |
| CS 501 | Introduction to Programming | |
| CS 502 | Data Structures and Algorithms | |
| CS 503 | Systems Basics | |
| CS 510 | Introduction to Artificial Intelligence | |
| CS 521 | Data Structures and Algorithms I | |
| CS 522 | Data Structures and Algorithms II | |
| CS 540 | High Performance Computing | |
| CS 543 | Operating Systems | |
| CS 544 | Computer Networks | |
| CS 550 | Programming Languages | |
| CS 551 | Compiler Construction I | |
| CS 552 | Compiler Construction II | |
| CS 575 | Software Design | |
| CS 576 | Dependable Software Systems | |
| CS 590 | Privacy | |
| CS 610 | Advanced Artificial Intelligence | |
| CS 612 | Knowledge-based Agents | |
| CS 613 | Machine Learning | |
| CS 620 | Advanced Data Structure and Algorithms | |
| CS 621 | Approximation Algorithms | |
| CS 630 | Cognitive Systems | |
| CS 643 | Advanced Operating Systems | |
| CS 645 | Network Security | |
| CS 647 | Distributed Systems Software | |
| CS 650 | Program Generation and Optimization | |
| CS 675 | Reverse Software Engineering | |
| CS 695 | Research Rotations in Cybersecurity | |
| CS 741 | Computer Networks II | |
| CS 751 | Database Theory II | |
| CS 759 | Complexity Theory | |
| CS 770 | Topics in Artificial Intelligence | |
| CS 780 | Advanced Topics in Software Engineering | |
| Electrical & Computer Engineering Track Electives | | |
| ECE 610 | Machine Learning & Artificial Intelligence | |
| ECE 687 | Pattern Recognition | |
| ECEC 500 | Fundamentals Of Computer Hardware | |
| ECEC 501 | Computational Principles of Representation and Reasoning | |
| ECEC 502 | Principles of Data Analysis | |
| ECEC 503 | Principles of Decision Making | |
| ECEC 511 | Combinational Circuit Design | |
| ECEC 512 | Sequential Circuit Design | |
| ECEC 513 | Design for Testability | |
| ECEC 520 | Dependable Computing | |
| ECEC 531 | Principles of Computer Networking | |

| | |
|---|---|
| ECEC 600 | Fundamentals of Computer Networks |
| ECEC 621 | High Performance Computer Architecture |
| ECEC 622 | Parallel Programming |
| ECEC 623 | Advanced Topics in Computer Architecture |
| ECEC 632 | Performance Analysis of Computer Networks |
| ECEC 633 | Advanced Topics in Computer Networking |
| ECEC 641 | Web Security I |
| ECEC 642 | Web Security II |
| ECEC 643 | Web Security III |
| ECEC 661 | Digital Systems Design |
| ECES 511 | Fundamentals of Systems I |
| ECES 512 | Fundamentals of Systems II |
| ECES 513 | Fundamentals of Systems III |
| ECES 521 | Probability & Random Variables |
| ECES 522 | Random Process & Spectral Analysis |
| ECES 523 | Detection & Estimation Theory |
| ECES 558 | Digital Signal Processing for Sound & Hearing |
| ECES 559 | Processing of the Human Voice |
| ECES 604 | Optimal Estimation & Stochastic Control |
| ECES 607 | Estimation Theory |
| ECES 620 | Multimedia Forensics and Security |
| ECES 621 | Communications I |
| ECES 622 | Communications II |
| ECES 623 | Communications III |
| ECES 631 | Fundamentals of Deterministic Digital Signal Processing |
| ECES 632 | Fundamentals of Statistical Digital Signal Processing |
| ECES 641 | Bioinformatics |
| ECES 642 | Optimal Control |
| ECES 643 | Digital Control Systems Analysis & Design |
| ECES 644 | Computer Control Systems |
| ECES 651 | Intelligent Control |
| ECES 682 | Fundamentals of Image Processing |
| ECES 685 | Image Reconstruction Algorithms |
| ECES 811 | Optimization Methods for Engineering Design |
| ECES 812 | Mathematical Program Engineering Design |
| ECES 813 | Computer-Aided Network Design |
| ECES 818 | Machine Learning & Adaptive Control |
| ECES 821 | Reliable Communications & Coding I |
| ECES 822 | Reliable Communications & Coding II |
| ECES 823 | Reliable Communications & Coding III |
| ECET 501 | Fundamentals of Communications Engineering |
| ECET 511 | Physical Foundations of Telecommunications Networks |
| ECET 512 | Wireless Systems |
| ECET 513 | Wireless Networks |
| ECET 602 | Information Theory and Coding |
| ECET 603 | Optical Communications and Networks |
| ECET 604 | Internet Laboratory |
| Information Track Electives | |
| INFO 532 | Software Development |
| INFO 540 | Perspectives on Information Systems |
| INFO 590 | Foundations of Data and Information |
| INFO 605 | Database Management Systems |
| INFO 606 | Advanced Database Management |
| INFO 607 | Applied Database Technologies |
| INFO 612 | Knowledge Base Systems |
| INFO 613 | XML and Databases |
| INFO 624 | Information Retrieval Systems |
| INFO 629 | Applied Artificial Intelligence |
| INFO 633 | Information Visualization |
| INFO 634 | Data Mining |
| INFO 646 | Information Systems Management |
| INFO 655 | Intro to Web Programming |
| INFO 658 | Information Architecture |
| INFO 659 | Introduction to Data Analytics |
| INFO 662 | Metadata and Resource Description |
| INFO 670 | Cross-platform Mobile Development |
| INFO 680 | US Government Information |
| INFO 710 | Information Forensics |
| INFO 712 | Information Assurance |
| Cybersecurity Non-Track Electives ‡ | 9.0 |
| **Total Credits** | **226.5** |

* 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.

** General Education Requirements

*** Students who choose the Master's Thesis instead of Senior Design must replace ECE 491 [WI] , ECE 492 [WI] , ECE 493 [WI] credits with ECE elective credits.

† 2 classes or at least 6.0 credits at the 300-400 level from subject codes ECE, ECEC, ECEE, ECEL, ECEP, or ECES. Includes Special Topics in each code (T380, T480).

†† 3 classes or at least 9.0 credits at the 400 level from subject codes ECE or ECEC. Includes Special Topics in each code (T480).

‡ If enrolled in the Computer Science Track, choose 3 courses (9.0 credits) from either Electrical & Computer Engineering Track or Information Systems Track Technical Electives list.
If enrolled in the Information Systems Track, choose 3 courses (9.0 credits) from either the Computer Science or Electrical & Computer Engineering Tracks.
If enrolled in the Electrical & Computer Engineering Track, choose 3 courses (9.0 credits) from either the Computer Science or Information Systems Tracks.

# Sample Plan of Study

## 5 year, 3 coop Co-Terminal

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CHEM 101 | 3.5 | COOP 101 or CIVC 101* | 1.0 | CIVC 101 or COOP 101* | 1.0 | VACATION | |
| ECE 101 | 1.0 | ECE 200 | 4.0 | ECE 105 | 3.0 | | |
| ENGL 101 or 111 | 3.0 | ENGR 131 or 132 | 3.0 | ENGL 102 or 112 | 3.0 | | |
| ENGR 111 | 3.0 | MATH 122 | 4.0 | ENGR 113 | 3.0 | | |
| MATH 121 | 4.0 | PHYS 101 | 4.0 | MATH 200 | 4.0 | | |
| UNIV E101 | 1.0 | | | PHYS 102 | 4.0 | | |
| | **15.5** | | **16** | | **18** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | ECE 201 | 4.0 | COM 230 or 310 | 3.0 |
| | | | | ECEC 201 | 3.0 | CS 265 | 3.0 |
| | | | | ENGL 103 or 113 | 3.0 | ECEC 204 | 3.0 |
| | | | | ENGR 231 | 3.0 | ENGR 232 | 3.0 |
| | | | | MATH 221 | 3.0 | PHYS 201 | 4.0 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | (UG) Free Elective | 3.0 | (UG) Free Elective | 3.0 |
| | **0** | | **0** | | **19** | | **19** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | CS 260 | 3.0 | ECE 361 | 4.0 |
| INFO 725 (GR) | 3.0 | | | ECE 301 | 4.0 | PHIL 315 | 3.0 |
| | | | | ECE 350 | 3.0 | (UG) CE Core elective*** | 3.0 |
| | | | | ECES 301 | 4.0 | (UG) Science elective (Any BIO, CHEM or PHYS course) | 3.0 |
| | | | | (UG) General Education Elective** | 3.0 | (UG) Free Elective | 3.0 |
| | | | | INFO 517 | 3.0 | SE 578 | 3.0 |
| | **3** | | **0** | | **20** | | **19** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | ECE 303 | 3.0 | (UG) ECE elective† | 3.0 |
| (GR) Non-Track Technical Elective | 3.0 | (GR) Track Technical Elective | 3.0 | MATH 291 | 4.0 | (UG) General Education elective** | 3.0 |
| | | | | (UG) ECE elective† | 3.0 | (UG) Free electives | 6.0 |
| | | | | (UG) Free elective | 3.0 | (GR) Track Technical Elective | 3.0 |
| | | | | (GR) Track Technical Electives | 6.0 | (GR) Non-Track Technical Elective | 3.0 |
| | **3** | | **3** | | **19** | | **18** |

**Fifth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| ECE 491 | 3.0 | ECE 492 | 3.0 | ECE 493 | 3.0 |
| (UG) ECE 400-level Elective†† | 3.0 | (UG) ECE 400-level elective†† | 3.0 | (UG) ECE 400-level elective†† | 3.0 |
| (UG) General Education elective** | 3.0 | (UG) General Education elective** | 3.0 | (UG) General Education elective** | 3.0 |
| (UG) Free elective | 3.0 | (UG) Free elective | 3.0 | (UG) Free elective | 3.0 |
| (GR) Track Technical Elective | 3.0 | (GR) Track Technical Electives | 6.0 | (GR) Track Technical electives | 6.0 |
| (GR) Non-Track Technical Elective | 3.0 | | | | |
| | **18** | | **18** | | **18** |

**Total Credits 226.5**

Note: Students majoring in Computer Engineering must have a 2.0 cumulative overall GPA and a 2.0 cumulative GPA in their professional requirements courses.

* 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.

** General Education Requirements (http://catalog.drexel.edu/undergraduate/collegeofengineering/#generaleducationrequirementstext)

*** CE Core Elective: Choose one of the following: ECE 370, ECE 371, or ECE 380

† 2 classes or at least 6.0 credits at the 300-400 level from subject codes ECE, ECEC, ECEE, ECEL, ECEP, or ECES. Includes Special Topics in each code (T380, T480).

†† 3 classes or at least 9.0 credits at the 400 level from subject codes ECE or ECEC. Includes Special Topics in each code (T480).

# Computer Engineering BSCE / Electrical Engineering MSEE

## Program Requirements

| | | |
|---|---|---|
| **General Education/Liberal Studies 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 315 | Engineering Ethics | 3.0 |
| UNIV E101 | The Drexel Experience | 1.0 |
| Communications Elective | | 3.0 |
| COM 230 | Techniques of Speaking | |
| or COM 310 | Technical Communication | |
| General Education Requirements ** | | 15.0 |
| **Foundation Requirements** | | |
| CHEM 101 | General Chemistry I | 3.5 |
| CS 260 | Data Structures | 3.0 |
| CS 265 | Advanced Programming Tools and Techniques | 3.0 |
| ENGR 111 | Introduction to Engineering Design & Data Analysis | 3.0 |
| ENGR 113 | First-Year Engineering Design | 3.0 |
| ENGR 131 | Introductory Programming for Engineers | 3.0 |
| or ENGR 132 | Programming for Engineers | |
| ENGR 231 | Linear Engineering Systems | 3.0 |
| ENGR 232 | Dynamic Engineering Systems | 3.0 |
| MATH 121 | Calculus I | 4.0 |
| MATH 122 | Calculus II | 4.0 |
| MATH 200 | Multivariate Calculus | 4.0 |
| MATH 221 | Discrete Mathematics | 3.0 |
| MATH 291 | Complex and Vector Analysis for Engineers | 4.0 |
| PHYS 101 | Fundamentals of Physics I | 4.0 |
| PHYS 102 | Fundamentals of Physics II | 4.0 |
| PHYS 201 | Fundamentals of Physics III | 4.0 |
| Science Elective | | 3.0 |
| Choose any BIO, CHEM, or PHYS | | |
| **Professional Requirements** | | |
| ECE 101 | Electrical and Computer Engineering in the Real World | 1.0 |
| ECE 105 | Programming for Engineers II | 3.0 |
| ECE 200 | Digital Logic Design | 4.0 |
| ECE 201 | Foundations of Electric Circuits I | 4.0 |
| ECE 301 | Foundations of Electric Circuits II | 4.0 |
| ECE 303 | ECE Laboratory | 3.0 |
| ECE 350 | Introduction to Computer Organization | 3.0 |
| ECE 361 | Probability and Data Analytics for Engineers | 4.0 |
| ECEC 201 | Advanced Programming for Engineers | 3.0 |
| ECEC 204 | Design with Microcontrollers | 3.0 |
| ECES 301 | Signals and Systems I | 4.0 |
| Senior Design *** | | |
| ECE 491 [WI] | Senior Design Project I | 3.0 |
| ECE 492 [WI] | Senior Design Project II | 3.0 |
| ECE 493 | Senior Design Project III | 3.0 |
| CE Core Elective (choose one of the following): | | 3.0 |
| ECE 370 | Electronic Devices | |
| ECE 371 | Foundations of Electromagnetics for Computing & Wireless Systems | |
| ECE 380 | Fundamentals of Power and Energy | |
| ECE Electives † | | 6.0 |
| ECE 400-level Electives †† | | 9.0 |
| Free Electives | | 27.0 |
| **Master's Degree Courses** | | |
| Electrical Engineering Courses ‡ | | 21.0 |
| General ECE Courses ‡‡ | | 9.0 |
| Graduate Electives § | | 15.0 |
| **Total Credits** | | **226.5** |

*Note:* Students majoring in Computer Engineering must have a 2.0 cumulative overall GPA and a 2.0 cumulative GPA in their Professional Requirements courses.

* 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.

** General Education Requirements (http://catalog.drexel.edu/undergraduate/collegeofengineering/#generaleducationrequirementstext)

*** Students who choose the Master's Thesis instead of Senior Design must replace ECE 491 [WI] , ECE 492 [WI] , ECE 493 credits with ECE elective credits

† 2 classes or at least 6.0 credits at the 300-400 level from subject codes ECE, ECEC, ECEE, ECEL, ECEP, or ECES. Includes Special Topics in each code (T380, T480).

†† 3 classes or at least 9.0 credits at the 400 level from subject codes ECE or ECEC. Includes Special Topics in each code (T480).

‡ 500-level or higher courses in ECEE, ECEP, ECES, and ECET

‡‡ 500-level or higher courses in ECE, ECEC, ECEE, ECEP, ECES, ECET. Research-intensive courses (ECE 697, ECE 898, ECE 997, and ECE 998) cannot be used to fulfill this requirement.

§ 500-level or higher courses in the following areas: AE, BIO, BMES, CHE, CHEM, CIVE, CMGT, CS, ECE, ECEC, ECEE, ECEP, ECES, ECET, EGMT, ENGR, ENVE, ET, MATE, MATH, MEM, OPR, PROJ, PHYS, PRMT, SYSE.

## Sample Plan of Study

### 5 year, 3 coop Co-Terminal

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CHEM 101 | 3.5 | COOP 101 or CIVC 101* | 1.0 | CIVC 101 or COOP 101* | 1.0 | VACATION | |
| ECE 101 | 1.0 | ECE 200 | 4.0 | ECE 105 | 3.0 | | |
| ENGL 101 or 111 | 3.0 | ENGR 131 or 132 | 3.0 | ENGL 102 or 112 | 3.0 | | |
| ENGR 111 | 3.0 | MATH 122 | 4.0 | ENGR 113 | 3.0 | | |
| MATH 121 | 4.0 | PHYS 101 | 4.0 | MATH 200 | 4.0 | | |
| UNIV E101 | 1.0 | | | PHYS 102 | 4.0 | | |
| | **15.5** | | **16** | | **18** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | ECE 201 | 4.0 | COM 230 or 310 | 3.0 |
| | | | | ECEC 201 | 3.0 | CS 265 | 3.0 |
| | | | | ENGL 103 or 113 | 3.0 | ECEC 204 | 3.0 |
| | | | | ENGR 231 | 3.0 | ENGR 232 | 3.0 |
| | | | | MATH 221 | 3.0 | PHYS 201 | 4.0 |
| | | | | (UG) Free Elective | 3.0 | (UG) Free Elective | 3.0 |
| | **0** | | **0** | | **19** | | **19** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | CS 260 | 3.0 | ECE 361 | 4.0 |
| (GR) Graduate Elective[§] | 3.0 | | | ECE 301 | 4.0 | PHIL 315 | 3.0 |
| | | | | ECE 350 | 3.0 | (UG) CE Core elective[***] | 3.0 |
| | | | | ECES 301 | 4.0 | (UG) Free elective | 3.0 |
| | | | | (UG) General Education Elective[**] | 3.0 | (UG) Science elective | 3.0 |
| | | | | (GR) Graduate Elective[§] | 3.0 | Any BIO, CHEM or PHYS course | |
| | | | | | | (GR) General ECE course[‡‡] | 3.0 |
| | **3** | | **0** | | **20** | | **19** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | ECE 303 | 3.0 | (UG) ECE Elective[†] | 3.0 |
| (GR) Graduate Elective[§] | 3.0 | (GR) Graduate Elective[§] | 3.0 | MATH 291 | 4.0 | (UG) Free Electives | 6.0 |
| | | | | (UG) ECE Elective[†] | 3.0 | (UG) General Education Elective[**] | 3.0 |
| | | | | (UG) Free Elective | 3.0 | (GR) Electrical Eng Course[‡] | 3.0 |
| | | | | (GR) Electrical Eng Courses[‡] | 6.0 | (GR) General ECE Course[‡‡] | 3.0 |
| | **3** | | **3** | | **19** | | **18** |

**Fifth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| ECE 491 | 3.0 | ECE 492 | 3.0 | ECE 493 | 3.0 |
| (UG) ECE 400-level Elective[††] | 3.0 | (UG) ECE 400-level Elective[††] | 3.0 | (UG) ECE 400-level Elective[††] | 3.0 |
| (UG) Free Elective | 3.0 | (UG) Free Elective | 3.0 | (UG) Free Elective | 3.0 |
| (UG) General Education Elective[**] | 3.0 | (UG) General Education Elective[**] | 3.0 | (UG) General Education Elective[**] | 3.0 |
| (GR) Electrical Eng Courses[‡] | 6.0 | (GR) Electrical Eng Course[‡] | 3.0 | (GR) Electrical Eng Course[‡] | 3.0 |
| | | (GR) Graduate Elective[§] | 3.0 | (GR) General ECE Course[‡‡] | 3.0 |
| | **18** | | **18** | | **18** |

**Total Credits 226.5**

* 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.

** General Education Requirements (http://catalog.drexel.edu/undergraduate/collegeofengineering/#generaleducationrequirementstext)

*** CE Core Elective: Choose one of the following: ECE 370, ECE 371, or ECE 380

† 2 classes or at least 6.0 credits at the 300-400 level from subject codes ECE, ECEC, ECEE, ECEL, ECEP, or ECES. Includes Special Topics in each code (T380, T480).

†† 3 classes or at least 9.0 credits at the 400 level from subject codes ECE or ECEC. Includes Special Topics in each code (T480).

‡ 500-level or higher courses in ECEE, ECEP, ECES, and ECET

‡‡ 500-level or higher courses in ECE, ECEC, ECEE, ECEP, ECES, ECET. Research-intensive courses (ECE 697, ECE 898, ECE 997, and ECE 998) cannot be used to fulfill this requirement.

§ 500-level or higher courses in the following areas: AE, BIO, BMES, CHE, CHEM, CIVE, CMGT, CS, ECE, ECEC, ECEE, ECEP, ECES, ECET, EGMT, ENGR, ENVE, ET, MATE, MATH, MEM, OPR, PROJ, PHYS, PRMT, SYSE.

# Computer Engineering BSCE / Machine Learning Engineering MSMLE

## Program Requirements

| | | |
|---|---|---|
| **General Education/Liberal Studies 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 315 | Engineering Ethics | 3.0 |
| UNIV E101 | The Drexel Experience | 1.0 |
| Communications Elective | | 3.0 |
| COM 230 | Techniques of Speaking | |
| or COM 310 | Technical Communication | |
| General Education Requirements ** | | 15.0 |
| **Foundation Requirements** | | |
| CHEM 101 | General Chemistry I | 3.5 |
| CS 260 | Data Structures | 3.0 |
| CS 265 | Advanced Programming Tools and Techniques | 3.0 |
| ENGR 111 | Introduction to Engineering Design & Data Analysis | 3.0 |
| ENGR 113 | First-Year Engineering Design | 3.0 |
| ENGR 131 | Introductory Programming for Engineers | 3.0 |
| or ENGR 132 | Programming for Engineers | |
| ENGR 231 | Linear Engineering Systems | 3.0 |
| ENGR 232 | Dynamic Engineering Systems | 3.0 |
| MATH 121 | Calculus I | 4.0 |
| MATH 122 | Calculus II | 4.0 |
| MATH 200 | Multivariate Calculus | 4.0 |
| MATH 221 | Discrete Mathematics | 3.0 |
| MATH 291 | Complex and Vector Analysis for Engineers | 4.0 |
| PHYS 101 | Fundamentals of Physics I | 4.0 |
| PHYS 102 | Fundamentals of Physics II | 4.0 |
| PHYS 201 | Fundamentals of Physics III | 4.0 |
| **Science Elective** | | **3.0** |
| Choose any BIO, CHEM, or PHYS | | |
| **Professional Requirements** | | |
| ECE 101 | Electrical and Computer Engineering in the Real World | 1.0 |
| ECE 105 | Programming for Engineers II | 3.0 |
| ECE 200 | Digital Logic Design | 4.0 |
| ECE 201 | Foundations of Electric Circuits I | 4.0 |
| ECE 301 | Foundations of Electric Circuits II | 4.0 |
| ECE 303 | ECE Laboratory | 3.0 |
| ECE 350 | Introduction to Computer Organization | 3.0 |
| ECE 361 | Probability and Data Analytics for Engineers | 4.0 |
| ECEC 201 | Advanced Programming for Engineers | 3.0 |
| ECEC 204 | Design with Microcontrollers | 3.0 |
| ECES 301 | Signals and Systems I | 4.0 |
| **Senior Design** *** | | |
| ECE 491 [WI] | Senior Design Project I | 3.0 |
| ECE 492 [WI] | Senior Design Project II | 3.0 |
| ECE 493 | Senior Design Project III | 3.0 |
| **CE Core Elective (choose one of the following):** | | **3.0** |
| ECE 370 | Electronic Devices | |
| ECE 371 | Foundations of Electromagnetics for Computing & Wireless Systems | |
| ECE 380 | Fundamentals of Power and Energy | |
| ECE Electives † | | 6.0 |
| ECE 400-level Electives †† | | 9.0 |
| Free Electives | | 27.0 |
| **Master's Degree Courses** | | |
| **Core Courses** | | |
| ECE 610 | Machine Learning & Artificial Intelligence | 3.0 |
| ECE 612 | Applied Machine Learning Engineering | 3.0 |
| ECE 687 | Pattern Recognition | 3.0 |
| ECES 521 | Probability & Random Variables | 3.0 |
| **Aligned Mathematical Theory Courses** | | **6.0** |
| Choose two of the following: | | |
| ECES 522 | Random Process & Spectral Analysis | |
| ECES 523 | Detection & Estimation Theory | |
| ECES 811 | Optimization Methods for Engineering Design | |
| ECET 602 | Information Theory and Coding | |
| MATH 504 | Linear Algebra & Matrix Analysis | |
| MATH 510 | Applied Probability and Statistics I | |
| **Signal Processing** | | **3.0** |
| Choose one of the following: | | |
| ECES 631 | Fundamentals of Deterministic Digital Signal Processing | |
| ECES 681 | Fundamentals of Computer Vision | |
| ECES 682 | Fundamentals of Image Processing | |
| **Applications** | | **3.0** |
| Choose one of the following: | | |
| ECE 686 | Cell & Tissue Image Analysis | |
| ECES 620 | Multimedia Forensics and Security | |
| ECES 641 | Bioinformatics | |
| ECES 650 | Statistical Analysis of Genomics | |
| ECES 660 | Machine Listening and Music IR | |
| **Transformational Electives** | | **6.0** |
| Choose two elective courses that promote the development of leadership, communication, and ethics: | | |
| COM 610 | Theories of Communication and Persuasion | |
| EDGI 510 | Culture, Society & Education in Comparative Perspective | |
| EDGI 522 | Education for Global Citizenship, Sustainability, and Social Justice | |
| Engineering Electives ‡ | | 9.0 |
| **Mastery (Thesis and Non-Thesis Option) ‡‡** | | **6.0** |
| ECE 898 | Master's Thesis | |
| **Total Credits** | | **226.5** |

Note: Students majoring in Computer Engineering must have a 2.0 cumulative overall GPA and a 2.0 cumulative GPA in their Professional Requirements courses.

* 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.

** General Education Requirements (http://catalog.drexel.edu/undergraduate/collegeofengineering/#generaleducationrequirementstext)

*** Students who choose the Master's Thesis instead of Senior Design must replace ECE 491 [WI] , ECE 492 [WI] , ECE 493 credits with ECE elective credits.

† 2 classes or at least 6.0 credits at the 300-400 level from subject codes ECE, ECEC, ECEE, ECEL, ECEP, or ECES. Includes Special Topics in each code (T380, T480).

†† 3 classes or at least 9.0 credits at the 400 level from subject codes ECE or ECEC. Includes Special Topics in each code (T480).

‡ Choose 3 classes at the 500 level or higher from: ECEC, ECEE, ECEP, ECES, ECET, ECE, AE, CHE, CIVE, CMGT, EGMT, ENGR, ENVE, ET, MATE, MEM, PROJ, PRMT, and SYSE.

‡‡ Thesis Option: A minimum of two terms of laboratory-based research that leads to a publicly defended MS thesis. Students will be advised by a faculty member, and when applicable, a representative of industry or government sponsor.
Non-Thesis Option: In lieu of research and thesis, students will complete 6.0 additional credits of coursework from the Mathematical Theory, Applications, or Signal Processing areas.

# Sample Plan of Study

## 5 year, 3 coop Co-Terminal

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CHEM 101 | 3.5 | COOP 101 or CIVC 101* | 1.0 | CIVC 101 or COOP 101* | 1.0 | VACATION | |
| ECE 101 | 1.0 | ECE 200 | 4.0 | ECE 105 | 3.0 | | |
| ENGL 101 or 111 | 3.0 | ENGR 131 or 132 | 3.0 | ENGL 102 or 112 | 3.0 | | |
| ENGR 111 | 3.0 | MATH 122 | 4.0 | ENGR 113 | 3.0 | | |
| MATH 121 | 4.0 | PHYS 101 | 4.0 | MATH 200 | 4.0 | | |
| UNIV E101 | 1.0 | | | PHYS 102 | 4.0 | | |
| | **15.5** | | **16** | | **18** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | ECE 201 | 4.0 | COM 230 or 310 | 3.0 |
| | | | | ECEC 201 | 3.0 | CS 265 | 3.0 |
| | | | | ENGL 103 or 113 | 3.0 | ECEC 204 | 3.0 |
| | | | | ENGR 231 | 3.0 | ENGR 232 | 3.0 |
| | | | | MATH 221 | 3.0 | PHYS 201 | 4.0 |
| | | | | (UG) Free Elective | 3.0 | (UG) Free Elective | 3.0 |
| | **0** | | **0** | | **19** | | **19** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | CS 260 | 3.0 | ECE 361 | 4.0 |
| (GR) Signal Processing Course | 3.0 | | | ECE 301 | 4.0 | PHIL 315 | 3.0 |
| | | | | ECE 350 | 3.0 | (UG) CE Core Elective*** | 3.0 |
| | | | | ECES 301 | 4.0 | (UG) Free Elective | 3.0 |
| | | | | (UG) General Education Elective** | 3.0 | (UG) Science Elective | 3.0 |
| | | | | (GR) Engineering Elective | 3.0 | Any BIO, CHEM or PHYS course | |
| | | | | | | (GR) Aligned Mathematical Theory Course | 3.0 |
| | **3** | | **0** | | **20** | | **19** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | ECE 303 | 3.0 | (UG) ECE Elective† | 3.0 |
| (GR) Applications Course | 3.0 | ECE 610 | 3.0 | MATH 291 | 4.0 | (UG) Free Electives | 6.0 |
| | | | | (UG) ECE Elective† | 3.0 | (UG) General Education Elective** | 3.0 |
| | | | | (UG) Free Elective | 3.0 | ECE 612 | 3.0 |
| | | | | ECE 687 | 3.0 | (GR) Aligned Mathematical Theory Course | 3.0 |
| | | | | ECES 521 | 3.0 | | |
| | **3** | | **3** | | **19** | | **18** |

**Fifth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| ECE 491 | 3.0 | ECE 492 | 3.0 | ECE 493 | 3.0 |
| (UG) ECE 400-level Elective†† | 3.0 | (UG) ECE 400-level Elective†† | 3.0 | (UG) ECE 400-level Elective†† | 3.0 |
| (UG) Free Elective | 3.0 | (UG) Free Elective | 3.0 | (UG) Free Elective | 3.0 |
| (UG) General Education Elective** | 3.0 | (UG) General Education Elective** | 3.0 | (UG) General Education Elective** | 3.0 |
| (GR) Engineering Elective | 3.0 | (GR) Transformational Elective | 3.0 | (GR) Engineering Elective | 3.0 |
| (GR) Transformat Elective | 3.0 | (GR) Thesis or Alternative | 3.0 | (GR) Thesis or Alternative | 3.0 |
| | **18** | | **18** | | **18** |

**Total Credits 226.5**

* 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.

** General Education Requirements (http://catalog.drexel.edu/undergraduate/collegeofengineering/#generaleducationrequirementstext)

*** CE Core Elective: Choose one of the following: ECE 370, ECE 371, or ECE 380

† 2 classes or at least 6.0 credits at the 300-400 level from subject codes ECE, ECEC, ECEE, ECEL, ECEP, or ECES. Includes Special Topics in each code (T380, T480).

†† 3 classes or at least 9.0 credits at the 400 level from subject codes ECE or ECEC. Includes Special Topics in each code (T480).

# Computer Engineering BSCE / Robotics & Autonomy MSRA

## Program Requirements

| | | |
|---|---|---|
| **General Education/Liberal Studies 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 315 | Engineering Ethics | 3.0 |
| UNIV E101 | The Drexel Experience | 1.0 |
| **Communications Elective** | | **3.0** |
| COM 230 | Techniques of Speaking | |
| or COM 310 | Technical Communication | |
| General Education Requirements ** | | 15.0 |
| **Foundation Requirements** | | |
| CHEM 101 | General Chemistry I | 3.5 |
| CS 260 | Data Structures | 3.0 |
| CS 265 | Advanced Programming Tools and Techniques | 3.0 |
| ENGR 111 | Introduction to Engineering Design & Data Analysis | 3.0 |
| ENGR 113 | First-Year Engineering Design | 3.0 |
| ENGR 131 | Introductory Programming for Engineers | 3.0 |
| or ENGR 132 | Programming for Engineers | |
| ENGR 231 | Linear Engineering Systems | 3.0 |
| ENGR 232 | Dynamic Engineering Systems | 3.0 |
| MATH 121 | Calculus I | 4.0 |
| MATH 122 | Calculus II | 4.0 |
| MATH 200 | Multivariate Calculus | 4.0 |
| MATH 221 | Discrete Mathematics | 3.0 |
| MATH 291 | Complex and Vector Analysis for Engineers | 4.0 |
| PHYS 101 | Fundamentals of Physics I | 4.0 |
| PHYS 102 | Fundamentals of Physics II | 4.0 |
| PHYS 201 | Fundamentals of Physics III | 4.0 |
| **Science Elective** | | **3.0** |
| Choose any BIO, CHEM, or PHYS | | |
| **Professional Requirements** | | |
| ECE 101 | Electrical and Computer Engineering in the Real World | 1.0 |
| ECE 105 | Programming for Engineers II | 3.0 |
| ECE 200 | Digital Logic Design | 4.0 |
| ECE 201 | Foundations of Electric Circuits I | 4.0 |
| ECE 301 | Foundations of Electric Circuits II | 4.0 |
| ECE 303 | ECE Laboratory | 3.0 |
| ECE 350 | Introduction to Computer Organization | 3.0 |
| ECE 361 | Probability and Data Analytics for Engineers | 4.0 |
| ECEC 201 | Advanced Programming for Engineers | 3.0 |
| ECEC 204 | Design with Microcontrollers | 3.0 |
| ECES 301 | Signals and Systems I | 4.0 |
| **Senior Design** *** | | |
| ECE 491 [WI] | Senior Design Project I | 3.0 |
| ECE 492 [WI] | Senior Design Project II | 3.0 |
| ECE 493 | Senior Design Project III | 3.0 |
| **CE Core Elective (choose one of the following):** | | **3.0** |
| ECE 370 | Electronic Devices | |
| ECE 371 | Foundations of Electromagnetics for Computing & Wireless Systems | |
| ECE 380 | Fundamentals of Power and Energy | |
| ECE Electives † | | 6.0 |
| ECE 400-level Electives †† | | 9.0 |
| Free Electives | | 27.0 |
| **Master's Degree Courses** | | |
| **Foundation Courses** | | **6.0** |
| Choose 2 courses in mathematics and/or signal processing | | |
| Mathematics | | |
| ECES 521 | Probability & Random Variables | |
| MATH 504 | Linear Algebra & Matrix Analysis | |
| MATH 510 | Applied Probability and Statistics I | |
| MATH 623 | Ordinary Differential Equations I | |
| MATH 630 | Complex Variables I | |
| MEM 591 | Applied Engr Analy Methods I | |
| MEM 592 | Applied Engr Analy Methods II | |
| MEM 593 | Applied Engr Analy Methods III | |
| Signal Processing | | |
| ECES 522 | Random Process & Spectral Analysis | |
| ECES 523 | Detection & Estimation Theory | |
| ECES 604 | Optimal Estimation & Stochastic Control | |
| ECES 631 | Fundamentals of Deterministic Digital Signal Processing | |
| **Systems Courses** | | **6.0** |
| Choose 2 courses in robotics and autonomy from the perspective of full systems or use | | |
| CS 510 | Introduction to Artificial Intelligence | |
| ECE 610 | Machine Learning & Artificial Intelligence | |
| ECE 612 | Applied Machine Learning Engineering | |
| ECES 511 | Fundamentals of Systems I | |
| ECES 512 | Fundamentals of Systems II | |
| ECES 513 | Fundamentals of Systems III | |
| ECES 561 | Medical Robotics I | |
| ECES 562 | Medical Robotics II | |
| MEM 571 | Introduction to Robot Technology | |
| MEM 572 | Mechanics of Robot Manipulators | |
| MEM 573 | Industrial Application of Robots | |
| **Technical Focus Areas** | | **9.0** |
| Choose three courses from a maximum of two Core Component areas: Perception, Cognition and Behavior, Action, Control | | |
| **Core Components** | | |
| Take 1 course in each of the four disciplines critical to robotics | | |
| Perception Course | | 3.0 |
| ECE 687 | Pattern Recognition | |
| ECES 681 | Fundamentals of Computer Vision | |
| ECES 682 | Fundamentals of Image Processing | |
| ECET 512 | Wireless Systems | |
| ECET T580 | Special Topics in ECET | |
| MEM 678 | Nondestructive Evaluation Methods | |
| Cognition and Behavior Course | | 3.0 |
| CS 510 | Introduction to Artificial Intelligence | |
| CS 583 | Introduction to Computer Vision | |
| CS 613 | Machine Learning | |
| CS 630 | Cognitive Systems | |
| ECE 610 | Machine Learning & Artificial Intelligence | |
| ECE 612 | Applied Machine Learning Engineering | |
| ECES 604 | Optimal Estimation & Stochastic Control | |
| ECES 631 | Fundamentals of Deterministic Digital Signal Processing | |
| Action Course | | 3.0 |
| ECES 511 | Fundamentals of Systems I | |

| | | |
|---|---|---|
| ECES 512 | Fundamentals of Systems II | |
| ECES 513 | Fundamentals of Systems III | |
| MEM 530 | Aircraft Flight Dynamics & Control I | |
| MEM 666 | Advanced Dynamics I | |
| MEM 667 | Advanced Dynamics II | |
| MEM 668 | Advanced Dynamics III | |
| Control Course | | 3.0 |
| ECE 612 | Applied Machine Learning Engineering | |
| ECES 604 | Optimal Estimation & Stochastic Control | |
| ECES 642 | Optimal Control | |
| MEM 633 | Robust Control Systems I | |
| MEM 634 | Robust Control Systems II | |
| MEM 635 | Robust Control Systems III | |
| MEM 636 | Theory of Nonlinear Control I | |
| MEM 637 | Theory of Nonlinear Control II | |
| MEM 638 | Theory of Nonlinear Control III | |
| MEM 733 | Applied Optimal Control I | |
| MEM 734 | Applied Optimal Control II | |
| MEM 735 | Advanced Topics in Optimal Control | |
| **Transformational Electives** | | **6.0** |
| Choose 2 elective courses that promote the development of leadership, communication, and ethics | | |
| COM 610 | Theories of Communication and Persuasion | |
| EDGI 510 | Culture, Society & Education in Comparative Perspective | |
| EDGI 522 | Education for Global Citizenship, Sustainability, and Social Justice | |
| **Mastery: Thesis or Alternative** | | **6.0** |
| Thesis Option: A minimum of two terms of laboratory-based research (ECE 898) that leads to a publicly defended MS thesis. Students will be advised by a faculty member, and when applicable, a representative of industry or government sponsor. | | |
| Non-thesis Option: In lieu of the research and thesis, students will complete 6.0 credits of additional coursework in a Technical Focus Area. Graduate Co-op is encouraged for non-thesis students, but is not required. | | |
| **Total Credits** | | **226.5** |

Note: Students majoring in Computer Engineering must have a 2.0 cumulative overall GPA and a 2.0 cumulative GPA in their Professional Requirements courses.

* 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.

** General Education Requirements (http://catalog.drexel.edu/undergraduate/collegeofengineering/#generaleducationrequirementstext)

*** Students who choose the Master's Thesis instead of Senior Design must replace ECE 491 [WI] , ECE 492 [WI] , ECE 493 credits with ECE elective credits.

† 2 classes or at least 6.0 credits at the 300-400 level from subject codes ECE, ECEC, ECEE, ECEL, ECEP, or ECES. Includes Special Topics in each code (T380, T480).

†† 3 classes or at least 9.0 credits at the 400 level from subject codes ECE or ECEC. Includes Special Topics in each code (T480).

# Sample Plan of Study

## 5 year, 3 coop Co-Terminal

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CHEM 101 | 3.5 | COOP 101 or CIVC 101* | 1.0 | COOP 101 or CIVC 101* | 1.0 | VACATION | |
| ECE 101 | 1.0 | ECE 200 | 4.0 | ECE 105 | 3.0 | | |
| ENGL 101 or 111 | 3.0 | ENGR 131 or 132 | 3.0 | ENGL 102 or 112 | 3.0 | | |
| ENGR 111 | 3.0 | MATH 122 | 4.0 | ENGR 113 | 3.0 | | |
| MATH 121 | 4.0 | PHYS 101 | 4.0 | MATH 200 | 4.0 | | |
| UNIV E101 | 1.0 | | | PHYS 102 | 4.0 | | |
| | **15.5** | | **16** | | **18** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | ECE 201 | 4.0 | COM 230 or 310 | 3.0 |
| | | | | ECEC 201 | 3.0 | CS 265 | 3.0 |
| | | | | ENGL 103 or 113 | 3.0 | ECEC 204 | 3.0 |
| | | | | ENGR 231 | 3.0 | ENGR 232 | 3.0 |
| | | | | MATH 221 | 3.0 | PHYS 201 | 4.0 |
| | | | | (UG) Free Elective | 3.0 | (UG) Free Elective | 3.0 |
| | **0** | | **0** | | **19** | | **19** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | CS 260 | 3.0 | ECE 361 | 4.0 |
| (GR) Systems Course‡ | 3.0 | | | ECE 301 | 4.0 | PHIL 315 | 3.0 |
| | | | | ECE 350 | 3.0 | (UG) CE Core Elective*** | 3.0 |
| | | | | ECES 301 | 4.0 | (UG) Free Elective | 3.0 |
| | | | | (UG) General Education Elective** | 3.0 | (UG) Science Elective | 3.0 |
| | | | | (GR) Foundation Course | 3.0 | Any BIO, CHEM or PHYS course | |
| | | | | | | (GR) Systems Course | 3.0 |
| | **3** | | **0** | | **20** | | **19** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | ECE 303 | 3.0 | (UG) ECE Elective† | 3.0 |
| (GR) Technical Focus Course | 3.0 | (GR) Technical Focus Course | 3.0 | MATH 291 | 4.0 | (UG) Free Electives | 6.0 |
| | | | | (UG) ECE Elective† | 3.0 | (UG) General Education Elective** | 3.0 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | (UG) Free Elective | 3.0 | (GR) Core Cognition & Behavior Course | 3.0 |
| | | | | (GR) Core Perception Course | 3.0 | (GR) Transformational Elective | 3.0 |
| | | | | (GR) Foundation Course | 3.0 | | |
| | **3** | | **3** | | **19** | | **18** |

**Fifth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| ECE 491 | 3.0 | ECE 492 | 3.0 | ECE 493 | 3.0 |
| (UG) ECE 400-level Elective†† | 3.0 | (UG) ECE 400-level Elective†† | 3.0 | (UG) ECE 400-level Elective†† | 3.0 |
| (UG) Free Elective | 3.0 | (UG) Free Elective | 3.0 | (UG) Free Elective | 3.0 |
| (UG) General Education Elective** | 3.0 | (UG) General Education Elective** | 3.0 | (UG) General Education Elective** | 3.0 |
| (GR) Core Action Course | 3.0 | (GR) Thesis or Alternative | 3.0 | (GR) Technical Focus Course | 3.0 |
| (GR) Core Control Course | 3.0 | (GR) Transformat Elective | 3.0 | (GR) Thesis or Alternative | 3.0 |
| | **18** | | **18** | | **18** |

**Total Credits 226.5**

* 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.

** General Education Requirements (http://catalog.drexel.edu/undergraduate/collegeofengineering/#generaleducationrequirementstext)

*** CE Core Elective: Choose one of the following: ECE 370, ECE 371, or ECE 380

† 2 classes or at least 6.0 credits at the 300-400 level from subject codes ECE, ECEC, ECEE, ECEL, ECEP, or ECES. Includes Special Topics in each code (T380, T480).

†† 3 classes or at least 9.0 credits at the 400 level from subject codes ECE or ECEC. Includes Special Topics in each code (T480).

# Computer Engineering BSCE / Telecommunications Engineering MSEET

## Program Requirements

| | | |
|---|---|---|
| **General Education/Liberal Studies 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 315 | Engineering Ethics | 3.0 |
| UNIV E101 | The Drexel Experience | 1.0 |
| Communications elective | | 3.0 |
| COM 230 | Techniques of Speaking | |
| or COM 310 | Technical Communication | |
| General Education Requirements ** | | 15.0 |
| **Foundation Requirements** | | |
| CHEM 101 | General Chemistry I | 3.5 |
| CS 260 | Data Structures | 3.0 |
| CS 265 | Advanced Programming Tools and Techniques | 3.0 |
| ENGR 111 | Introduction to Engineering Design & Data Analysis | 3.0 |
| ENGR 113 | First-Year Engineering Design | 3.0 |
| ENGR 131 | Introductory Programming for Engineers | 3.0 |
| or ENGR 132 | Programming for Engineers | |
| ENGR 231 | Linear Engineering Systems | 3.0 |
| ENGR 232 | Dynamic Engineering Systems | 3.0 |
| MATH 121 | Calculus I | 4.0 |
| MATH 122 | Calculus II | 4.0 |
| MATH 200 | Multivariate Calculus | 4.0 |
| MATH 221 | Discrete Mathematics | 3.0 |
| MATH 291 | Complex and Vector Analysis for Engineers | 4.0 |
| PHYS 101 | Fundamentals of Physics I | 4.0 |
| PHYS 102 | Fundamentals of Physics II | 4.0 |
| PHYS 201 | Fundamentals of Physics III | 4.0 |
| Science Elective | | 3.0 |
| Choose any BIO, CHEM, or PHYS | | |
| **Professional Requirements** | | |
| ECE 101 | Electrical and Computer Engineering in the Real World | 1.0 |
| ECE 105 | Programming for Engineers II | 3.0 |
| ECE 200 | Digital Logic Design | 4.0 |
| ECE 201 | Foundations of Electric Circuits I | 4.0 |
| ECE 301 | Foundations of Electric Circuits II | 4.0 |
| ECE 303 | ECE Laboratory | 3.0 |
| ECE 350 | Introduction to Computer Organization | 3.0 |
| ECE 361 | Probability and Data Analytics for Engineers | 4.0 |
| ECEC 201 | Advanced Programming for Engineers | 3.0 |
| ECEC 204 | Design with Microcontrollers | 3.0 |
| ECES 301 | Signals and Systems I | 4.0 |
| Senior Design *** | | |
| ECE 491 [WI] | Senior Design Project I | 3.0 |
| ECE 492 [WI] | Senior Design Project II | 3.0 |
| ECE 493 | Senior Design Project III | 3.0 |
| CE Core Elective (choose one of the following): | | 3.0 |
| ECE 370 | Electronic Devices | |
| ECE 371 | Foundations of Electromagnetics for Computing & Wireless Systems | |
| ECE 380 | Fundamentals of Power and Energy | |
| ECE Electives † | | 6.0 |
| ECE 400-level electives †† | | 9.0 |
| Free Electives | | 27.0 |
| **Master's Degree Courses** | | |
| Telecommunications Engineering Courses (ECET 500-level or higher) | | 6.0 |
| Telecommunications Electives ‡ | | 15.0 |
| General ECE courses ‡‡ | | 9.0 |
| Graduate Electives § | | 15.0 |
| **Total Credits** | | **226.5** |

Note: Students majoring in Computer Engineering must have a 2.0 cumulative overall GPA and a 2.0 cumulative GPA in their Professional Requirements courses.

* 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.

** General Education Requirements (http://catalog.drexel.edu/undergraduate/collegeofengineering/#generaleducationrequirementstext)

*** Students who choose the Master's Thesis instead of Senior Design must replace ECE 491 [WI] , ECE 492 [WI] , ECE 493 credits with ECE elective credits.

† 2 classes or at least 6.0 credits at the 300-400 level from subject codes ECE, ECEC, ECEE, ECEL, ECEP, or ECES. Includes Special Topics in each code (T380, T480).

†† 3 classes or at least 9.0 credits at the 400 level from subject codes ECE or ECEC. Includes Special Topics in each code (T480).

‡ 500-level or higher courses from ECEE, ECEC, ECES, and ECET.

‡‡ 500-level or higher courses from ECEC, ECEE, ECEP, ECES, ECET, and ECE.

§ 500-level or higher courses from ECEC, ECEE, ECEP, ECES, ECET, ECE, AE, CHE, CIVE, CMGT, EGMT, ENGR, ENVE, ET, MATE, MEM, PROJ, PRMT, SYSE, BMES, MATH, PHYS, CHEM, BIO, OPR, and CS.

## Sample Plan of Study

### 5 year, 3 coop Co-Terminal

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CHEM 101 | 3.5 | COOP 101 or CIVC 101* | 1.0 | CIVC 101* | 1.0 | VACATION | |
| ECE 101 | 1.0 | ECE 200 | 4.0 | ECE 105 | 3.0 | | |
| ENGL 101 or 111 | 3.0 | ENGR 131 or 132 | 3.0 | ENGL 102 or 112 | 3.0 | | |
| ENGR 111 | 3.0 | MATH 122 | 4.0 | ENGR 113 | 3.0 | | |
| MATH 121 | 4.0 | PHYS 101 | 4.0 | MATH 200 | 4.0 | | |
| UNIV E101 | 1.0 | | | PHYS 102 | 4.0 | | |
| | **15.5** | | **16** | | **18** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | ECE 201 | 4.0 | COM 230 or 310 | 3.0 |
| | | | | ECEC 201 | 3.0 | CS 265 | 3.0 |
| | | | | ENGL 103 or 113 | 3.0 | ECEC 204 | 3.0 |
| | | | | ENGR 231 | 3.0 | ENGR 232 | 3.0 |
| | | | | MATH 221 | 3.0 | PHYS 201 | 4.0 |
| | | | | (UG) Free Elective | 3.0 | (UG) Free Elective | 3.0 |
| | **0** | | **0** | | **19** | | **19** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | CS 260 | 3.0 | ECE 361 | 4.0 |
| (GR) Graduate Elective[§] | 3.0 | | | ECE 301 | 4.0 | PHIL 315 | 3.0 |
| | | | | ECE 350 | 3.0 | (UG) CE Core Elective[***] | 3.0 |
| | | | | ECES 301 | 4.0 | (UG) Free Elective | 3.0 |
| | | | | (UG) General Education Elective[**] | 3.0 | (UG) Science Elective | 3.0 |
| | | | | (GR) Graduate Elective[§] | 3.0 | Any BIO, CHEM or PHYS course | |
| | | | | | | (GR) General ECE Course[‡‡] | 3.0 |
| | **3** | | **0** | | **20** | | **19** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | ECE 303 | 3.0 | (UG) ECE Elective[†] | 3.0 |
| (GR) Graduate Elective[§] | 3.0 | (GR) Graduate Elective[§] | 3.0 | MATH 291 | 4.0 | (UG) Free Electives | 6.0 |
| | | | | (UG) ECE Elective[†] | 3.0 | (UG) General Education Elective[**] | 3.0 |
| | | | | (UG) Free Elective | 3.0 | (GR) ECET Course | 3.0 |
| | | | | (GR) ECET Course | 3.0 | (GR) General ECE Course[‡‡] | 3.0 |
| | | | | (GR) Telecom Elective Course[‡] | 3.0 | | |
| | **3** | | **3** | | **19** | | **18** |

**Fifth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| ECE 491 | 3.0 | ECE 492 | 3.0 | ECE 493 | 3.0 |
| (UG) ECE 400-level Elective[††] | 3.0 | (UG) ECE 400-level Elective[††] | 3.0 | (UG) ECE 400-level Elective[††] | 3.0 |
| (UG) Free Elective | 3.0 | (UG) Free Elective | 3.0 | (UG) Free Elective | 3.0 |
| (UG) General Education Elective[**] | 3.0 | (UG) General Education Elective[**] | 3.0 | (UG) General Education Elective[**] | 3.0 |
| (GR) General ECE Course[‡‡] | 3.0 | (GR) Graduate Elective[§] | 3.0 | (GR) Telecom Elective Courses[‡] | 6.0 |
| (GR) Telecom Elective Courses[‡] | 3.0 | (GR) Telecom Elective Course[‡] | 3.0 | | |
| | **18** | | **18** | | **18** |

**Total Credits 226.5**

* 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.

** General Education Requirements (http://catalog.drexel.edu/undergraduate/collegeofengineering/#generaleducationrequirementstext)

*** CE Core Elective: Choose one of the following: ECE 370, ECE 371, or ECE 380

† 2 classes or at least 6.0 credits at the 300-400 level from subject codes ECE, ECEC, ECEE, ECEL, ECEP, or ECES. Includes Special Topics in each code (T380, T480).

†† 3 classes or at least 9.0 credits at the 400 level from subject codes ECE or ECEC. Includes Special Topics in each code (T480).

‡ 500-level or higher courses from ECEE, ECEP, ECES, and ECET.

‡‡ 500-level or higher courses from ECEC, ECEE, ECEP, ECES, ECET, and ECE.

§ 500-level or higher courses from ECEC, ECEE, ECEP, ECES, ECET, ECE, AE, CHE, CIVE, CMGT, EGMT, ENGR, ENVE, ET, MATE, MEM, PROJ, PRMT, SYSE, BMES, MATH, PHYS, CHEM, BIO, OPR, and CS.

# Economics BS / Business Administration MBA

## Program Requirements

| | | |
|---|---|---|
| **University Requirements** | | |
| CIVC 101 | Introduction to Civic Engagement | 1.0 |
| COOP 101 | Career Management and Professional Development * | 1.0 |
| UNIV B101 | The Drexel Experience | 1.0 |
| UNIV B201 [WI] | Career Management | 1.0 |
| **General Education Requirements** | | |
| 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 | |
| COM 270 [WI] | Business Communication | 3.0 |
| or COM 230 | Techniques of Speaking | |
| Select one of the following math sequences ** | | 8.0 |
| MATH 101 & MATH 122 | Introduction to Analysis I and Calculus II | |
| MATH 121 & MATH 122 | Calculus I and Calculus II | |
| CS 150 | Computer Science Principles | 3.0 |
| or CS 171 | Computer Programming I | |
| STAT 201 | Introduction to Business Statistics | 4.0 |
| STAT 202 | Business Statistics II | 4.0 |
| Science Elective (BIO, CHEM, or PHYS) | | 3.0 |
| General Education Elective (ANTH, HIST, PHIL, PSY, of SOC) | | 3.0 |
| **Economics Requirements** | | |
| ECON 201 | Principles of Microeconomics | 4.0 |
| ECON 202 | Principles of Macroeconomics | 4.0 |
| ECON 250 | Game Theory and Applications | 4.0 |
| ECON 301 | Microeconomics | 4.0 |
| ECON 321 | Macroeconomics | 4.0 |
| ECON 322 [WI] | Economics Seminar | 4.0 |
| ECON 350 [WI] | Applied Econometrics | 4.0 |
| ECON 360 | Time Series Econometrics | 4.0 |
| or ECON 370 | Experiments and Causality in Economics | |
| **Economics Electives** | | |
| Select 28 credits from the following courses | | 28.0 |
| ECON 203 [WI] | Survey of Economic Policy | |
| ECON 260 | Economics of Small Business | |
| ECON 270 | Using Big Data to Solve Economic and Social Problems | |
| ECON 326 [WI] | Economic Ideas | |
| ECON 330 | Managerial Economics | |
| ECON 331 | International Macroeconomics | |
| ECON 334 | Public Finance | |
| ECON 336 | Labor Economics | |
| ECON 338 | Industrial Organization | |
| ECON 342 | Economic Development | |
| ECON 348 | Mathematical Economics | |
| ECON 351 | Resource and Environmental Economics | |
| ECON 354 | Money and Banking | |
| ECON 360 | Time Series Econometrics | |
| ECON 365 | Behavioral Economics | |
| ECON 366 | Topics in Behavioral Economics | |
| ECON 370 | Experiments and Causality in Economics | |
| ECON T480 | Special Topics in ECON | |
| INTB 332 | Multinational Corporations | |
| INTB 334 | International Trade | |
| INTB 336 | International Money and Finance | |
| INTB 338 | Regional Studies in Economic Policies and International Business | |
| INTB 440 | Seminar in International Business | |
| **Free Electives** | | **79.0** |
| **MBA Program** | | |
| **Required Courses** | | |
| 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 |
| Experiential Requirement: Select one | | 3.0 |
| 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 | |
| Concentration Requirements | | 9.0 |
| Free Electives | | 9.0 |
| **Students selecting a concentration can choose from the following:** | | |
| **Business Analytics Concentration** | | |
| Required Course | | |
| STAT 632 | Datamining for Managers | |
| Select two of the following: | | |
| 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 | |
| **Finance Concentration** *** | | |
| Select three of the following: | | |
| 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 |
| **Marketing Concentration** | |
| Required Courses | |
| Select three of the following, of which 2 MUST be from MKTG: | |
| 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 624 | Management of Service Firms |
| POM 610 | Supply Chain Management I |
| STAT 634 | Quality & Six-Sigma |
| **Strategic Technology & Innovation Management Concentration** | |
| Required Courses | |
| MGMT 602 | Innovation Management |
| MGMT 604 | Strategic Change Management |
| Select one of the following: | |
| 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 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 |
| ORGB 602 | Leading and Executing Change |
| ORGB 640 | Negotiations for Leaders |
| OPR 601 | Managerial Decision Models and Simulation |
| **Real Estate Management & Development Concentration** | |
| Required Courses | |
| BLAW 631 | Real Estate Law for Managers and Developers |
| REMD 675 | Real Estate Finance |
| Select one of the following: | |
| 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 |
| **Supply Chain Management & Logistics Concentration** | |
| Required Courses | |
| ECON 650 | Business & Economic Strategy: Game Theory & Applications |
| FIN 635 | Entrepreneurial Finance |
| FIN 642 | Business Conditions and Forecasting |
| MIS 624 | Systems Analysis & Design |
| MIS 630 | Inter-Active Decision Support Systems |
| MKTG 606 | Customer Analytics |
| MKTG 624 | Channels of Distribution Management |
| MKTG 638 | New Product Planning, Strategy, and Development |
| OPR 601 | Managerial Decision Models and Simulation |
| POM 610 | Supply Chain Management I |
| POM 615 | Supply Chain Management II |
| POM 624 | Management of Service Firms |
| POM 630 | Transportation & Logistics Management |
| POM T680 | Special Topics in POM |
| STAT 634 | Quality & Six-Sigma |
| STAT 632 | Datamining for Managers |
| **General Business Concentration** | |
| Complete 9.0 graduate credits. See your academic advisor for suggestions | |
| MBA Graduate Credits include courses in Accounting (ACCT), Statistics (STAT), Economics (ECON), Finance (FIN), General Business (BUSN), International Business (INTB), Legal Studies (BLAW), Management (MGMT, Management Information Systems (MIS), Marketing (MKTG), Operations Management (OPM), Operations Research (OPR), Organizational Behavior (ORGB), Production Operations Management (POM), Sport Management (SMT), or Taxation (TAX), with a course number range between 500-799. | |
| **Total Credits** | **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 schedule in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

** Students are encouraged to take the MATH 121, MATH 122 sequence

*** Students pursuing a Finance concentration in the MBA can use their concentration credits 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

# 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 |
|---|---|---|---|---|---|---|---|
| CIVC 101 | 1.0 | ECON 202 | 4.0 | ENGL 103 or 113 | 3.0 | VACATION | |
| CS 171 | 3.0 | ENGL 102 or 112 | 3.0 | (UG) ECON Elective | 4.0 | | |
| ECON 201 | 4.0 | MATH 102 | 4.0 | (UG) Free Electives | 6.0 | | |
| ENGL 101 or 111 | 3.0 | (UG) ECON Elective | 4.0 | (UG) General Education Elective | 3.0 | | |
| MATH 101 | 4.0 | | | | | | |
| UNIV B101 | 1.0 | | | | | | |
| | **16** | | **15** | | **16** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COM 230 or 270 | 3.0 | COOP 101*** | 1.0 | ECON 350 | 4.0 | ECON 250 | 4.0 |
| ECON 301 | 4.0 | ECON 321 | 4.0 | (UG) Free Electives | 7.0 | (UG) Free Electives | 11.0 |
| STAT 201 | 4.0 | STAT 202 | 4.0 | (UG) Science Course | 3.0 | | |
| (UG) Free Electives | 4.0 | (UG) Free Electives | 7.0 | | | | |
| | **15** | | **16** | | **14** | | **15** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | ECON 360 or 370 | 4.0 | (UG) Free Electives | 11.0 |
| | | | | (UG) ECON elective | 4.0 | (UG) ECON elective | 4.0 |
| | | | | (UG) Free Electives | 7.0 | | |
| | **0** | | **0** | | **15** | | **15** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| UNIV B201 | 1.0 | (UG) ECON elective | 4.0 | ECON 322 | 4.0 | Undergrad Degree Awarded | |
| (UG) ECON elective | 4.0 | (UG) Free Electives | 10.0 | (UG) ECON elective | 4.0 | Student classified as Graduate Student | |
| (UG) Free Electives | 10.0 | MGMT 510 | 3.0 | (UG) Free Electives | 6.0 | | |
| ACCT 510 | 2.0 | | | ECON 601 | 3.0 | | |
| | **17** | | **17** | | **17** | | **0** |

**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 |
| MGMT 530 | 2.0 | ORGB 511 | 3.0 | ORGB 520 | 1.0 | (GR) Experiential Elective | 3.0 |
| MKTG 510 | 2.0 | STAT 510 | 2.0 | (GR) Concentration Requirement | 3.0 | (GR) Concentration Requirement | 3.0 |
| POM 510 | 2.0 | (GR) Concentratic Requiremen | 3.0 | (GR) Elective | 3.0 | (GR) Elective | 3.0 |
| | | (GR) Elective | 3.0 | | | | |
| | **9** | | **12** | | **9** | | **11** |

**Total Credits 229**

* ECON 270 recommended

** ECON 203 [WI] recommended

*** 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 schedule in a different term. Select students may be eligible to take COOP 001 in place of COOP 101.

# Economics BA / Business Administration MBA

## Program Requirements

| | | |
|---|---|---|
| **University Requirements** | | |
| CIVC 101 | Introduction to Civic Engagement | 1.0 |
| COOP 101 | Career Management and Professional Development | 1.0 |
| UNIV B101 | The Drexel Experience | 1.0 |
| UNIV B201 [WI] | Career Management | 1.0 |
| **General Education Requirements** | | |
| 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 | |
| COM 270 [WI] | Business Communication | 3.0 |
| or COM 230 | Techniques of Speaking | |
| Choose One Math Sequence | | 8.0 |
| MATH 101 & MATH 102 | Introduction to Analysis I and Introduction to Analysis II | |
| MATH 121 & MATH 122 | Calculus I and Calculus II | |
| STAT 201 | Introduction to Business Statistics | 4.0 |
| Two Science Electives (6-8) * | | 6.0 |
| Political Science Elective | | 4.0 |
| Two Diversity Electives ** | | 6.0 |
| Two International Studies Electives *** | | 6.0 |
| Two Arts & Humanities Electives | | 6.0 |
| Two Modern Language Electives | | 8.0 |
| **Economics Requirements** | | |
| ECON 201 | Principles of Microeconomics | 4.0 |
| ECON 202 | Principles of Macroeconomics | 4.0 |
| ECON 250 | Game Theory and Applications | 4.0 |
| ECON 301 | Microeconomics | 4.0 |
| ECON 321 | Macroeconomics | 4.0 |
| ECON 322 [WI] | Economics Seminar | 4.0 |
| ECON 326 [WI] | Economic Ideas | 4.0 |
| **Economics Electives** | | |
| Select 32 credits from the following courses | | 32.0 |
| ECON 203 [WI] | Survey of Economic Policy | |
| ECON 260 | Economics of Small Business | |
| ECON 270 | Using Big Data to Solve Economic and Social Problems | |
| ECON 330 | Managerial Economics | |
| ECON 331 | International Macroeconomics | |
| ECON 334 | Public Finance | |
| ECON 336 | Labor Economics | |
| ECON 338 | Industrial Organization | |
| ECON 342 | Economic Development | |
| ECON 348 | Mathematical Economics | |
| ECON 351 | Resource and Environmental Economics | |
| ECON 350 [WI] | Applied Econometrics | |
| ECON 354 | Money and Banking | |
| ECON 360 | Time Series Econometrics | |
| ECON 365 | Behavioral Economics | |
| ECON 366 | Topics in Behavioral Economics | |
| ECON 370 | Experiments and Causality in Economics | |
| ECON T480 | Special Topics in ECON | |
| INTB 332 | Multinational Corporations | |
| INTB 334 | International Trade | |
| INTB 336 | International Money and Finance | |
| INTB 338 | Regional Studies in Economic Policies and International Business | |
| INTB 440 | Seminar in International Business | |
| **Free Electives** | | **56.0** |
| **MBA Program** | | |
| **Required Courses** | | |
| 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 |
| Experiential Requirement: Select one | | 3.0 |
| 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 | |
| Concentration Requirements | | 9.0 |
| Free Electives | | 9.0 |
| **Students selecting a concentration can choose from the following:** | | |
| **Business Analytics Concentration** | | |
| Required Course | | |
| STAT 632 | Datamining for Managers | |
| Select two of the following: | | |
| 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 | |
| **Finance Concentration** † | | |
| Select three of the following: | | |
| 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 |
| **Marketing Concentration** | |
| Required Courses | |
| Select three of the following, of which 2 MUST be from MKTG: | |
| 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 624 | Management of Service Firms |
| POM 610 | Supply Chain Management I |
| STAT 634 | Quality & Six-Sigma |
| **Strategic Technology & Innovation Management Concentration** | |
| Required Courses | |
| MGMT 602 | Innovation Management |
| MGMT 604 | Strategic Change Management |
| Select one of the following: | |
| 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 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 |
| ORGB 602 | Leading and Executing Change |
| ORGB 640 | Negotiations for Leaders |
| OPR 601 | Managerial Decision Models and Simulation |
| **Real Estate Management & Development Concentration** | |
| Required Courses | |
| BLAW 631 | Real Estate Law for Managers and Developers |
| REMD 675 | Real Estate Finance |
| Select one of the following: | |
| 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 |
| **Supply Chain Management & Logistics Concentration** | |
| Required Courses | |
| ECON 650 | Business & Economic Strategy: Game Theory & Applications |
| FIN 635 | Entrepreneurial Finance |
| FIN 642 | Business Conditions and Forecasting |
| MIS 624 | Systems Analysis & Design |
| MIS 630 | Inter-Active Decision Support Systems |
| MKTG 606 | Customer Analytics |
| MKTG 624 | Channels of Distribution Management |
| MKTG 638 | New Product Planning, Strategy, and Development |
| OPR 601 | Managerial Decision Models and Simulation |
| POM 610 | Supply Chain Management I |
| POM 615 | Supply Chain Management II |
| POM 624 | Management of Service Firms |
| POM 630 | Transportation & Logistics Management |
| POM T680 | Special Topics in POM |
| STAT 634 | Quality & Six-Sigma |
| STAT 632 | Datamining for Managers |
| **General Business Concentration** | |
| Complete 9.0 graduate credits. See your academic advisor for suggestions | |
| MBA Graduate Credits include courses in Accounting (ACCT), Statistics (STAT), Economics (ECON), Finance (FIN), General Business (BUSN), International Business (INTB), Legal Studies (BLAW), Management (MGMT, Management Information Systems (MIS), Marketing (MKTG), Operations Management (OPM), Operations Research (OPR), Organizational Behavior (ORGB), Production Operations Management (POM), Sport Management (SMT), or Taxation (TAX), with a course number range between 500-799. | |
| **Total Credits** | **229.0** |

* Science courses are selected from Biology (BIO), Chemistry (CHEM), Environmental Science (ENVS), Physics (PHYS), or Physics-Environmental Science (PHEV)

** Students should contact the School of Economics for a list of courses that fulfill this requirement.

*** COM 345, COM 362, GST 101, GST 102, GST 103, INTB 200, INTB 332, INTB 334, INTB 336, INTB 338, PSCI 140, PSCI 150, PSCI 240, PSCI 252, PSCI 255, SOC 330, SOC 340.

† Students pursuing a Finance Concentration in the MBA can use their concentration credits 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

# Sample Plan of Study

## 4+1, 1 Co-op (Accelerated program completed in 5 years)

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CIVC 101 | 1.0 | ECON 202 | 4.0 | ENGL 103 or 113 | 3.0 | VACATION | |
| UNIV B101 | 1.0 | ENGL 102 or 112 | 3.0 | (UG) ECON Elective | 4.0 | | |
| ECON 201 | 4.0 | MATH 102 | 4.0 | (UG) Diversity elective | 3.0 | | |
| ENGL 101 or 111 | 3.0 | (UG) ECON Elective | 4.0 | (UG) Arts & Humanities elective | 3.0 | | |
| MATH 101 | 4.0 | | | (UG) Science Course | 3.0 | | |
| | **13** | | **15** | | **16** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| STAT 201 | 4.0 | COOP 101*** | 1.0 | ECON 326 | 4.0 | (UG) ECON elective | 4.0 |
| ECON 301 | 4.0 | ECON 250 | 4.0 | (UG) Science elective | 3.0 | (UG) Internationa Studies elective | 3.0 |
| (UG) Political Science elective | 4.0 | ECON 321 | 4.0 | (UG) Modern Language (Second Course) | 4.0 | (UG) Free Electives | 8.0 |
| (UG) Arts & Humanities elective | 3.0 | (UG) Diversity elective | 3.0 | (UG) Internationa Studies elective | 3.0 | | |
| | | (UG) Free Elective | 3.0 | (UG) Free Electives | 4.0 | | |
| | | (UG) Modern Language (First Course) | 4.0 | | | | |
| | **15** | | **19** | | **18** | | **15** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | (UG) ECON electives | 8.0 | (UG) ECON elective | 4.0 |
| | | | | (UG) Free Electives | 8.0 | (UG) Free Electives | 12.0 |
| | **0** | | **0** | | **16** | | **16** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| (UG) ECON elective | 4.0 | (UG) ECON elective | 4.0 | ECON 322 | 4.0 | Undergrad Degree Awarded | |
| (UG) Free Electives | 9.0 | (UG) Free Electives | 8.0 | UNIV B201 | 1.0 | Student classified as Graduate Student | |
| ACCT 510 | 2.0 | MGMT 510 | 3.0 | (UG) Free Electives | 7.0 | | |
| | | | | ECON 601 | 3.0 | | |
| | **15** | | **15** | | **15** | | **0** |

**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 |
| MGMT 530 | 2.0 | ORGB 511 | 3.0 | ORGB 520 | 1.0 | (GR) Experiential Elective | 3.0 |
| MKTG 510 | 2.0 | STAT 510 | 2.0 | (GR) Concentration Requirement | 3.0 | (GR) Concentration Requirement | 3.0 |
| POM 510 | 2.0 | (GR) Concentratic Requiremen | 3.0 | (GR) Elective | 3.0 | (GR) Elective | 3.0 |
| | | (GR) Elective | 3.0 | | | | |
| | **9** | | **12** | | **9** | | **11** |

**Total Credits 229**

* ECON 270 recommended

** ECON 203 [WI] recommended

*** 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 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.

Admission Requirements

# Electrical Engineering BSEE / Computer Engineering MSCPE

## Program Requirements

| | | |
|---|---|---|
| **BSEE Degree Requirements** | | |
| **General Education/Liberal Studies 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 315 | Engineering Ethics | 3.0 |
| UNIV E101 | The Drexel Experience | 1.0 |
| Communications Elective | | 3.0 |
| COM 230 | Techniques of Speaking | |
| or COM 310 | Technical Communication | |
| General Education Courses ** | | 15.0 |
| **Foundation Requirements** | | |
| CHEM 101 | General Chemistry I | 3.5 |
| ENGR 111 | Introduction to Engineering Design & Data Analysis | 3.0 |
| ENGR 113 | First-Year Engineering Design | 3.0 |
| ENGR 131 | Introductory Programming for Engineers | 3.0 |
| or ENGR 132 | Programming for Engineers | |
| ENGR 231 | Linear Engineering Systems | 3.0 |
| ENGR 232 | Dynamic Engineering Systems | 3.0 |
| MATH 121 | Calculus I | 4.0 |
| MATH 122 | Calculus II | 4.0 |
| MATH 200 | Multivariate Calculus | 4.0 |
| MATH 221 | Discrete Mathematics | 3.0 |
| MATH 291 | Complex and Vector Analysis for Engineers | 4.0 |
| PHYS 101 | Fundamentals of Physics I | 4.0 |
| PHYS 102 | Fundamentals of Physics II | 4.0 |
| PHYS 201 | Fundamentals of Physics III | 4.0 |
| Science Elective | | 3.0 |
| Any BIO, CHEM, or PHYS course | | |
| **Professional Requirements** | | |
| ECE 101 | Electrical and Computer Engineering in the Real World | 1.0 |
| ECE 105 | Programming for Engineers II | 3.0 |
| ECE 200 | Digital Logic Design | 4.0 |
| ECE 201 | Foundations of Electric Circuits I | 4.0 |
| ECE 301 | Foundations of Electric Circuits II | 4.0 |
| ECE 303 | ECE Laboratory | 3.0 |
| ECE 361 | Probability and Data Analytics for Engineers | 4.0 |
| ECE 370 | Electronic Devices | 3.0 |
| ECE 371 | Foundations of Electromagnetics for Computing & Wireless Systems | 3.0 |
| ECE 380 | Fundamentals of Power and Energy | 3.0 |
| ECEC 201 | Advanced Programming for Engineers | 3.0 |
| ECEC 204 | Design with Microcontrollers | 3.0 |
| ECES 301 | Signals and Systems I | 4.0 |
| Senior Design *** | | |
| ECE 491 [WI] | Senior Design Project I | 3.0 |
| ECE 492 [WI] | Senior Design Project II | 3.0 |
| ECE 493 | Senior Design Project III | 3.0 |
| EE Core Elective (Choose one of the following): | | 3.0 |
| CS 260 | Data Structures | |
| CS 265 | Advanced Programming Tools and Techniques | |
| ECE 350 | Introduction to Computer Organization | |
| ECE Electives † | | 6.0 |
| ECE 400-level Electives †† | | 9.0 |
| Free Electives | | 27.0 |
| **Master's Degree Courses** | | |
| Computer Engineering Courses (ECEC 500-900 level) | | 21.0 |
| General Electrical and Computer Engineering Courses ‡ | | 9.0 |
| **Mathematical Foundations Requirement** | | |
| 6.0 credits from one of the following courses must be included within (not in addition to) the 45.0 total required MS credits: | | |
| CS 525 | Theory of Computation | |
| CS 567 | Applied Symbolic Computation | |
| CS 583 | Introduction to Computer Vision | |
| CS 613 | Machine Learning | |
| CS 621 | Approximation Algorithms | |
| CS 623 | Computational Geometry | |
| ECES 511 | Fundamentals of Systems I | |
| ECES 512 | Fundamentals of Systems II | |
| ECES 513 | Fundamentals of Systems III | |
| ECES 521 | Probability & Random Variables | |
| ECES 522 | Random Process & Spectral Analysis | |
| ECES 523 | Detection & Estimation Theory | |
| ECES 811 | Optimization Methods for Engineering Design | |
| ECET 602 | Information Theory and Coding | |
| OPR 624 | Advanced Mathematical Program | |
| OPR 992 | Applied Math Programming | |
| MATH 500-900 level | | |
| Graduate Electives ‡‡ | | 15.0 |
| **Total Credits** | | **226.5** |

* 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.

** General Education Courses (http://catalog.drexel.edu/undergraduate/collegeofengineering/#generaleducationrequirementstext)

*** Students who choose the Master's Thesis instead of Senior Design must replace ECE 491 [WI] , ECE 492 [WI] , ECE 493 credits with ECE elective credits.

† 2 classes or at least 6.0 credits at the 300-400 level from subject codes ECE, ECEC, ECEE, ECEL, ECEP, or ECES. Includes Special Topics in each code (T380, T480).

†† 3 classes or at least 9.0 credits at the 400 level from subject codes ECE, ECEE, ECEP, or ECES. Includes Special Topics in each code (T480).

‡ Courses at the 500-900 level from ECEC, ECEE, ECEP, ECES, ECET, or ECE.

‡‡ 15.0 credits at the 500-900 level from subject codes ECEC, ECEE, ECEP, ECES, ECET, ECE, AE, CHE, CIVE, CMGT, EGMT, ENGR, ENVE, ET, MATE, MEM, PROJ, PRMT, SYSE, BMES, MATH, PHYS, CHEM, BIO, OPR, or CS.

# Sample Plan of Study

## 5 year, 3 coop Co-Terminal

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CHEM 101 | 3.5 | COOP 101* | 1.0 | CIVC 101 | 1.0 | VACATION | |
| ECE 101 | 1.0 | ECE 200 | 4.0 | ECE 105 | 3.0 | | |
| ENGL 101 or 111 | 3.0 | ENGR 131 or 132 | 3.0 | ENGL 102 or 112 | 3.0 | | |
| ENGR 111 | 3.0 | MATH 122 | 4.0 | ENGR 113 | 3.0 | | |
| MATH 121 | 4.0 | PHYS 101 | 4.0 | MATH 200 | 4.0 | | |
| UNIV E101 | 1.0 | | | PHYS 102 | 4.0 | | |
| | **15.5** | | **16** | | **18** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | ECE 201 | 4.0 | COM 230 or 310 | 3.0 |
| | | | | ECEC 201 | 3.0 | ECEC 204 | 3.0 |
| | | | | ENGL 103 or 113 | 3.0 | ENGR 232 | 3.0 |
| | | | | ENGR 231 | 3.0 | PHIL 315 | 3.0 |
| | | | | MATH 291 | 4.0 | PHYS 201 | 4.0 |
| | | | | (UG) Free Elective | 3.0 | (UG) Free Elective | 3.0 |
| | **0** | | **0** | | **20** | | **19** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | ECE 301 | 4.0 | ECE 361 | 4.0 |
| (GR) Graduate Elective‡‡ | 3.0 | | | ECE 370 | 3.0 | ECE 371 | 3.0 |
| | | | | ECES 301 | 4.0 | ECE 380 | 3.0 |
| | | | | (UG) EE Core Elective*** | 3.0 | (UG) Free Elective | 3.0 |
| | | | | (UG) General Education Elective** | 3.0 | (UG) Science Elective | 3.0 |
| | | | | (GR) Graduate Elective‡‡ | 3.0 | Any BIO, CHEM, or PHYS | |
| | | | | | | (GR) Graduate Elective‡‡ | 3.0 |
| | **3** | | **0** | | **20** | | **19** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | ECE 303 | 3.0 | (UG) ECE elective† | 3.0 |
| (GR) Graduate Elective‡‡ | 3.0 | (GR) Graduate Elective‡‡ | 3.0 | MATH 221 | 3.0 | (UG) Free Electives | 6.0 |
| | | | | (UG) Free Elective | 3.0 | (UG) General Education Elective** | 3.0 |
| | | | | (UG) General Education Elective** | 3.0 | (GR) Graduate CPE Courses | 6.0 |
| | **3** | | **3** | | **18** | | **18** |

**Fifth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| ECE 491 | 3.0 | ECE 492 | 3.0 | ECE 493 | 3.0 |
| (UG) ECE 400-level Elective†† | 3.0 | (UG) ECE 400-level Elective†† | 3.0 | (UG) ECE 400-level Elective†† | 3.0 |
| (UG) Free Elective | 3.0 | (UG) Free Elective | 3.0 | (UG) Free Elective | 3.0 |
| (UG) General Education Elective** | 3.0 | (UG) General Education Elective** | 3.0 | (UG) General Education Elective** | 3.0 |
| (GR) Graduate CPE Courses | 6.0 | (GR) General ECE Course‡ | 3.0 | (GR) General ECE Courses‡ | 6.0 |
| | | (GR) Graduate CPE Course | 3.0 | | |
| | **18** | | **18** | | **18** |

**Total Credits 226.5**

Note: An ECE student must have a 2.0 cumulative overall GPA and a 2.0 cumulative GPA in their ECE Professional Requirements.

* 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.

** General Education Electives (http://catalog.drexel.edu/undergraduate/collegeofengineering/#generaleducationrequirementstext)

*** Choose one of CS 260, CS 265, or ECE 350

† 2 classes or at least 6.0 credits at the 300-400 level from subject codes ECE, ECEC, ECEE, ECEL, ECEP, or ECES. Includes Special Topics in each code (T380, T480).

†† 3 classes or at least 9.0 credits at the 400 level from subject codes ECE, ECEE, ECEP, or ECES. Includes Special Topics in each code (T480).

‡ Courses at the 500-999 level from ECEC, ECEE, ECEP, ECES, ECET, or ECE.

‡‡ 15.0 credits at the 500-900 level from subject codes ECEC, ECEE, ECEP, ECES, ECET, ECE, AE, CHE, CIVE, CMGT, EGMT, ENGR, ENVE, ET, MATE, MEM, PROJ, PRMT, SYSE, BMES, MATH, PHYS, CHEM, BIO, OPR, or CS.

# Electrical Engineering BSEE / Cybersecurity MS

## Program Requirements

| | | |
|---|---|---|
| **BSEE Degree Requirements** | | |
| **General Education/Liberal Studies 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 315 | Engineering Ethics | 3.0 |
| UNIV E101 | The Drexel Experience | 1.0 |
| Communications Elective | | 3.0 |
| COM 230 | Techniques of Speaking | |
| or COM 310 | Technical Communication | |
| General Education Courses ** | | 15.0 |
| **Foundation Requirements** | | |
| CHEM 101 | General Chemistry I | 3.5 |
| ENGR 111 | Introduction to Engineering Design & Data Analysis | 3.0 |
| ENGR 113 | First-Year Engineering Design | 3.0 |
| ENGR 131 | Introductory Programming for Engineers | 3.0 |
| or ENGR 132 | Programming for Engineers | |
| ENGR 231 | Linear Engineering Systems | 3.0 |
| ENGR 232 | Dynamic Engineering Systems | 3.0 |
| MATH 121 | Calculus I | 4.0 |
| MATH 122 | Calculus II | 4.0 |
| MATH 200 | Multivariate Calculus | 4.0 |
| MATH 221 | Discrete Mathematics | 3.0 |
| MATH 291 | Complex and Vector Analysis for Engineers | 4.0 |
| PHYS 101 | Fundamentals of Physics I | 4.0 |
| PHYS 102 | Fundamentals of Physics II | 4.0 |
| PHYS 201 | Fundamentals of Physics III | 4.0 |
| Science Elective | | 3.0 |
| Choose from BIO, PHYS or CHEM | | |
| **Professional Requirements** | | |
| ECE 101 | Electrical and Computer Engineering in the Real World | 1.0 |
| ECE 105 | Programming for Engineers II | 3.0 |
| ECE 200 | Digital Logic Design | 4.0 |
| ECE 201 | Foundations of Electric Circuits I | 4.0 |
| ECE 301 | Foundations of Electric Circuits II | 4.0 |
| ECE 303 | ECE Laboratory | 3.0 |
| ECE 361 | Probability and Data Analytics for Engineers | 4.0 |
| ECE 370 | Electronic Devices | 3.0 |
| ECE 371 | Foundations of Electromagnetics for Computing & Wireless Systems | 3.0 |
| ECE 380 | Fundamentals of Power and Energy | 3.0 |
| ECEC 201 | Advanced Programming for Engineers | 3.0 |
| ECEC 204 | Design with Microcontrollers | 3.0 |
| ECES 301 | Signals and Systems I | 4.0 |
| Senior Design *** | | |
| ECE 491 [WI] | Senior Design Project I | 3.0 |
| ECE 492 [WI] | Senior Design Project II | 3.0 |
| ECE 493 | Senior Design Project III | 3.0 |
| EE Core Elective (Choose one of the following): | | 3.0 |
| CS 260 | Data Structures | |
| CS 265 | Advanced Programming Tools and Techniques | |
| ECE 350 | Introduction to Computer Organization | |
| ECE Electives † | | 6.0 |
| ECE 400-level Electives †† | | 9.0 |
| Free Electives | | 27.0 |
| **Master's Degree Courses** | | |
| INFO 517 | Principles of Cybersecurity | 3.0 |
| INFO 725 | Information Policy and Ethics | 3.0 |
| SE 578 | Security Engineering | 3.0 |
| **Cybersecurity Track-Specific Technical Electives** | | **27.0** |
| Choose from lists below depending on track | | |
| Computer Science Track Electives | | |
| CS 500 | Fundamentals of Databases | |
| CS 501 | Introduction to Programming | |
| CS 502 | Data Structures and Algorithms | |
| CS 503 | Systems Basics | |
| CS 510 | Introduction to Artificial Intelligence | |
| CS 521 | Data Structures and Algorithms I | |
| CS 522 | Data Structures and Algorithms II | |
| CS 540 | High Performance Computing | |
| CS 543 | Operating Systems | |
| CS 544 | Computer Networks | |
| CS 550 | Programming Languages | |
| CS 551 | Compiler Construction I | |
| CS 552 | Compiler Construction II | |
| CS 575 | Software Design | |
| CS 576 | Dependable Software Systems | |
| CS 590 | Privacy | |
| CS 610 | Advanced Artificial Intelligence | |
| CS 612 | Knowledge-based Agents | |
| CS 613 | Machine Learning | |
| CS 620 | Advanced Data Structure and Algorithms | |
| CS 621 | Approximation Algorithms | |
| CS 630 | Cognitive Systems | |
| CS 643 | Advanced Operating Systems | |
| CS 645 | Network Security | |
| CS 647 | Distributed Systems Software | |
| CS 650 | Program Generation and Optimization | |
| CS 675 | Reverse Software Engineering | |
| CS 695 | Research Rotations in Cybersecurity | |
| CS 741 | Computer Networks II | |
| CS 751 | Database Theory II | |
| CS 759 | Complexity Theory | |
| CS 770 | Topics in Artificial Intelligence | |
| CS 780 | Advanced Topics in Software Engineering | |
| Electrical & Computer Engineering Track Electives | | |
| ECE 610 | Machine Learning & Artificial Intelligence | |
| ECE 687 | Pattern Recognition | |
| ECEC 500 | Fundamentals Of Computer Hardware | |
| ECEC 501 | Computational Principles of Representation and Reasoning | |
| ECEC 502 | Principles of Data Analysis | |
| ECEC 503 | Principles of Decision Making | |
| ECEC 511 | Combinational Circuit Design | |
| ECEC 512 | Sequential Circuit Design | |
| ECEC 513 | Design for Testability | |
| ECEC 520 | Dependable Computing | |
| ECEC 531 | Principles of Computer Networking | |
| ECEC 600 | Fundamentals of Computer Networks | |
| ECEC 621 | High Performance Computer Architecture | |

| | |
|---|---|
| ECEC 622 | Parallel Programming |
| ECEC 623 | Advanced Topics in Computer Architecture |
| ECEC 632 | Performance Analysis of Computer Networks |
| ECEC 633 | Advanced Topics in Computer Networking |
| ECEC 641 | Web Security I |
| ECEC 642 | Web Security II |
| ECEC 643 | Web Security III |
| ECEC 661 | Digital Systems Design |
| ECES 511 | Fundamentals of Systems I |
| ECES 512 | Fundamentals of Systems II |
| ECES 513 | Fundamentals of Systems III |
| ECES 521 | Probability & Random Variables |
| ECES 522 | Random Process & Spectral Analysis |
| ECES 523 | Detection & Estimation Theory |
| ECES 558 | Digital Signal Processing for Sound & Hearing |
| ECES 559 | Processing of the Human Voice |
| ECES 604 | Optimal Estimation & Stochastic Control |
| ECES 607 | Estimation Theory |
| ECES 620 | Multimedia Forensics and Security |
| ECES 621 | Communications I |
| ECES 622 | Communications II |
| ECES 623 | Communications III |
| ECES 631 | Fundamentals of Deterministic Digital Signal Processing |
| ECES 632 | Fundamentals of Statistical Digital Signal Processing |
| ECES 641 | Bioinformatics |
| ECES 642 | Optimal Control |
| ECES 643 | Digital Control Systems Analysis & Design |
| ECES 644 | Computer Control Systems |
| ECES 651 | Intelligent Control |
| ECES 682 | Fundamentals of Image Processing |
| ECES 685 | Image Reconstruction Algorithms |
| ECES 811 | Optimization Methods for Engineering Design |
| ECES 812 | Mathematical Program Engineering Design |
| ECES 813 | Computer-Aided Network Design |
| ECES 818 | Machine Learning & Adaptive Control |
| ECES 821 | Reliable Communications & Coding I |
| ECES 822 | Reliable Communications & Coding II |
| ECES 823 | Reliable Communications & Coding III |
| ECET 501 | Fundamentals of Communications Engineering |
| ECET 511 | Physical Foundations of Telecommunications Networks |
| ECET 512 | Wireless Systems |
| ECET 513 | Wireless Networks |
| ECET 602 | Information Theory and Coding |
| ECET 603 | Optical Communications and Networks |
| ECET 604 | Internet Laboratory |
| Information Track Electives | |
| INFO 532 | Software Development |
| INFO 540 | Perspectives on Information Systems |
| INFO 590 | Foundations of Data and Information |
| INFO 605 | Database Management Systems |
| INFO 606 | Advanced Database Management |
| INFO 607 | Applied Database Technologies |
| INFO 612 | Knowledge Base Systems |
| INFO 613 | XML and Databases |
| INFO 624 | Information Retrieval Systems |
| INFO 629 | Applied Artificial Intelligence |
| INFO 633 | Information Visualization |
| INFO 634 | Data Mining |
| INFO 646 | Information Systems Management |
| INFO 655 | Intro to Web Programming |
| INFO 658 | Information Architecture |
| INFO 659 | Introduction to Data Analytics |
| INFO 662 | Metadata and Resource Description |
| INFO 670 | Cross-platform Mobile Development |
| INFO 680 | US Government Information |
| INFO 710 | Information Forensics |
| INFO 712 | Information Assurance |
| **Cybersecurity Non-Track Electives** ‡ | **9.0** |
| **Total Credits** | **226.5** |

* 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 able to take COOP 001 in place of COOP 101.

** General Education Requirements (http://catalog.drexel.edu/undergraduate/collegeofengineering/#generaleducationrequirementstext)

*** Students who choose the Master's Thesis instead of Senior Design must replace ECE 491 [WI] , ECE 492 [WI] , ECE 493 credits with ECE elective credits.

† 2 classes or at least 6.0 credits at the 300-400 level from subject codes ECE, ECEC, ECEE, ECEL, ECEP, or ECES. Includes Special Topics in each code (T380, T480).

†† 3 classes or at least 9.0 credits at the 400 level from subject codes ECE, ECEE, ECEP, or ECES. Includes Special Topics in each code (T480).

‡ If enrolled in the Computer Science Track, choose 3 courses (9.0 credits) from either Electrical & Computer Engineering or Information Tracks.
If enrolled in the Information Track, choose 3 courses (9.0 credits) from either the Computer Science or Electrical & Computer Engineering Tracks.
If enrolled in the Electrical & Computer Engineering Track, choose 3 courses (9.0 credits) from either the Computer Science or Information Tracks.

# Sample Plan of Study

## 5 year, 3 coop Co-Terminal

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CHEM 101 | 3.5 | CIVC 101 or COOP 101* | 1.0 | COOP 101 or CIVC 101* | 1.0 | VACATION | |
| ECE 101 | 1.0 | ECE 200 | 4.0 | ECE 105 | 3.0 | | |
| ENGL 101 or 111 | 3.0 | ENGR 131 or 132 | 3.0 | ENGL 102 or 112 | 3.0 | | |
| ENGR 111 | 3.0 | MATH 122 | 4.0 | ENGR 113 | 3.0 | | |
| MATH 121 | 4.0 | PHYS 101 | 4.0 | MATH 200 | 4.0 | | |
| UNIV E101 | 1.0 | | | PHYS 102 | 4.0 | | |
| | **15.5** | | **16** | | **18** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ECE 201 | 4.0 | COM 230 or 310 | 3.0 | COOP EXPERIENCE | | COOP EXPERIENCE | |
| ECEC 201 | 3.0 | ECEC 204 | 3.0 | | | | |
| ENGL 103 or 113 | 3.0 | ENGR 232 | 3.0 | | | | |
| ENGR 231 | 3.0 | PHIL 315 | 3.0 | | | | |
| MATH 291 | 4.0 | PHYS 201 | 4.0 | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| (UG) Free Elective | 3.0 | (UG) Free Elective | 3.0 | | | | |
| | **20** | | **19** | | **0** | | **0** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ECE 301 | 4.0 | ECE 361 | 4.0 | COOP EXPERIENCE | | COOP EXPERIENCE | |
| ECE 370 | 3.0 | ECE 371 | 3.0 | INFO 725 | 3.0 | | |
| ECES 301 | 4.0 | ECE 380 | 3.0 | | | | |
| (UG) EE Core Elective*** | 3.0 | (UG) Free Elective | 3.0 | | | | |
| (UG) General Education Elective** | 3.0 | (UG) Science Elective | 3.0 | | | | |
| INFO 517 | 3.0 | Any BIO, CHEM or PHYS | | | | | |
| | | SE 578 | 3.0 | | | | |
| | **20** | | **19** | | **3** | | **0** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ECE 303 | 3.0 | (UG) ECE Elective† | 3.0 | COOP EXPERIENCE | | COOP EXPERIENCE | |
| MATH 221 | 3.0 | (UG) Free Electives | 6.0 | (GR) Non-Track Tech Elective | 3.0 | (GR) Track Tech Elective | 3.0 |
| (UG) ECE Elective† | 3.0 | (UG) General Education Elective** | 3.0 | | | | |
| (UG) Free Elective | 3.0 | (GR) Track Tech Elective | 3.0 | | | | |
| (GR) Track Tech Electives | 6.0 | (GR) Non-Track Tech Elective | 3.0 | | | | |
| | **18** | | **18** | | **3** | | **3** |

**Fifth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| ECE 491 | 3.0 | ECE 492 | 3.0 | ECE 493 | 3.0 |
| (UG) ECE 400-level Elective†† | 3.0 | (UG) ECE 400-level Elective†† | 3.0 | (UG) ECE 400-level Electives†† | 3.0 |
| (UG) Free Elective | 3.0 | (UG) Free Elective | 3.0 | (UG) Free Elective | 3.0 |
| (UG) General Education Elective** | 3.0 | (UG) General Education Elective** | 3.0 | (UG) General Education Elective** | 3.0 |
| (GR) Track Tech Elective | 3.0 | (GR) Track Tech Electives | 6.0 | (GR) Track Tech Electives | 6.0 |
| (GR) Non-Track Tech Elective | 3.0 | | | | |
| | **18** | | **18** | | **18** |

**Total Credits 226.5**

Note: An ECE student must have a 2.0 cumulative overall undergraduate GPA and a 2.0 cumulative GPA in their undergraduate ECE Professional Requirements.

* 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 able to take COOP 001 in place of COOP 101.

** General Education Electives (http://catalog.drexel.edu/undergraduate/collegeofengineering/#generaleducationrequirementstext)

*** Choose one of CS 260, CS 265, or ECE 350

† 2 classes or at least 6.0 credits at the 300-400 level from subject codes ECE, ECEC, ECEE, ECEL, ECEP, or ECES. Includes Special Topics in each code (T380, T480).

†† 3 classes or at least 9.0 credits at the 400 level from subject codes ECE, ECEE, ECEP, or ECES. Includes Special Topics in each code (T480).

# Electrical Engineering BSEE / Machine Learning Engineering MSMLE

## Program Requirements

| | | |
|---|---|---|
| **BSEE Degree Requirements** | | |
| **General Education/Liberal Studies 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 315 | Engineering Ethics | 3.0 |
| UNIV E101 | The Drexel Experience | 1.0 |
| Communications Elective | | 3.0 |
| COM 230 | Techniques of Speaking | |
| or COM 310 | Technical Communication | |
| General Education Courses ** | | 15.0 |
| **Foundation Requirements** | | |
| CHEM 101 | General Chemistry I | 3.5 |
| ENGR 111 | Introduction to Engineering Design & Data Analysis | 3.0 |
| ENGR 113 | First-Year Engineering Design | 3.0 |
| ENGR 131 | Introductory Programming for Engineers | 3.0 |
| or ENGR 132 | Programming for Engineers | |
| ENGR 231 | Linear Engineering Systems | 3.0 |
| ENGR 232 | Dynamic Engineering Systems | 3.0 |
| MATH 121 | Calculus I | 4.0 |
| MATH 122 | Calculus II | 4.0 |
| MATH 200 | Multivariate Calculus | 4.0 |
| MATH 221 | Discrete Mathematics | 3.0 |
| MATH 291 | Complex and Vector Analysis for Engineers | 4.0 |
| PHYS 101 | Fundamentals of Physics I | 4.0 |
| PHYS 102 | Fundamentals of Physics II | 4.0 |
| PHYS 201 | Fundamentals of Physics III | 4.0 |
| Science Elective | | 3.0 |
| Any BIO, CHEM or PHYS course | | |
| **Professional Requirements** | | |
| ECE 101 | Electrical and Computer Engineering in the Real World | 1.0 |
| ECE 105 | Programming for Engineers II | 3.0 |
| ECE 200 | Digital Logic Design | 4.0 |
| ECE 201 | Foundations of Electric Circuits I | 4.0 |
| ECE 301 | Foundations of Electric Circuits II | 4.0 |
| ECE 303 | ECE Laboratory | 3.0 |
| ECE 361 | Probability and Data Analytics for Engineers | 4.0 |
| ECE 370 | Electronic Devices | 3.0 |
| ECE 371 | Foundations of Electromagnetics for Computing & Wireless Systems | 3.0 |
| ECE 380 | Fundamentals of Power and Energy | 3.0 |
| ECEC 201 | Advanced Programming for Engineers | 3.0 |
| ECEC 204 | Design with Microcontrollers | 3.0 |
| ECES 301 | Signals and Systems I | 4.0 |
| Senior Design *** | | |
| ECE 491 [WI] | Senior Design Project I | 3.0 |
| ECE 492 [WI] | Senior Design Project II | 3.0 |
| ECE 493 | Senior Design Project III | 3.0 |
| EE Core Elective (Choose one of the following): | | 3.0 |
| CS 260 | Data Structures | |
| CS 265 | Advanced Programming Tools and Techniques | |
| ECE 350 | Introduction to Computer Organization | |
| ECE Electives † | | 6.0 |
| ECE 400-level Electives †† | | 9.0 |
| Free Electives | | 27.0 |
| **Master's Degree Courses** | | |
| **Core Courses** | | |
| ECE 610 | Machine Learning & Artificial Intelligence | 3.0 |
| ECE 612 | Applied Machine Learning Engineering | 3.0 |
| ECE 687 | Pattern Recognition | 3.0 |
| ECES 521 | Probability & Random Variables | 3.0 |
| **Aligned Mathematical Theory** | | **6.0** |
| Choose 2 courses | | |
| ECES 522 | Random Process & Spectral Analysis | |
| ECES 523 | Detection & Estimation Theory | |
| ECES 811 | Optimization Methods for Engineering Design | |
| ECET 602 | Information Theory and Coding | |
| MATH 504 | Linear Algebra & Matrix Analysis | |
| MATH 510 | Applied Probability and Statistics I | |
| **Signal Processing** | | **3.0** |
| Choose 1 course | | |
| ECES 631 | Fundamentals of Deterministic Digital Signal Processing | |
| ECES 681 | Fundamentals of Computer Vision | |
| ECES 682 | Fundamentals of Image Processing | |
| **Applications** | | **3.0** |
| Choose 1 course | | |
| ECE 686 | Cell & Tissue Image Analysis | |
| ECES 620 | Multimedia Forensics and Security | |
| ECES 641 | Bioinformatics | |
| ECES 650 | Statistical Analysis of Genomics | |
| ECES 660 | Machine Listening and Music IR | |
| **Engineering Electives ‡** | | **9.0** |
| Choose any 3 graduate-level courses from the College of Engineering | | |
| **Transformational Electives** | | **6.0** |
| Choose 2 elective courses that promote the development of leadership, communications, and ethics | | |
| COM 610 | Theories of Communication and Persuasion | |
| EDGI 510 | Culture, Society & Education in Comparative Perspective | |
| EDGI 522 | Education for Global Citizenship, Sustainability, and Social Justice | |
| **Mastery (Thesis and Non-Thesis Option) ‡‡** | | **6.0** |
| ECE 898 | Master's Thesis | |
| **Total Credits** | | **226.5** |

* 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.

** General Education Courses (http://catalog.drexel.edu/undergraduate/collegeofengineering/#generaleducationrequirementstext)

*** Students who choose the Master's Thesis instead of Senior Design must replace ECE 491 [WI] , ECE 492 [WI] , ECE 493 credits with ECE elective credits.

† 2 classes or at least 6.0 credits at the 300-400 level from subject codes ECE, ECEC, ECEE, ECEL, ECEP, or ECES. Includes Special Topics in each code (T380, T480).

†† 3 classes or at least 9.0 credits at the 400 level from subject codes ECE, ECEE, ECEP, or ECES. Includes Special Topics in each code (T480).

‡ Choose three courses of 500-level or higher from: ECEC, ECEE, ECEP, ECES, ECET, ECE, AE, CHE, CIVE, CMGT, EGMT, ENGR, ENVE, ET, MATE, MEM, PROJ, PRMT, and SYSE

‡‡ Thesis Option: A minimum of two terms of laboratory-based research that leads to a publicly defended MS thesis. Students will be advised by a faculty member, and when applicable, a representative of industry or government sponsor.
Non-thesis Option: In lieu of research and thesis, students will complete 6.0 additional credits of coursework from the Mathematical Theory, Applications, or Signal Processing area.

# Sample Plan of Study

## 5 year, 3 coop Co-Terminal

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CHEM 101 | 3.5 | COOP 101 or CIVC 101* | 1.0 | CIVC 101 or COOP 101* | 1.0 | VACATION | |
| ECE 101 | 1.0 | ECE 200 | 4.0 | ECE 105 | 3.0 | | |
| ENGL 101 or 111 | 3.0 | ENGR 131 or 132 | 3.0 | ENGL 102 or 112 | 3.0 | | |
| ENGR 111 | 3.0 | MATH 122 | 4.0 | ENGR 113 | 3.0 | | |
| MATH 121 | 4.0 | PHYS 101 | 4.0 | MATH 200 | 4.0 | | |
| UNIV E101 | 1.0 | | | PHYS 102 | 4.0 | | |
| | **15.5** | | **16** | | **18** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | ECE 201 | 4.0 | COM 230 or 310 | 3.0 |
| | | | | ECEC 201 | 3.0 | ECEC 204 | 3.0 |
| | | | | ENGL 103 or 113 | 3.0 | ENGR 232 | 3.0 |
| | | | | ENGR 231 | 3.0 | PHIL 315 | 3.0 |
| | | | | MATH 291 | 4.0 | PHYS 201 | 4.0 |
| | | | | (UG) Free Elective | 3.0 | (UG) Free Elective | 3.0 |
| | **0** | | **0** | | **20** | | **19** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | ECE 301 | 4.0 | ECE 361 | 4.0 |
| (GR) Signal Processing Course | 3.0 | | | ECE 370 | 3.0 | ECE 371 | 3.0 |
| | | | | ECES 301 | 4.0 | ECE 380 | 3.0 |
| | | | | (UG) EE Core Elective*** | 3.0 | Science Elective | 3.0 |
| | | | | (UG) General Education Elective** | 3.0 | Any BIO, CHEM or PHYS course | |
| | | | | (GR) Engineering Elective§§ | 3.0 | (UG) Free elective | 3.0 |
| | | | | | | (GR) Aligned Mathematical Theory Course | 3.0 |
| | **3** | | **0** | | **20** | | **19** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | ECE 303 | 3.0 | (UG) ECE Elective† | 3.0 |
| (GR) Applications Course | 3.0 | ECE 610 | 3.0 | MATH 221 | 3.0 | (UG) Free Electives | 6.0 |
| | | | | (UG) ECE Elective† | 3.0 | (UG) General Education Elective** | 3.0 |
| | | | | (UG) Free Elective | 3.0 | ECE 612 | 3.0 |
| | | | | ECE 687 | 3.0 | (GR) Aligned Mathematical Theory Course | 3.0 |
| | | | | ECES 521 | 3.0 | | |
| | **3** | | **3** | | **18** | | **18** |

**Fifth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| ECE 491 | 3.0 | ECE 492 | 3.0 | ECE 493 | 3.0 |
| (UG) ECE 400-level elective†† | 3.0 | (UG) ECE 400-level elective†† | 3.0 | (UG) ECE 400-level elective†† | 3.0 |
| (UG) Free elective | 3.0 | (UG) Free elective | 3.0 | (UG) Free elective | 3.0 |
| (UG) General Education elective** | 3.0 | (UG) General Education elective** | 3.0 | (UG) General Education elective** | 3.0 |
| (GR) Engineering Elective | 3.0 | (GR) Thesis or alternative | 3.0 | (GR) Engineering Elective | 3.0 |
| (GR) Transformat Elective | 3.0 | (GR) Transformat Elective | 3.0 | (GR) Thesis or alternative | 3.0 |
| | **18** | | **18** | | **18** |

**Total Credits 226.5**

Note: An ECE student must have a 2.0 cumulative overall GPA and a 2.0 cumulative GPA in their ECE Professional Requirements.

* 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.

** General Education Requirements (http://catalog.drexel.edu/undergraduate/collegeofengineering/#generaleducationrequirementstext)

*** Choose one of CS 260, CS 265, or ECE 350

† 2 classes or at least 6.0 credits at the 300-400 level from subject codes ECE, ECEC, ECEE, ECEL, ECEP, or ECES. Includes Special Topics in each code (T380, T480).

†† 3 classes or at least 9.0 credits at the 400 level from subject codes ECE, ECEE, ECEP, or ECES. Includes Special Topics in each code (T480).

# Electrical Engineering BSEE / Robotics & Autonomy MSRA

## Program Requirements

| | | |
|---|---|---|
| **BSEE Degree Requirements** | | |
| **General Education/Liberal Studies 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 315 | Engineering Ethics | 3.0 |
| UNIV E101 | The Drexel Experience | 1.0 |
| Communications Elective | | 3.0 |
| COM 230 | Techniques of Speaking | |
| or COM 310 | Technical Communication | |
| General Education Courses ** | | 15.0 |
| **Foundation Requirements** | | |
| CHEM 101 | General Chemistry I | 3.5 |
| ENGR 111 | Introduction to Engineering Design & Data Analysis | 3.0 |
| ENGR 113 | First-Year Engineering Design | 3.0 |
| ENGR 131 | Introductory Programming for Engineers | 3.0 |
| or ENGR 132 | Programming for Engineers | |
| ENGR 231 | Linear Engineering Systems | 3.0 |
| ENGR 232 | Dynamic Engineering Systems | 3.0 |
| MATH 121 | Calculus I | 4.0 |
| MATH 122 | Calculus II | 4.0 |
| MATH 200 | Multivariate Calculus | 4.0 |
| MATH 221 | Discrete Mathematics | 3.0 |
| MATH 291 | Complex and Vector Analysis for Engineers | 4.0 |
| PHYS 101 | Fundamentals of Physics I | 4.0 |
| PHYS 102 | Fundamentals of Physics II | 4.0 |
| PHYS 201 | Fundamentals of Physics III | 4.0 |
| Science Elective | | 3.0 |
| Choose any BIO, CHEM, or PHYS | | |
| **Professional Requirements** | | |
| ECE 101 | Electrical and Computer Engineering in the Real World | 1.0 |
| ECE 105 | Programming for Engineers II | 3.0 |
| ECE 200 | Digital Logic Design | 4.0 |
| ECE 201 | Foundations of Electric Circuits I | 4.0 |
| ECE 301 | Foundations of Electric Circuits II | 4.0 |
| ECE 303 | ECE Laboratory | 3.0 |
| ECE 361 | Probability and Data Analytics for Engineers | 4.0 |
| ECE 370 | Electronic Devices | 3.0 |
| ECE 371 | Foundations of Electromagnetics for Computing & Wireless Systems | 3.0 |
| ECE 380 | Fundamentals of Power and Energy | 3.0 |
| ECEC 201 | Advanced Programming for Engineers | 3.0 |
| ECEC 204 | Design with Microcontrollers | 3.0 |
| ECES 301 | Signals and Systems I | 4.0 |
| Senior Design *** | | |
| ECE 491 [WI] | Senior Design Project I | 3.0 |
| ECE 492 [WI] | Senior Design Project II | 3.0 |
| ECE 493 | Senior Design Project III | 3.0 |
| EE Core Elective (Choose one of the following): | | 3.0 |
| CS 260 | Data Structures | |
| CS 265 | Advanced Programming Tools and Techniques | |
| ECE 350 | Introduction to Computer Organization | |
| ECE Electives † | | 6.0 |
| ECE 400-level Electives †† | | 9.0 |
| Free Electives | | 27.0 |
| **Master's Degree Courses** | | |
| **Foundation Courses** | | **6.0** |
| Choose 2 courses in mathematics and/or signal processing | | |
| Mathematics | | |
| ECES 521 | Probability & Random Variables | |
| MATH 504 | Linear Algebra & Matrix Analysis | |
| MATH 510 | Applied Probability and Statistics I | |
| MATH 623 | Ordinary Differential Equations I | |
| MATH 630 | Complex Variables I | |
| MEM 591 | Applied Engr Analy Methods I | |
| MEM 592 | Applied Engr Analy Methods II | |
| MEM 593 | Applied Engr Analy Methods III | |
| Signal Processing | | |
| ECES 522 | Random Process & Spectral Analysis | |
| ECES 523 | Detection & Estimation Theory | |
| ECES 604 | Optimal Estimation & Stochastic Control | |
| ECES 631 | Fundamentals of Deterministic Digital Signal Processing | |
| **Systems Courses** | | **6.0** |
| Choose 2 courses in robotics and autonomy from the perspective of full systems or use | | |
| CS 510 | Introduction to Artificial Intelligence | |
| ECE 610 | Machine Learning & Artificial Intelligence | |
| ECE 612 | Applied Machine Learning Engineering | |
| ECES 511 | Fundamentals of Systems I | |
| ECES 512 | Fundamentals of Systems II | |
| ECES 513 | Fundamentals of Systems III | |
| ECES 561 | Medical Robotics I | |
| ECES 562 | Medical Robotics II | |
| MEM 571 | Introduction to Robot Technology | |
| MEM 572 | Mechanics of Robot Manipulators | |
| MEM 573 | Industrial Application of Robots | |
| **Core Components** | | |
| Take 1 course in each of the four disciplines critical to robotics | | |
| Perception | | 3.0 |
| ECE 687 | Pattern Recognition | |
| ECES 681 | Fundamentals of Computer Vision | |
| ECES 682 | Fundamentals of Image Processing | |
| ECET 512 | Wireless Systems | |
| ECET T580 | Special Topics in ECET | |
| MEM 678 | Nondestructive Evaluation Methods | |
| Cognition and Behavior | | 3.0 |
| CS 510 | Introduction to Artificial Intelligence | |
| CS 583 | Introduction to Computer Vision | |
| CS 613 | Machine Learning | |
| CS 630 | Cognitive Systems | |
| ECE 610 | Machine Learning & Artificial Intelligence | |
| ECE 612 | Applied Machine Learning Engineering | |
| ECES 604 | Optimal Estimation & Stochastic Control | |
| ECES 631 | Fundamentals of Deterministic Digital Signal Processing | |
| Action | | 3.0 |
| ECES 511 | Fundamentals of Systems I | |
| ECES 512 | Fundamentals of Systems II | |
| ECES 513 | Fundamentals of Systems III | |
| MEM 530 | Aircraft Flight Dynamics & Control I | |

| | | |
|---|---|---|
| MEM 666 | Advanced Dynamics I | |
| MEM 667 | Advanced Dynamics II | |
| MEM 668 | Advanced Dynamics III | |
| Control | | 3.0 |
| ECE 612 | Applied Machine Learning Engineering | |
| ECES 604 | Optimal Estimation & Stochastic Control | |
| ECES 642 | Optimal Control | |
| MEM 633 | Robust Control Systems I | |
| MEM 634 | Robust Control Systems II | |
| MEM 635 | Robust Control Systems III | |
| MEM 636 | Theory of Nonlinear Control I | |
| MEM 637 | Theory of Nonlinear Control II | |
| MEM 638 | Theory of Nonlinear Control III | |
| MEM 733 | Applied Optimal Control I | |
| MEM 734 | Applied Optimal Control II | |
| MEM 735 | Advanced Topics in Optimal Control | |
| **Technical Focus Areas** ‡ | | **9.0** |
| Take 3 courses in a maximum of two core component areas listed above | | |
| **Transformational Electives** | | **6.0** |
| Choose 2 elective courses that promote the development of leadership, communication, and ethics | | |
| COM 610 | Theories of Communication and Persuasion | |
| EDGI 510 | Culture, Society & Education in Comparative Perspective | |
| EDGI 522 | Education for Global Citizenship, Sustainability, and Social Justice | |
| **Mastery** | | **6.0** |
| Thesis Option: A minimum of two terms of laboratory-based research (ECE 898) that leads to a publicly defended MS thesis. Students will be advised by a faculty member, and when applicable, a representative of industry or government sponsor. | | |
| Non-thesis Option: In lieu of the research and thesis, students will complete six credits of additional coursework in a Technical Focus Area. Graduate Co-op is encouraged for non-thesis students, but is not required. | | |
| **Total Credits** | | **226.5** |

* 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.

** General Education Courses (http://catalog.drexel.edu/undergraduate/collegeofengineering/#generaleducationrequirementstext)

*** Students who choose the Master's Thesis instead of Senior Design must replace ECE 491 [WI (http://catalog.drexel.edu/programadmin/1228/)], ECE 492 [WI (http://catalog.drexel.edu/programadmin/1228/)], ECE 493 credits with ECE elective credits.

† 2 classes or at least 6.0 credits at the 300-400 level from subject codes ECE, ECEC, ECEE, ECEL, ECEP, or ECES. Includes Special Topics in each code (T380, T480).

†† 3 classes or at least 9.0 credits at the 400 level from subject codes ECE, ECEE, ECEP, or ECES. Includes Special Topics in each code (T480).

‡ Choose three courses from a maximum of two Core Component areas: Perception, Cognition and Behavior, Action, Control

# Sample Plan of Study

## 5 year, 3 coop Co-Terminal

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CHEM 101 | 3.5 | COOP 101 or CIVC 101* | 1.0 | CIVC 101 or COOP 101* | 1.0 | VACATION | |
| ECE 101 | 1.0 | ECE 200 | 4.0 | ECE 105 | 3.0 | | |
| ENGL 101 or 111 | 3.0 | ENGR 131 or 132 | 3.0 | ENGL 102 or 112 | 3.0 | | |
| ENGR 111 | 3.0 | MATH 122 | 4.0 | ENGR 113 | 3.0 | | |
| MATH 121 | 4.0 | PHYS 101 | 4.0 | MATH 200 | 4.0 | | |
| UNIV E101 | 1.0 | | | PHYS 102 | 4.0 | | |
| | **15.5** | | **16** | | **18** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | ECE 201 | 4.0 | COM 230 or 310 | 3.0 |
| | | | | ECEC 201 | 3.0 | ECEC 204 | 3.0 |
| | | | | ENGL 103 or 113 | 3.0 | ENGR 232 | 3.0 |
| | | | | ENGR 231 | 3.0 | PHIL 315 | 3.0 |
| | | | | MATH 291 | 4.0 | PHYS 201 | 4.0 |
| | | | | (UG) Free Elective | 3.0 | (UG) Free Elective | 3.0 |
| | **0** | | **0** | | **20** | | **19** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | ECE 301 | 4.0 | ECE 361 | 4.0 |
| (GR) Signal Processing Course | 3.0 | | | ECE 370 | 3.0 | ECE 371 | 3.0 |
| | | | | ECES 301 | 4.0 | ECE 380 | 3.0 |
| | | | | (UG) EE Core Elective*** | 3.0 | Science Elective | 3.0 |
| | | | | (UG) General Education Elective** | 3.0 | Any BIO, CHEM or PHYS course | |
| | | | | (GR) Engineering Elective§§ | 3.0 | (UG) Free elective | 3.0 |
| | | | | | | (GR) Aligned Mathematical Theory Course | 3.0 |
| | **3** | | **0** | | **20** | | **19** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | ECE 303 | 3.0 | (UG) ECE Elective† | 3.0 |
| (GR) Applications Course | 3.0 | ECE 610 | 3.0 | MATH 221 | 3.0 | (UG) Free Electives | 6.0 |
| | | | | (UG) ECE Elective† | 3.0 | (UG) General Education Elective** | 3.0 |
| | | | | (UG) Free Elective | 3.0 | ECE 612 | 3.0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | ECE 687 | 3.0 | (GR) Aligned Mathematical Theory Course 3.0 |
| | | | | ECES 521 | 3.0 | |
| | **3** | | **3** | | **18** | **18** |

**Fifth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| ECE 491 | 3.0 | ECE 492 | 3.0 | ECE 493 | 3.0 |
| (UG) ECE 400-level elective†† | 3.0 | (UG) ECE 400-level elective†† | 3.0 | (UG) ECE 400-level elective†† | 3.0 |
| (UG) Free elective | 3.0 | (UG) Free elective | 3.0 | (UG) Free elective | 3.0 |
| (UG) General Education elective** | 3.0 | (UG) General Education elective** | 3.0 | (UG) General Education elective** | 3.0 |
| (GR) Engineering Elective | 3.0 | (GR) Thesis or alternative | 3.0 | (GR) Engineering Elective | 3.0 |
| (GR) Transformat Elective | 3.0 | (GR) Transformat Elective | 3.0 | (GR) Thesis or alternative | 3.0 |
| | **18** | | **18** | | **18** |

**Total Credits 226.5**

Note: An ECE student must have a 2.0 cumulative overall GPA and a 2.0 cumulative GPA in their ECE Professional Requirements.

* 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.

** General Education Requirements (http://catalog.drexel.edu/undergraduate/collegeofengineering/#generaleducationrequirementstext)

*** Choose one of CS 260, CS 265, or ECE 350

† 2 classes or at least 6.0 credits at the 300-400 level from subject codes ECE, ECEC, ECEE, ECEL, ECEP, or ECES. Includes Special Topics in each code (T380, T480).

†† 3 classes or at least 9.0 credits at the 400 level from subject codes ECE, ECEE, ECEP, or ECES. Includes Special Topics in each code (T480).

# Electrical Engineering BSEE / Telecommunications Engineering MSEET

## Program Requirements

| | | |
|---|---|---|
| **BSEE Degree Requirements** | | |
| **General Education/Liberal Studies 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 315 | Engineering Ethics | 3.0 |
| UNIV E101 | The Drexel Experience | 1.0 |
| Communications Elective | | 3.0 |
| COM 230 | Techniques of Speaking | |
| or COM 310 | Technical Communication | |
| General Education Courses ** | | 15.0 |
| **Foundation Requirements** | | |
| CHEM 101 | General Chemistry I | 3.5 |
| ENGR 111 | Introduction to Engineering Design & Data Analysis | 3.0 |
| ENGR 113 | First-Year Engineering Design | 3.0 |
| ENGR 131 | Introductory Programming for Engineers | 3.0 |
| or ENGR 132 | Programming for Engineers | |
| ENGR 231 | Linear Engineering Systems | 3.0 |
| ENGR 232 | Dynamic Engineering Systems | 3.0 |
| MATH 121 | Calculus I | 4.0 |
| MATH 122 | Calculus II | 4.0 |
| MATH 200 | Multivariate Calculus | 4.0 |
| MATH 221 | Discrete Mathematics | 3.0 |
| MATH 291 | Complex and Vector Analysis for Engineers | 4.0 |
| PHYS 101 | Fundamentals of Physics I | 4.0 |
| PHYS 102 | Fundamentals of Physics II | 4.0 |
| PHYS 201 | Fundamentals of Physics III | 4.0 |
| Science Elective | | 3.0 |
| Any BIO, CHEM or PHYS course | | |
| **Professional Requirements** | | |
| ECE 101 | Electrical and Computer Engineering in the Real World | 1.0 |
| ECE 105 | Programming for Engineers II | 3.0 |
| ECE 200 | Digital Logic Design | 4.0 |
| ECE 201 | Foundations of Electric Circuits I | 4.0 |
| ECE 301 | Foundations of Electric Circuits II | 4.0 |
| ECE 303 | ECE Laboratory | 3.0 |
| ECE 361 | Probability and Data Analytics for Engineers | 4.0 |
| ECE 370 | Electronic Devices | 3.0 |
| ECE 371 | Foundations of Electromagnetics for Computing & Wireless Systems | 3.0 |
| ECE 380 | Fundamentals of Power and Energy | 3.0 |
| ECEC 201 | Advanced Programming for Engineers | 3.0 |
| ECEC 204 | Design with Microcontrollers | 3.0 |
| ECES 301 | Signals and Systems I | 4.0 |
| Senior Design *** | | |
| ECE 491 [WI] | Senior Design Project I | 3.0 |
| ECE 492 [WI] | Senior Design Project II | 3.0 |
| ECE 493 | Senior Design Project III | 3.0 |
| EE Core Elective (Choose one of the following): | | 3.0 |
| CS 260 | Data Structures | |
| CS 265 | Advanced Programming Tools and Techniques | |
| ECE 350 | Introduction to Computer Organization | |
| ECE Electives † | | 6.0 |
| ECE 400-level Electives †† | | 9.0 |
| Free Electives | | 27.0 |
| **Master's Degree Courses** | | |
| Telecommunications Engineering (500+ level ECET) Courses | | 6.0 |
| Telecommunications Engineering Elective Courses ‡ | | 15.0 |
| General ECE Courses ‡‡ | | 9.0 |
| Graduate Electives § | | 15.0 |
| **Total Credits** | | **226.5** |

* 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.

** General Education Courses (http://catalog.drexel.edu/undergraduate/collegeofengineering/#generaleducationrequirementstext)

*** Students who choose the Master's Thesis instead of Senior Design must replace ECE 491 [WI] , ECE 492 [WI] , ECE 493 credits with ECE elective credits.

† 2 classes or at least 6.0 credits at the 300-400 level from subject codes ECE, ECEC, ECEE, ECEL, ECEP, or ECES. Includes Special Topics in each code (T380, T480).

†† 3 classes or at least 9.0 credits at the 400 level from subject codes ECE, ECEE, ECEP, or ECES. Includes Special Topics in each code (T480).

‡ 500-level or higher courses from ECEC, ECEE, ECES, and ECET

‡‡ 500-level or higher courses from ECEC, ECEE, ECEP, ECES, ECET, and ECE

§ 500-level or higher courses from ECEC, ECEE, ECEP, ECES, ECET, ECE, AE, CHE, CIVE, CMGT, EGMT, ENGR, ENVE, ET, MATE, MEM, PROJ, PRMT, SYSE, BMES, MATH, PHYS, CHEM, BIO, OPR, and CS

## Sample Plan of Study

### 5 year, 3 coop Co-Terminal

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CHEM 101 | 3.5 | COOP 101* | 1.0 | CIVC 101 or ECE 200 | 1.0 | VACATION | |
| ECE 101 | 1.0 | ECE 200 or CIVC 101 | 4.0 | ECE 105 | 3.0 | | |
| ENGL 101 or 111 | 3.0 | ENGR 131 or 132 | 3.0 | ENGL 102 or 112 | 3.0 | | |
| ENGR 111 | 3.0 | MATH 122 | 4.0 | ENGR 113 | 3.0 | | |
| MATH 121 | 4.0 | PHYS 101 | 4.0 | MATH 200 | 4.0 | | |
| UNIV E101 | 1.0 | | | PHYS 102 | 4.0 | | |
| | **15.5** | | **16** | | **18** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | ECE 201 | 4.0 | COM 230 or 310 | 3.0 |
| | | | | ECEC 201 | 3.0 | ECEC 204 | 3.0 |
| | | | | ENGL 103 or 113 | 3.0 | ENGR 232 | 3.0 |
| | | | | ENGR 231 | 3.0 | PHIL 315 | 3.0 |
| | | | | MATH 291 | 4.0 | PHYS 201 | 4.0 |
| | | | | (UG) Free Elective | 3.0 | (UG) Free Elective | 3.0 |
| | **0** | | **0** | | **20** | | **19** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | ECE 301 | 4.0 | ECE 361 | 4.0 |
| (GR) Graduate Elective[§] | 3.0 | | | ECE 370 | 3.0 | ECE 371 | 3.0 |
| | | | | ECES 301 | 4.0 | ECE 380 | 3.0 |
| | | | | (UG) EE Core Elective[***] | 3.0 | (UG) Free Elective | 3.0 |
| | | | | (UG) General Education Elective[**] | 3.0 | (UG) Science Elective | 3.0 |
| | | | | (GR) Graduate Elective[§] | 3.0 | Any BIO, CHEM or PHYS course | |
| | | | | | | (GR) General ECE Course[‡‡] | 3.0 |
| | **3** | | **0** | | **20** | | **19** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | ECE 303 | 3.0 | (UG) ECE Elective[†] | 3.0 |
| (GR) Graduate Elective[§] | 3.0 | (GR) Graduate Elective[§] | 3.0 | MATH 221 | 3.0 | (UG) Free Electives | 6.0 |
| | | | | (UG) ECE Elective[†] | 3.0 | (UG) General Education Elective[**] | 3.0 |
| | | | | (UG) Free Electives | 3.0 | (GR) ECET Course | 3.0 |
| | | | | (GR) ECET Course | 3.0 | (GR) General ECE Course[‡‡] | 3.0 |
| | | | | (GR) Telecommu Elective[‡] | 3.0 | | |
| | **3** | | **3** | | **18** | | **18** |

**Fifth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| ECE 491 | 3.0 | ECE 492 | 3.0 | ECE 493 | 3.0 |
| (UG) ECE 400-level Elective[††] | 3.0 | (UG) ECE 400-level Elective[††] | 3.0 | (UG) ECE 400-level Elective[††] | 3.0 |
| (UG) Free Elective | 3.0 | (UG) Free Elective | 3.0 | (UG) Free Elective | 3.0 |
| (UG) General Education Elective[**] | 3.0 | (UG) General Education Elective[**] | 3.0 | (UG) General Education Elective[**] | 3.0 |
| (GR) Telecommunications Electives[‡] | 6.0 | (GR) Graduate Elective[§] | 3.0 | (GR) General ECE Course[‡‡] | 3.0 |
| | | (GR) Telecommu Elective[‡] | 3.0 | (GR) Telecommu Elective[‡] | 3.0 |
| | **18** | | **18** | | **18** |

**Total Credits 226.5**

Note: An ECE student must have a 2.0 cumulative overall GPA and a 2.0 cumulative GPA in their ECE Professional Requirements.

* 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.

** General Education Electives (http://catalog.drexel.edu/undergraduate/collegeofengineering/#generaleducationrequirementstext)

*** Choose one of CS 260, CS 265, or ECE 350

† 2 classes or at least 6.0 credits at the 300-400 level from subject codes ECE, ECEC, ECEE, ECEL, ECEP, or ECES. Includes Special Topics in each code (T380, T480).

†† 3 classes or at least 9.0 credits at the 400 level from subject codes ECE, ECEE, ECEP, or ECES. Includes Special Topics in each code (T480).

‡ 500-level or higher courses from ECEC, ECEE, ECES, and ECET

‡‡ 500-level or higher courses from ECEC, ECEE, ECEP, ECES, ECET, and ECE

§ 500-level or higher courses from ECEC, ECEE, ECEP, ECES, ECET, ECE, AE, CHE, CIVE, CMGT, EGMT, ENGR, ENVE, ET, MATE, MEM, PROJ, PRMT, SYSE, BMES, MATH, PHYS, CHEM, BIO, OPR, and CS

# Elementary Education (PK & Spec Ed) BS / Teaching, Learning & Curriculum MS

## Degree Requirements

| | | |
|---|---|---|
| **General Education/Content Requirements** | | |
| BIO 100 | Applied Cells, Genetics & Physiology | 3.0 |
| or BIO 161 | General Biology I | |
| BIO 101 | Applied Biological Diversity, Ecology & Evolution | 3.0 |
| or BIO 162 | General Biology II | |
| CHEM 111 | General Chemistry I | 4.0 |
| CIVC 101 | Introduction to Civic Engagement * | 1.0 |
| COM 111 | Principles of Communication | 3.0 |
| COOP 101 | Career Management and Professional Development * | 1.0 |
| ECON 201 | Principles of Microeconomics | 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 | |
| English (Literature) elective: Select course between ENGL 200 - ENGL 360 | | 3.0 |
| ENVS 260 | Environmental Science and Society | 3.0 |
| HIST 275 | History of Pennsylvania | 3.0 |
| MATH 171 | Introduction to Analysis A | 3.0 |
| MATH 172 | Introduction to Analysis B | 3.0 |
| MATH 173 | Introduction to Analysis C | 3.0 |
| or MATH 107 | Probability and Statistics for Liberal Arts | |
| MUSC 130 | Introduction to Music | 3.0 |
| NFS 100 | Nutrition, Foods, and Health | 2.0 |
| NFS 101 | Introduction to Nutrition & Food | 1.0 |
| PHYS 151 | Applied Physics | 3.0 |
| PSY 101 | General Psychology I | 3.0 |
| PSY 320 [WI] | Educational Psychology | 3.0 |
| PSY 330 | Cognitive Psychology | 3.0 |
| SOC 335 | Sociology of Education | 3.0 |
| UNIV T101 | The Drexel Experience * | 1.0 |
| **Pedagogy Requirements** | | |
| EDEX 142 | Special Education Foundations: Referral and Assessment | 3.0 |
| EDEX 344 | Inclusionary Practices for Exceptional Students | 3.0 |
| EDEX 368 | Literacy and Content Skill Development PK-12 | 3.0 |
| EDLT 325 | Design for Learning with Digital Media | 3.0 |
| EDUC 101 | Foundations in Education I: A Historical and Philosophical Perspective | 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 120 | Child Development I: Typical Development | 3.0 |
| EDUC 121 | Child Development II: Atypical Development | 3.0 |
| EDUC 205 | Sophomore Pedagogy Seminar | 1.0 |
| EDUC 216 | Diversity and Today's Teacher | 3.0 |
| EDUC 236 | Early Literacy I | 3.0 |
| EDUC 305 [WI] | Junior Pedagogy Seminar | 1.0 |
| EDUC 306 | Assessment of Young Children | 3.0 |
| EDUC 308 | Creating a Positive Classroom Climate | 3.0 |
| EDUC 312 | Educational Policy, Law & Advocacy | 3.0 |
| EDUC 314 | Science Teaching Methods | 3.0 |
| EDUC 316 | Teaching in Urban Contexts | 3.0 |
| EDUC 324 | Current Research in Curriculum & Instruction | 3.0 |
| EDUC 326 [WI] | Language Arts Processes | 3.0 |
| EDUC 335 | Engaging the Learner | 3.0 |
| EDUC 336 | Early Literacy II | 3.0 |
| EDUC 338 | Expressive Arts for PK-4 | 3.0 |
| EDUC 355 | Social Studies Teaching Methods | 3.0 |
| EDUC 365 | Foundations in Instructing English Language Learners | 3.0 |
| EDUC 405 | Senior Pedagogy Seminar | 1.0 |
| EDUC 411 | Family and Community Partnerships | 3.0 |
| MTED 417 | Mathematics Methods and Content: Early Childhood | 3.0 |
| MTED 418 | Mathematics Methods and Content | 3.0 |
| **Special Education Core Courses** | | |
| EDEX 336 | Special Education Law and Processes PK-12 | 3.0 |
| EDEX 348 | Emotional and Behavioral Support of Individuals with Disabilities | 3.0 |
| EDEX 349 | High Incident Disabilities | 3.0 |
| EDEX 350 | Teaching Individuals with Low Incident Disabilities | 3.0 |
| EDEX 352 | Integrating Technology for Learning & Achievement | 3.0 |
| EDEX 355 | Teaching Students with Autism Spectrum Disorders | 3.0 |
| EDEX 378 | Special Education: Methods & Practices PK-12 | 3.0 |
| EDEX 388 | Implementing Academic Interventions in Inclusive Educational Environments | 3.0 |
| **Student Teaching Experience** | | |
| EDUC 409 | Student Teaching Seminar I | 9.0 |
| EDEX 414 [WI] | Special Education Student Teaching Seminar | 9.0 |
| **MS in TLC Core** | | |
| EDAM 714 | Instructional and Curriculum Leadership | 3.0 |
| EDLT 532 | Designing Virtual Communities for Staff Development - Non-Field Experience | 3.0 |
| EDUC 524 | Current Research in Curriculum & Instruction | 3.0 |
| EDUC 530 | Advanced Techniques in Instruction & Assessment | 3.0 |
| EDUC 609 | Language & Culture in Education | 3.0 |
| **Policy, Law & Organization Courses (Choose 2)** | | **6.0** |
| EDAM 705 | School Law and Politics | |
| EDPO 620 | Education Policy: Concepts, Issues, and Applications | |
| EDUC 804 | Program Evaluation in Organizations | |
| **MS in TLC Capstone Sequence** | | |
| EDU 780 | Capstone Research | 3.0 |
| EDUL 780 | Lesson Study Capstone Course I | 3.0 |
| or EDUT 780 | Thesis Capstone Course I | |
| or EDUP 780 | Practitioner Capstone Course I | |
| EDUL 781 | Lesson Study Capstone Course II | 3.0 |
| or EDUT 780 | Thesis Capstone Course I | |
| or EDUP 780 | Practitioner Capstone Course I | |
| **Professional or Concentration Electives** | | **15.0** |
| **Total Credits** | | **233.0** |

* COOP 101, CIVC 101 and UNIV T101 are not required for Education transfer students, instead these 3 credits are replaced with a 3 credit elective choice of ESTM 342 or EDEX 375.

## Sample Plan of Study

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| EDUC 101 | 3.0 | BIO 100 or 161 | 3.0 | EDEX 142 | 3.0 | VACATION | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| EDUC 106 | 1.0 | CIVC 101 | 1.0 | ENGL 103 or 113 | 3.0 | | |
| EDUC 120 | 3.0 | COM 111 | 3.0 | EDUC 108 | 1.0 | | |
| ENGL 101 or 111 | 3.0 | EDUC 107 | 1.0 | MATH 173 or 107 | 3.0 | | |
| MATH 171 | 3.0 | EDUC 121 | 3.0 | MUSC 130 | 3.0 | | |
| UNIV T101 | 1.0 | ENGL 102 or 112 | 3.0 | PSY 101 | 3.0 | | |
| | | MATH 172 | 3.0 | | | | |
| | **14** | | **17** | | **16** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| EDEX 344 | 3.0 | BIO 101 or 162 | 3.0 | EDUC 236 | 3.0 | EDEX 350 | 3.0 |
| EDEX 349 | 3.0 | COOP 101* | 1.0 | EDUC 326 | 3.0 | EDUC 306 | 3.0 |
| EDUC 205 | 1.0 | EDEX 348 | 3.0 | EDUC 365 | 3.0 | EDUC 312 | 3.0 |
| EDUC 308 | 3.0 | EDEX 368 | 3.0 | NFS 100 | 2.0 | EDUC 324 | 3.0 |
| English (Literature) elective: ENGL 200 - ENGL 360 | 3.0 | EDUC 216 | 3.0 | NFS 101 | 1.0 | HIST 275 | 3.0 |
| | | EDUC 314 | 3.0 | PSY 320 | 3.0 | | |
| | | EDUC 316 | 3.0 | | | | |
| | **13** | | **19** | | **15** | | **15** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | EDEX 378 | 3.0 | EDUC 335 | 3.0 |
| MTED 417 | 3.0 | EDUC 336 | 3.0 | EDEX 388 | 3.0 | EDUC 338 | 3.0 |
| | | | | EDUC 305 | 1.0 | EDUC 355 | 3.0 |
| | | | | EDUC 411 | 3.0 | ENVS 260 | 3.0 |
| | | | | PHYS 151 | 3.0 | MTED 418 | 3.0 |
| | | | | PSY 330 | 3.0 | (GR) MS Professiona Elective | 3.0 |
| | | | | (GR) MS Professional Elective | 3.0 | | |
| | **3** | | **3** | | **19** | | **18** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| EDEX 336 | 3.0 | EDEX 355 | 3.0 | CHEM 111 | 4.0 | EDAM 705 | 3.0 |
| EDUC 405 | 1.0 | EDEX 414 | 9.0 | ECON 201 | 4.0 | EDUC 530 | 3.0 |
| EDUC 409 | 9.0 | SOC 335 | 3.0 | EDEX 352 | 3.0 | EDUC 524 | 3.0 |
| EDPO 620 or EDUC 804 | 3.0 | EDLT 532 | 3.0 | EDLT 325 | 3.0 | | |
| | | | | EDAM 714 | 3.0 | | |
| | | | | Student converts to Grad status at the end of the Spring term | | | |
| | **16** | | **18** | | **17** | | **9** |

**Fifth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| EDU 780 | 3.0 | EDUL 780, EDUT 780, or EDUP 780 | 3.0 | EDUL 781, EDUT 780, or EDUP 780 | 3.0 |
| EDUC 609 | 3.0 | (GR) MS Professiona Elective | 3.0 | (GR) MS Professiona Elective | 3.0 |
| (GR) MS Professional Elective | 3.0 | | | | |
| | **9** | | **6** | | **6** |

**Total Credits 233**

* 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.

# Elementary Education PK-4th Grade BS / Creativity & Innovation MS

## Program Requirements

| | | |
|---|---|---|
| **General Education/Content Requirements** | | |
| BIO 100 | Applied Cells, Genetics & Physiology | 3.0 |
| or BIO 161 | General Biology I | |
| BIO 101 | Applied Biological Diversity, Ecology & Evolution | 3.0 |
| or BIO 162 | General Biology II | |
| CHEM 111 | General Chemistry I | 4.0 |
| CIVC 101 | Introduction to Civic Engagement * | 1.0 |
| COM 111 | Principles of Communication | 3.0 |
| COOP 101 | Career Management and Professional Development * | 1.0 |
| ECON 201 | Principles of Microeconomics | 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 | |
| ENVS 260 | Environmental Science and Society | 3.0 |
| HIST 275 | History of Pennsylvania | 3.0 |
| MATH 171 | Introduction to Analysis A | 3.0 |
| MATH 172 | Introduction to Analysis B | 3.0 |
| MATH 173 | Introduction to Analysis C | 3.0 |
| or MATH 107 | Probability and Statistics for Liberal Arts | |
| MUSC 130 | Introduction to Music | 3.0 |
| NFS 100 | Nutrition, Foods, and Health | 2.0 |
| NFS 101 | Introduction to Nutrition & Food | 1.0 |
| PHYS 151 | Applied Physics | 3.0 |
| PSY 101 | General Psychology I | 3.0 |
| PSY 320 [WI] | Educational Psychology | 3.0 |
| PSY 330 | Cognitive Psychology | 3.0 |
| SOC 335 | Sociology of Education | 3.0 |
| UNIV T101 | The Drexel Experience * | 1.0 |
| English (Literature) elective: Select course between ENGL 200 - ENGL 360 | | 3.0 |
| Free electives | | 10.0 |
| **Pedagogy Requirements** | | |
| EDEX 142 | Special Education Foundations: Referral and Assessment | 3.0 |
| EDEX 344 | Inclusionary Practices for Exceptional Students | 3.0 |
| EDEX 368 | Literacy and Content Skill Development PK-12 | 3.0 |
| EDLT 325 | Design for Learning with Digital Media | 3.0 |
| EDUC 101 | Foundations in Education I: A Historical and Philosophical Perspective | 3.0 |
| EDUC 120 | Child Development I: Typical Development | 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 121 | Child Development II: Atypical Development | 3.0 |
| EDUC 205 | Sophomore Pedagogy Seminar | 1.0 |
| EDUC 210 | Early Language Development | 3.0 |
| EDUC 216 | Diversity and Today's Teacher | 3.0 |
| EDUC 236 | Early Literacy I | 3.0 |
| EDUC 305 [WI] | Junior Pedagogy Seminar | 1.0 |
| EDUC 306 | Assessment of Young Children | 3.0 |
| EDUC 308 | Creating a Positive Classroom Climate | 3.0 |
| EDUC 312 | Educational Policy, Law & Advocacy | 3.0 |
| EDUC 314 | Science Teaching Methods | 3.0 |
| EDUC 316 | Teaching in Urban Contexts | 3.0 |
| EDUC 324 | Current Research in Curriculum & Instruction | 3.0 |
| EDUC 326 [WI] | Language Arts Processes | 3.0 |
| EDUC 335 | Engaging the Learner | 3.0 |
| EDUC 336 | Early Literacy II | 3.0 |
| EDUC 338 | Expressive Arts for PK-4 | 3.0 |
| EDUC 355 | Social Studies Teaching Methods | 3.0 |
| EDUC 365 | Foundations in Instructing English Language Learners | 3.0 |
| EDUC 405 | Senior Pedagogy Seminar | 1.0 |
| EDUC 411 | Family and Community Partnerships | 3.0 |
| ESTM 342 | Teaching Engineering Concepts to Children | 3.0 |
| MTED 417 | Mathematics Methods and Content: Early Childhood | 3.0 |
| MTED 418 | Mathematics Methods and Content | 3.0 |
| **Student Teaching Experience** | | |
| EDUC 409 | Student Teaching Seminar I | 9.0 |
| EDUC 410 [WI] | Student Teaching | 9.0 |
| **MS in Creativity & Innovation Core** | | |
| CRTV 501 | Foundations in Creativity | 3.0 |
| CRTV 502 | Tools and Techniques in Creativity | 3.0 |
| CRTV 503 | Creativity in the Workplace | 3.0 |
| CRTV 615 | Neuroscience, Creativity and Innovation | 3.0 |
| CRTV 650 | Current Trends in Creativity & Innovation | 3.0 |
| CRTV 660 | Diagnostic Creative Intervention | 3.0 |
| EDCR 510 | Leadership in Educational Contexts and Systems | 3.0 |
| EDCR 514 | Diversity, Equity, and Social Justice in Education | 3.0 |
| **MS in Creativity & Innovation Capstone Sequence** | | |
| EDU 780 | Capstone Research | 3.0 |
| EDUL 780 | Lesson Study Capstone Course I | 3.0 |
| or EDUT 780 | Thesis Capstone Course I | |
| or EDUP 780 | Practitioner Capstone Course I | |
| EDUL 781 | Lesson Study Capstone Course II | 3.0-4.5 |
| or EDUT 780 | Thesis Capstone Course I | |
| or EDUP 780 | Practitioner Capstone Course I | |
| **Concentration Course Options (Select one concentration from the options below)** | | **12.0** |
| **Human Resource Development** | | |
| EHRD 500 | Foundations of Human Resources Development | |
| EHRD 602 | Coaching and Mentoring for Sustainable Learning | |
| EHRD 611 | Organization Development and Change | |
| EHRD 612 | Strategic Human Resource Development | |
| or EHRD 66 | Principles of Adult Learning | |
| **Global & International Education** | | |
| EDGI 503 | Global, International & Comparative Education | |
| EDGI 510 | Culture, Society & Education in Comparative Perspective | |
| EDGI 522 | Education for Global Citizenship, Sustainability, and Social Justice | |
| EDGI 524 | Measuring the World: Education and National Development | |
| **Higher Education** | | |
| EDHE 501 | Foundations of Higher Education and Governance | |
| EDHE 531 | Legal Issues & Ethics in Higher Education | |
| EDHE 607 | Higher Education Career Development, Leadership & Application | |
| EHRD 660 | Principles of Adult Learning | |
| **Learning Technologies** | | |
| EDLT 503 | The Learning Sciences | |
| or EDLT 53 | Technologies for Performance Support | |
| EDLT 512 | Using and Integrating Learning Technologies | |

| | | |
|---|---|---|
| | EDLT 551 | Instructional Design Methods |
| | ELL 501 | The Purpose and Business of E-Learning |
| | **Learning in Game-Based Environments** | |
| | EDLT 541 | Foundations of Game-Based Learning |
| | EDLT 543 | Play & Learning in a Participatory Culture |
| | EDLT 554 | Learning with Social Media and Mobiles |
| | ELL 504 | Learning Technologies & Disabilities |
| **Custom-Designed Concentration** | | |
| | A custom-designed concentration will consist of 12.0 professional electives that will be selected in consultation with the Program Director and/or Advisor. You may also choose to declare a Graduate Minor. | |
| **Total Credits** | | **225.0-226.5** |

* COOP 101, CIVC 101 and UNIV T101 are not required for Education transfer students, instead these 3 credits are replaced with free electives.

# 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 |
|---|---|---|---|---|---|---|---|
| EDUC 106 | 1.0 | BIO 100 or 161 | 3.0 | EDEX 142 | 3.0 | VACATION | |
| EDUC 101 | 3.0 | CIVC 101* | 1.0 | EDUC 108 | 1.0 | | |
| EDUC 120 | 3.0 | COM 111 | 3.0 | ENGL 103 or 113 | 3.0 | | |
| ENGL 101 | 3.0 | EDUC 107 | 1.0 | MATH 173 or 107 | 3.0 | | |
| MATH 171 | 3.0 | EDUC 121 | 3.0 | MUSC 130 | 3.0 | | |
| UNIV T101 | 1.0 | ENGL 102 or 112 | 3.0 | PSY 101 | 3.0 | | |
| | | MATH 172 | 3.0 | | | | |
| | **14** | | **17** | | **16** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CHEM 111 | 4.0 | BIO 101 or 161 | 3.0 | EDUC 236 | 3.0 | EDUC 210 | 3.0 |
| EDEX 344 | 3.0 | COOP 101* | 1.0 | EDUC 326 | 3.0 | EDUC 306 | 3.0 |
| EDUC 205 | 1.0 | EDEX 368 | 3.0 | EDUC 336 | 3.0 | EDUC 312 | 3.0 |
| EDUC 308 | 3.0 | EDUC 216 | 3.0 | EDUC 365 | 3.0 | EDUC 335 | 3.0 |
| PSY 330 | 3.0 | EDUC 314 | 3.0 | NFS 100 | 2.0 | HIST 275 | 3.0 |
| | | EDUC 316 | 3.0 | NFS 101 | 1.0 | MTED 417 | 3.0 |
| | | | | PSY 320 | 3.0 | | |
| | **14** | | **16** | | **18** | | **18** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | ECON 201 | 4.0 | EDLT 325 | 3.0 |
| | | | | EDUC 305 | 1.0 | EDUC 324 | 3.0 |
| | | | | ESTM 342 | 3.0 | EDUC 338 | 3.0 |
| | | | | PHYS 151 | 3.0 | EDUC 355 | 3.0 |
| | | | | (UG) English (Literature) Elective: ENGL 200 - ENGL 360 | 3.0 | MTED 418 | 3.0 |
| | | | | CRTV 501 | 3.0 | CRTV 502 | 3.0 |
| | **0** | | **0** | | **17** | | **18** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| EDUC 405 | 1.0 | EDUC 410 | 9.0 | ENVS 260 | 3.0 | Student classified as Graduate Student | |
| EDUC 409 | 9.0 | SOC 335 | 3.0 | (UG) Free electives | 10.0 | CRTV 615 | 3.0 |
| EDUC 411 | 3.0 | (GR) MS Concentration Course | 3.0 | CRTV 503 | 3.0 | CRTV 650 | 3.0 |
| | | | | | | (GR) MS Concentratio Course | 3.0 |
| | **13** | | **15** | | **16** | | **9** |

**Fifth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| EDCR 510 | 3.0 | EDCR 514 | 3.0 | CRTV 660 | 3.0 |
| EDU 780 | 3.0 | EDUL 780, EDUT 780, or EDUP 780 | 3.0 | EDUL 781, EDUT 780, or EDUP 780 | 3.0-4.5 |
| (GR) MS Concentration Course | 3.0 | (GR) MS Concentration Course | 3.0 | | |
| | **9** | | **9** | | **6-7.5** |

**Total Credits 225-226.5**

* COOP 101, CIVC 101 and UNIV T101 are not required for Education transfer students, instead these 3 credits are replaced with free electives.

# English BA / Law JD

## Program 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 |
| 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 |
| **Additional ENGL courses** | | **36.0** |
| 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 | | |
| **Free undergraduate electives from any discipline** | | **19.0** |
| **Free electives fulfilled by 22.0 semester credits from first-year law courses (Law School Requirements)** | | **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 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 | | |
| **Total Credits** | | **180.0** |

* 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 Law | 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 | | |
| Undergradu elective | 3.0 | Undergradu elective | 3.0 | Undergradu elective | 3.0 | | |
| | **17** | | **17** | | **16** | | **0** |

**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 | | |
| | | Undergradu elective | 3.0 | Undergradu elective | 3.0 | | |
| | **16** | | **16** | | **16** | | **0** |

**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 | | |
| Internationa Studies Elective | 3.0 | Humanities elective | 3.0 | | | | |
| | **16** | | **18** | | **15** | | **0** |

**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 |
| | **15** | | **14** |

**Fifth Year**

| Fall | Credits | Spring | Credits |
|---|---|---|---|
| LAW 560S | 4.0 | LAW 830S | 2.0 |
| LAW Requirements/Electives | 10.0 | Law Requirements/ Electives | 12.0 |
| | **14** | | **14** |

**Sixth Year**

| Fall | Credits | Spring | Credits |
|---|---|---|---|
| Law Requirements/Electives | 14.0 | Law Requirements/ Electives | 14.0 |
| | **14** | | **14** |

**Total Credits 85**

# English BA / Strategic & Digital Communication MS

## Program 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 |
| **Core Courses, Required for either Concentrations** | | |
| 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 |
| **Concentrations (Choose 1)** | | **36.0** |
| **A) Literary Studies Concentration (36 credits)** | | |
| 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 321 | 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) Writing Concentration** | | |
| 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 | 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 | |
| **Graduate Electives** ** | | **12.0** |
| **Total Credits** | | **226.0-228.0** |

* 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, ENVS, 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

# 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 | | |
| | **17** | | **17** | | **16** | | **0** |

**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) Internationa 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 | | |
| | **16** | | **15** | | **16** | | **15** |

**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 | | | | | | |
| | **16** | | **16** | | **0** | | **3** |

**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 | | | | | | |
| | **19** | | **18** | | **18** | | **0** |

**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 |
| | **9** | | **9** | | **6** |

**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 | | |
| | **17** | | **17** | | **19** | | **0** |

**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 | | |
| | **0** | | **0** | | **19** | | **18** |

**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 | | |
| | **0** | | **3** | | **19** | | **16** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| 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 | | |
| | **3** | | **3** | | **19** | | **18** |

**Fifth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| 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 | | | | | | |
| | **19** | | **18** | | **18** | | |

**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

**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 | | |
| | **17** | | **17** | | **16** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| 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) Internationa 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 | | |
| | **16** | | **15** | | **16** | | **15** |

**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 | | | | | | |
| | **16** | | **16** | | **0** | | **3** |

**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 | | | | | | |
| | **19** | | **18** | | **18** | | **0** |

**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 |
| | **9** | | **9** | | **6** |

**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 | | |
| | **17** | | **17** | | **19** | | **0** |

**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 | | |
| | **0** | | **0** | | **19** | | **18** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| 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 | | |
| | **0** | | **3** | | **19** | | **16** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| 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 | | |
| | **3** | | **3** | | **19** | | **18** |

**Fifth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| 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 | | | | |
| | **19** | | **18** | | **18** |

**Total Credits 226**

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

# Entertainment Arts Management BS / Business Administration MBA

## Program Requirements

| | | |
|---|---|---|
| **General Education Requirements** | | |
| **Written Analysis and Communication Requirements** | | |
| 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 and Natural Sciences Requirements** | | |
| MATH 101 | Introduction to Analysis I | 4.0 |
| MATH 102 | Introduction to Analysis II | 4.0 |
| PHYS 170 | Electricity and Motion | 3.0 |
| PHYS 171 | Computational Lab for Electricity and Motion | 1.0 |
| PHYS 175 | Light and Sound | 3.0 |
| PHYS 176 | Computational Lab for Light and Sound | 1.0 |
| **Arts/Humanities Requirements** | | |
| COM 230 | Techniques of Speaking | 3.0 |
| Required Arts and Humanities-students elect a minimum of 6 credits | | 6.0 |
| **Social Science Requirements** | | |
| Required Social Science-students elect a minimum of 9.0 credits | | 9.0 |
| **University Seminar Requirements** | | |
| CIVC 101 | Introduction to Civic Engagement | 1.0 |
| COOP 101 | Career Management and Professional Development | 1.0 |
| UNIV A101 | The Drexel Experience | 2.0 |
| Free electives (39 credits total; 3 of which are satisfied by GR Free Electives) * | | 36.0 |
| **Entertainment and Arts Management Core Requirements** | | |
| ACCT 110 | Accounting for Professionals | 4.0 |
| BLAW 201 | Business Law I | 4.0 |
| EAM 130 | Overview of Entertainment and Arts Management | 3.0 |
| EAM 200 | Introduction to the Music Industry | 3.0 |
| EAM 211 | Strategic Management for Entertainment and Arts Management | 3.0 |
| EAM 220 | Law for Entertainment and Arts Management Managers | 3.0 |
| EAM 221 | Copyrights and Trademarks | 3.0 |
| EAM 225 | Financial Management for Entertainment & Arts Managers | 3.0 |
| EAM 308 | Entertainment Promotion and Branding | 3.0 |
| EAM 310 | Social Media in Entertainment | 3.0 |
| EAM 315 | Content Strategies for Digital Products | 3.0 |
| EAM 340 | Artist Representation and Management | 3.0 |
| EAM 420 | Arts, Culture and Society | 3.0 |
| EAM 422 | Human Resources in the Creative Industries | 3.0 |
| EAM 491 | Entertainment and Arts Management Senior Project ** | 3.0 |
| ECON 201 | Principles of Microeconomics | 4.0 |
| ECON 202 | Principles of Macroeconomics | 4.0 |
| MIS 200 | Management Information Systems | 4.0 |
| MKTG 201 | Introduction to Marketing Management | 4.0 |
| ORGB 300 [WI] | Organizational Behavior | 4.0 |
| **BS Concentration Requirements** | | **21.0** |
| **BS Concentration Electives** | | **9.0** |
| **MBA Requirements** | | |
| 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 |
| **Experiential Elective - Select one** | | **3.0** |
| 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** | | **9.0** |
| **MBA Free Electives** | | **9.0** |
| **Total Credits** | | **229.0** |

* BS/MBA students should take STAT 201 and FIN 301. Students who take STAT 201 and FIN 301 should not take BUSN 301.

** EAM 491 is a 1.0 credit course, taken 3 times during the senior year, for a total of 3.0 credits.

## UG Concentration Requirements

### A. Visual Arts Management Concentration

| | | |
|---|---|---|
| EAM 215 | Writing for Arts Managers | 3.0 |
| EAM 270 | Audience Development for Arts | 3.0 |
| EAM 301 | Gallery and Collection Management | 3.0 |
| EAM 302 | Exhibition Design | 3.0 |
| EAM 312 | Introduction to Fund Development for the Arts | 3.0 |
| EAM 313 | Volunteer and Board Management | 3.0 |
| EAM 321 | Box Office and Venue Management | 3.0 |
| **Select three from the following:** | | **9.0** |
| ARTH 150 | Building Skills in Object Analysis | |
| ARTH 314 | Contemporary Art | |
| ARTH 331 | Global Material Culture | |
| OR | | |
| DIGM 308 [WI] | Digital Cultural Heritage | |
| DIGM 451 [WI] | Explorations in New Media | |
| IDM 211 | User Interface Design I | |
| **Total Credits** | | **30.0** |

### B. Performing Arts Management Concentration

| | | |
|---|---|---|
| EAM 215 | Writing for Arts Managers | 3.0 |
| EAM 270 | Audience Development for Arts | 3.0 |
| EAM 312 | Introduction to Fund Development for the Arts | 3.0 |
| EAM 313 | Volunteer and Board Management | 3.0 |
| EAM 321 | Box Office and Venue Management | 3.0 |
| EAM 322 | Performing Arts Touring | 3.0 |
| EAM 325 | Producing for Live Entertainment | 3.0 |
| **Select three from the following:** | | **9.0** |

| | | |
|---|---|---|
| DANC 115 | Introduction to Dance | |
| DANC 215 | Dance Appreciation | |
| DANC 315 | Twentieth Century Dance | |
| OR | | |
| MUSC 121 | Music Theory I | |
| MUSC 249 | Digital Music Composition | |
| MUSC 331 | World Musics | |
| OR | | |
| THTR 121 [WI] | Dramatic Analysis | |
| THTR 240 | Theatre Production I | |
| Select one of the following: | | |
| THTR 221 [WI] | Theatre History I | |
| THTR 222 [WI] | Theatre History II | |
| THTR 231 | Introduction to Musical Theatre | |
| THTR 232 | Contemporary Musical Theatre | |
| **Total Credits** | | **30.0** |

## C. Media Arts Management Concentration

| | | |
|---|---|---|
| DIGM 105 | Overview of Digital Media | 3.0 |
| EAM 215 | Writing for Arts Managers | 3.0 |
| EAM 288 | eSport Entertainment Management | 3.0 |
| EAM 295 | Streaming Entertainment Management | 3.0 |
| EAM 338 | Entertainment Enterprise | 3.0 |
| EAM 365 | Media and Entertainment Business | 3.0 |
| TVIE 290 | Introduction to Money and the Media | 3.0 |
| **Select three from the following:** | | **9.0** |
| FMST 101 | Film History I: Emergence | |
| FMST 102 | Film History II: New Waves | |
| FMST 203 | Film History III: Trends | |
| OR | | |
| FMTV 110 | Basic Cinematography | |
| FMTV 115 | Basic Editing | |
| FMTV 120 | Basic Sound | |
| OR | | |
| FMTV 185 | TV Industry | |
| FMTV 282 | Research, Sales and Programming | |
| FMTV 285 | Media Law and Ethics | |
| OR | | |
| IDM 100 | Introduction to Web Development | |
| IDM 211 | User Interface Design I | |
| IDM 221 | Web Design I | |
| **Total Credits** | | **30.0** |

# MBA Concentrations

## Real Estate Management & Development Concentration

| | | |
|---|---|---|
| **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 credits 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 624 | Management of Service Firms | |
| POM 610 | Supply Chain Management I | |
| 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 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** |

## Supply Chain Management & Logistics Concentration

**Required Courses**

| | | |
|---|---|---|
| POM 610 | Supply Chain Management I | 3.0 |
| POM 615 | Supply Chain Management II | 3.0 |
| Select one of the following: | | 3.0 |
| ECON 650 | Business & Economic Strategy: Game Theory & Applications | |
| FIN 635 | Entrepreneurial Finance | |
| FIN 642 | Business Conditions and Forecasting | |
| MIS 624 | Systems Analysis & Design | |
| MIS 630 | Inter-Active Decision Support Systems | |
| MKTG 606 | Customer Analytics | |
| MKTG 624 | Channels of Distribution Management | |
| MKTG 638 | New Product Planning, Strategy, and Development | |
| OPR 601 | Managerial Decision Models and Simulation | |
| POM 624 | Management of Service Firms | |
| POM 630 | Transportation & Logistics Management | |
| POM T680 | Special Topics in POM | |
| STAT 632 | Datamining for Managers | |
| STAT 634 | Quality & Six-Sigma | |
| **Total Credits** | | **9.0** |

## General Business Concentration

**Required Courses**

| | |
|---|---|
| Complete 9.0 graduate credits. See advisor for suggestions. | 9.0 |
| MBA Graduate Credits include courses in Accounting (ACCT), Statistics (STAT), Economics (ECON), Finance (FIN), General Business (BUSN), International Business (INTB), Legal Studies (BLAW), Management (MGMT, Management Information Systems (MIS), Marketing (MKTG), Operations Management (OPM), Operations Research (OPR), Organizational Behavior (ORGB), Production Operations Management (POM), Sport Management (SMT), or Taxation (TAX), with a course number range between 500-799. | |
| **Total Credits** | **9.0** |

# Sample Plan of Study

# Visual Arts Management Concentration

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| EAM 130 | 3.0 | EAM 200 | 3.0 | ACCT 110 | 4.0 | VACATION | |
| ENGL 101 or 111 | 3.0 | ENGL 102 or 112 | 3.0 | CIVC 101 | 1.0 | | |
| MATH 101 | 4.0 | MATH 102 | 4.0 | EAM 211 | 3.0 | | |
| PHYS 170 | 3.0 | PHYS 175 | 3.0 | ENGL 103 or 113 | 3.0 | | |
| PHYS 171 | 1.0 | PHYS 176 | 1.0 | (UG) Arts and Humanities elective | 3.0 | | |
| UNIV A101 | 1.0 | UNIV A101 | 1.0 | (UG) Social Science elective | 3.0 | | |
| | **15** | | **15** | | **17** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| BLAW 201 | 4.0 | EAM 220 | 3.0 | COM 230 | 3.0 | COOP EXPERIENCE | |
| COOP 101 | 1.0 | EAM 225 | 3.0 | EAM 221 | 3.0 | | |
| EAM 215 | 3.0 | EAM 270 | 3.0 | EAM 301 | 3.0 | | |
| ECON 201 | 4.0 | ECON 202 | 4.0 | MKTG 201 | 4.0 | | |
| (UG) Concentration Elective | 3.0 | (UG) Arts & Humanities Elective | 3.0 | (UG) Concentration Elective | 3.0 | | |
| (UG) Social Science elective | 3.0 | | | | | | |
| | **18** | | **16** | | **16** | | **0** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| EAM 308 | 3.0 | EAM 302 | 3.0 | EAM 313 | 3.0 | COOP EXPERIENCE | |
| EAM 321 | 3.0 | EAM 310 | 3.0 | EAM 315 | 3.0 | | |
| EAM 340 | 3.0 | EAM 312 | 3.0 | ORGB 300 | 4.0 | | |
| MIS 200 | 4.0 | (UG) Concentratic Elective | 3.0 | (UG) Free Electives | 6.0 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| (UG) Free elective* | 3.0 | (UG) Social Science Elective | 3.0 | | | | |
| | **16** | | **15** | | **16** | | **0** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| EAM 422 | 3.0 | EAM 491 | 1.0 | EAM 420 | 3.0 | Convert to Graduate Status | |
| EAM 491 | 1.0 | (UG) Free Electives | 9.0 | EAM 491 | 1.0 | | |
| (UG) Free electives | 9.0 | (GR) Elective (counts as UG Free elective) | 3.0 | (UG) Free Electives | 9.0 | | |
| ACCT 510 | 2.0 | MGMT 510 | 3.0 | MGMT 520 | 2.0 | | |
| MGMT 530 | 2.0 | ORGB 511 | 3.0 | ORGB 520 | 1.0 | | |
| MKTG 510 | 2.0 | | | | | | |
| | **19** | | **19** | | **16** | | **0** |

**Fifth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| FIN 601 | 3.0 | ECON 601 | 3.0 | MGMT 770 | 2.0 |
| POM 510 | 2.0 | BLAW 510 | 1.0 | (GR) Electives | 6.0 |
| (GR) Elective | 3.0 | STAT 510 | 2.0 | (GR) Experiential Elective | 3.0 |
| | | (GR) Elective | 6.0 | | |
| | **8** | | **12** | | **11** |

**Total Credits 229**

* BS/MBA students should take STAT 201 and FIN 301. Students who take STAT 201 and FIN 301 should not take BUSN 301.

## Performing Arts Management Concentration

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| EAM 130 | 3.0 | EAM 200 | 3.0 | ACCT 110 | 4.0 | VACATION | |
| ENGL 101 or 111 | 3.0 | ENGL 102 or 112 | 3.0 | CIVC 101 | 1.0 | | |
| PHYS 170 | 3.0 | MATH 102 | 4.0 | EAM 211 | 3.0 | | |
| PHYS 171 | 1.0 | PHYS 175 | 3.0 | ENGL 103 or 113 | 3.0 | | |
| MATH 101 | 4.0 | PHYS 176 | 1.0 | (UG) Arts and Humanities elective | 3.0 | | |
| UNIV A101 | 1.0 | UNIV A101 | 1.0 | (UG) Social Science elective | 3.0 | | |
| | **15** | | **15** | | **17** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| BLAW 201 | 4.0 | EAM 220 | 3.0 | COM 230 | 3.0 | COOP EXPERIENCE | |
| COOP 101 | 1.0 | EAM 225 | 3.0 | EAM 221 | 3.0 | | |
| EAM 215 | 3.0 | EAM 322 | 3.0 | EAM 270 | 3.0 | | |
| ECON 201 | 4.0 | ECON 202 | 4.0 | MKTG 201 | 4.0 | | |
| (UG) Concentration Elective | 3.0 | (UG) Arts & Humanities | 3.0 | (UG) Concentration Elective | 3.0 | | |
| (UG) Social Science Elective | 3.0 | | | | | | |
| | **18** | | **16** | | **16** | | **0** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| EAM 308 | 3.0 | EAM 310 | 3.0 | EAM 313 | 3.0 | COOP EXPERIENCE | |
| EAM 321 | 3.0 | EAM 312 | 3.0 | EAM 315 | 3.0 | | |
| EAM 340 | 3.0 | EAM 325 | 3.0 | ORGB 300 | 4.0 | | |
| MIS 200 | 4.0 | (UG) Concentratic Elective | 3.0 | (UG) Free Elective | 6.0 | | |
| (UG) Free Elective | 3.0 | (UG) Social Science Elective | 3.0 | | | | |
| | **16** | | **15** | | **16** | | **0** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| EAM 422 | 3.0 | EAM 491 | 1.0 | EAM 420 | 3.0 | Convert to Graduate Status | |
| EAM 491 | 1.0 | (UG) Free Electives | 12.0 | EAM 491 | 1.0 | | |
| (UG) Free Electives | 9.0 | (GR) Elective (counts as UG Free elective) | 3.0 | (UG) Free Electives | 6.0 | | |
| ACCT 510 | 2.0 | MGMT 510 | 3.0 | MGMT 520 | 2.0 | | |
| MGMT 530 | 2.0 | ORGB 511 | 3.0 | ORGB 520 | 1.0 | | |
| MKTG 510 | 2.0 | | | | | | |
| | **19** | | **22** | | **13** | | **0** |

**Fifth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| FIN 601 | 3.0 | BLAW 510 | 1.0 | MGMT 770 | 2.0 |
| POM 510 | 2.0 | ECON 601 | 3.0 | (GR) Electives | 6.0 |
| (GR) Elective | 3.0 | STAT 510 | 2.0 | (GR) Experiential Elective | 3.0 |
| | | (GR) Elective | 6.0 | | |
| | **8** | | **12** | | **11** |

**Total Credits 229**

## Media Arts Management Concentration

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| EAM 130 | 3.0 | EAM 200 | 3.0 | ACCT 110 | 4.0 | VACATION | |
| ENGL 101 or 111 | 3.0 | ENGL 102 or 112 | 3.0 | CIVC 101 | 1.0 | | |
| MATH 101 | 4.0 | MATH 102 | 4.0 | EAM 211 | 3.0 | | |
| PHYS 170 | 3.0 | PHYS 175 | 3.0 | ENGL 103 or 113 | 3.0 | | |
| PHYS 171 | 1.0 | PHYS 176 | 1.0 | (UG) Arts and Humanities elective | 3.0 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| UNIV A101 | 1.0 | UNIV A101 | 1.0 | (UG) Social Science elective | 3.0 | | |
| | **15** | | **15** | | **17** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| BLAW 201 | 4.0 | EAM 220 | 3.0 | COM 230 | 3.0 | COOP EXPERIENCE | |
| COOP 101 | 1.0 | EAM 225 | 3.0 | EAM 215 | 3.0 | | |
| DIGM 105 | 3.0 | ECON 202 | 4.0 | EAM 221 | 3.0 | | |
| ECON 201 | 4.0 | TVIE 290 | 3.0 | MKTG 201 | 4.0 | | |
| (UG) Concentration Elective | 3.0 | (UG) Arts & Humanities Elective | 3.0 | (UG) Concentration Elective | 3.0 | | |
| (UG) Social Science Elective | 3.0 | | | | | | |
| | **18** | | **16** | | **16** | | **0** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| EAM 288 | 3.0 | EAM 295 | 3.0 | EAM 315 | 3.0 | COOP EXPERIENCE | |
| EAM 308 | 3.0 | EAM 310 | 3.0 | EAM 338 | 3.0 | | |
| EAM 340 | 3.0 | EAM 365 | 3.0 | ORGB 300 | 4.0 | | |
| MIS 200 | 4.0 | (UG) Social Science Elective | 3.0 | (UG) Free Electives | 6.0 | | |
| (UG) Free Elective | 3.0 | (UG) Concentration Elective | 3.0 | | | | |
| | **16** | | **15** | | **16** | | **0** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| EAM 422 | 3.0 | EAM 491 | 1.0 | EAM 420 | 3.0 | Convert to Graduate Status | |
| EAM 491 | 1.0 | (UG) Free Electives | 9.0 | EAM 491 | 1.0 | | |
| (UG) Free Electives | 9.0 | (GR) Elective (counts as UG Free elective) | 3.0 | (UG) Free Electives | 9.0 | | |
| ACCT 510 | 2.0 | MGMT 510 | 3.0 | MGMT 520 | 2.0 | | |
| MGMT 530 | 2.0 | ORGB 511 | 3.0 | ORGB 520 | 1.0 | | |
| MKTG 510 | 2.0 | | | | | | |
| | **19** | | **19** | | **16** | | **0** |

**Fifth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| FIN 601 | 3.0 | BLAW 510 | 1.0 | MGMT 770 | 2.0 |
| POM 510 | 2.0 | ECON 601 | 3.0 | (GR) Electives | 6.0 |
| (GR) Elective | 3.0 | STAT 510 | 2.0 | (GR) Experiential Elective | 3.0 |
| | | (GR) Elective | 6.0 | | |
| | **8** | | **12** | | **11** |

**Total Credits 229**

* See degree requirements (http://catalog.drexel.edu/undergraduate/collegeofmediaartsanddesign/entertainmentartmgmt/#degreerequirementsbstext).

# Environmental Engineering BSENE / Peace Engineering MS

## Program Requirements

| | | |
|---|---|---|
| **General Education/Liberal Studies 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 315 | Engineering Ethics | 3.0 |
| UNIV E101 | The Drexel Experience | 1.0 |
| General Education Requirements ** | | 12.0 |
| A Graduate Social Dimension course will count as 3.0 credits of General Education Requirements as shared coursework | | |
| **Engineering Core Courses** | | |
| BIO 141 | Essential Biology | 4.5 |
| CAEE 361 | Statistical Analysis of Engineering Systems | 3.0 |
| CHEM 101 | General Chemistry I | 3.5 |
| CHEM 102 | General Chemistry II | 4.5 |
| ENGR 111 | Introduction to Engineering Design & Data Analysis | 3.0 |
| ENGR 113 | First-Year Engineering Design | 3.0 |
| ENGR 131 | Introductory Programming for Engineers | 3.0 |
| or ENGR 132 | Programming for Engineers | |
| ENGR 210 | Introduction to Thermodynamics | 3.0 |
| ENGR 220 | Fundamentals of Materials | 4.0 |
| ENGR 231 | Linear Engineering Systems | 3.0 |
| ENGR 232 | Dynamic Engineering Systems | 3.0 |
| MATH 121 | Calculus I | 4.0 |
| MATH 122 | Calculus II | 4.0 |
| MATH 200 | Multivariate Calculus | 4.0 |
| PHYS 101 | Fundamentals of Physics I | 4.0 |
| PHYS 102 | Fundamentals of Physics II | 4.0 |
| PHYS 201 | Fundamentals of Physics III | 4.0 |
| **Environmental Engineering Requirements** | | |
| BIO 221 | Microbiology | 3.0 |
| CAEE 202 | Introduction to Civil, Architectural & Environmental Engineering | 3.0 |
| CAEE 203 | System Balances and Design in CAEE | 3.0 |
| CAEE 212 | Geologic Principles for Infrastructure & Environmental Engineering | 4.0 |
| CHE 211 | Material and Energy Balances I | 4.0 |
| CHEM 230 | Quantitative Analysis | 4.0 |
| CHEM 231 [WI] | Quantitative Analysis Laboratory | 2.0 |
| CHEM 241 | Organic Chemistry I | 4.0 |
| CHEM 242 | Organic Chemistry II | 4.0 |
| CIVE 240 [WI] | Engineering Economic Analysis | 3.0 |
| CIVE 320 | Introduction to Fluid Flow | 3.0 |
| CIVE 330 | Hydraulics | 4.0 |
| CIVE 430 | Hydrology | 3.0 |
| CIVE 431 | Hydrology-Ground Water | 3.0 |
| ENVE 300 | Introduction to Environmental Engineering | 3.0 |
| ENVE 302 | Environmental Transport and Kinetics | 3.0 |
| ENVE 410 | Solid and Hazardous Waste | 3.0 |
| ENVE 421 | Water and Waste Treatment II | 3.0 |
| ENVE 422 | Water and Waste Treatment Design | 3.0 |
| ENVE 435 | Groundwater Remediation | 3.0 |
| ENVE 460 | Fundamentals of Air Pollution Control | 3.0 |
| or ENVE 465 | Indoor Air Quality | |
| ENVE 485 | Professional Environmental Engineering Practice | 1.0 |
| ENVE 486 | Environmental Engineering Processes Laboratory I | 2.0 |
| ENVE 487 | Environmental Engineering Processes Laboratory II | 2.0 |
| ENVE 491 [WI] | Senior Project Design I | 3.0 |
| ENVE 492 [WI] | Senior Design Project II | 3.0 |
| ENVE 493 [WI] | Senior Design Project III | 3.0 |
| ENVS 230 | General Ecology | 3.0 |
| ENVS 401 | Chemistry of the Environment | 3.0 |
| **Technical Electives *** ** | | **6.0** |
| ENVE 727 and ENVE 750 count as 6.0 credits of Technical Electives as shared coursework | | |
| **Master's Degree Courses** | | |
| **Core Peacebuilding Requirements** | | |
| PENG 501 | Peace Engineering Seminar - Fall | 1.0 |
| PENG 502 | Peace Engineering Seminar - Winter | 1.0 |
| PENG 503 | Peace Engineering Seminar - Spring | 1.0 |
| PENG 545 | Introduction to Peacebuilding for Engineers | 3.0 |
| PENG 550 | Conflict Management for Engineers | 3.0 |
| PENG 560 | Peacebuilding Skills | 3.0 |
| **Core Engineering Requirements** | | |
| ENVE 727 | Risk Assessment | 3.0 |
| PROJ 501 | Introduction to Project Management | 3.0 |
| SYSE 540 | Systems Engineering for Peacebuilding | 3.0 |
| **Research Methods** | | |
| CAEE 501 | Community-Based Design | 3.0 |
| ENVE 750 | Data-based Engineering Modeling | 3.0 |
| SCTS 502 | Research Methods | 3.0 |
| **Experiential Learning** | | |
| PENG 600 | Peace Engineering Experiential Learning | 6.0 |
| **Social Dimensions of Conflict Electives †** | | **6.0** |
| **Technical Focus Sequences ††** | | **6.0** |
| **Total Credits** | | **230.5** |

* 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.

** General Education Requirements (http://catalog.drexel.edu/undergraduate/collegeofengineering/#generaleducationrequirementstext).

*** Any 300-499 level courses from AE, BIO, BMES, CHE, CHEM, CIVE, CS, ECE, ENVE, ENVS, MATE, MATH, MEM, PHYS, or SE. CIVE 250 is also allowed. The following courses duplicate content in required courses and will not be accepted: MATH 310, MATH 311, MATH 410, ECE 361, BMES 310, MEM 361, and CHE 350.

† **Social Dimensions of Conflict Electives**
Students must complete a minimum of six credits, at the graduate level, from the following approved courses.

- **Science, Technology and Society electives:** SCTS 501, SCTS 570, SCTS 571, SCTS 615, SCTS 620, SCTS 641, SCTS
- **Politics electives:** PSCI 510, PSCI 553, ENVP 552
- **Education electives**: EDGI 550, EDGI 533, EDGI 536

†† **Technical Focus Sequences**
Students must complete one sequence of at least 2 courses (6 credits) from the following approved sequences.

- **Systems Analysis**: SYSE 688, SYSE 690, EGMT 660
- **Software Development**: CS 502 CS 575, CS 576
- **Machine Learning and AI**: CS 510, CS 613, CS 610
- **Information Security**: INFO 517, INFO 712, INFO 710
- **Database Management**: INFO 605, INFO 606, INFO 607
- **Information Retrieval**: INFO 605, INFO 624, INFO 633
- **Data Mining**: INFO 605, INFO 634, INFO 633
- **Web and Mobile Development**: INFO 552, INFO 655
- **Game Design**: DIGM 505, DIGM 506
- **Serious gaming**: DIGM 530, DIGM 531
- **Interactivity:** DIGM 520, DIGM 521
- **WASH:** CIVE 564, CIVE 567, CIVE 561
- **Power Systems and Distribution:** ECEP 501, ECEP 502, ECEP 601

# Sample Plan of Study

## 5 year, 3 coop Co-Terminal

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CHEM 101 | 3.5 | CHEM 102 | 4.5 | BIO 141 | 4.5 | VACATION | |
| ENGL 101 or 111 | 3.0 | CIVC 101 or COOP 101* | 1.0 | CIVC 101 or COOP 101* | 1.0 | | |
| ENGR 111 | 3.0 | ENGL 102 or 112 | 3.0 | ENGL 103 or 113 | 3.0 | | |
| MATH 121 | 4.0 | ENGR 131 or 132 | 3.0 | ENGR 113 | 3.0 | | |
| UNIV E101 | 1.0 | MATH 122 | 4.0 | MATH 200 | 4.0 | | |
| | | PHYS 101 | 4.0 | PHYS 102 | 4.0 | | |
| | **14.5** | | **19.5** | | **19.5** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CAEE 202 | 3.0 | CAEE 203 | 3.0 | COOP EXPERIENCE | | COOP EXPERIENCE | |
| CAEE 361 | 3.0 | ENGR 210 | 3.0 | | | | |
| CIVE 240 | 3.0 | ENGR 232 | 3.0 | | | | |
| ENGR 220 | 4.0 | ENVS 230 | 3.0 | | | | |
| ENGR 231 | 3.0 | PHIL 315 | 3.0 | | | | |
| PHYS 201 | 4.0 | | | | | | |
| | **20** | | **15** | | **0** | | **0** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CAEE 212 | 4.0 | BIO 221 | 3.0 | COOP EXPERIENCE | | COOP EXPERIENCE | |
| CHE 211 | 4.0 | CHEM 241 | 4.0 | PENG 560 | 3.0 | | |
| CIVE 320 | 3.0 | CIVE 330 | 4.0 | | | | |
| ENVE 300 | 3.0 | CIVE 431 | 3.0 | | | | |
| PENG 545 | 3.0 | ENVE 302 | 3.0 | | | | |
| (GR) Social Dimension elective | 3.0 | PENG 550 | 3.0 | | | | |
| | **20** | | **20** | | **3** | | **0** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CHEM 230 | 4.0 | CHEM 231 | 2.0 | COOP EXPERIENCE | | COOP EXPERIENCE | |
| CHEM 242 | 4.0 | ENVE 410 | 3.0 | PENG 600 | 3.0 | PENG 600 | 3.0 |
| CIVE 430 | 3.0 | (UG) General Education elective** | 3.0 | | | | |
| ENVS 401 | 3.0 | (UG) Technical Elective*** | 3.0 | | | | |
| ENVE 750 (counts as UG Technical elective) | 3.0 | ENVE 727 (counts as UG Technical elective) | 3.0 | | | | |
| PROJ 501 | 3.0 | (GR) Technical Focus Course | 3.0 | | | | |
| | **20** | | **17** | | **3** | | **3** |

**Fifth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| ENVE 465 or 460 | 3.0 | ENVE 421 | 3.0 | ENVE 422 | 3.0 |
| ENVE 485 | 1.0 | ENVE 486 | 2.0 | ENVE 435 | 3.0 |
| ENVE 491 | 3.0 | ENVE 492 | 3.0 | ENVE 487 | 2.0 |
| (UG) General Education elective** | 3.0 | (UG) General Education elective** | 3.0 | ENVE 493 | 3.0 |
| (UG) Technical Elective*** | 3.0 | PENG 502 | 1.0 | (UG) General Education elective** | 3.0 |
| PENG 501 | 1.0 | SCTS 502 | 3.0 | CAEE 501 | 3.0 |
| SYSE 540 | 3.0 | (GR) Social Dimension elective (counts as UG General Education Elective) | 3.0 | PENG 503 | 1.0 |
| (GR) Technical Focus Course | 3.0 | | | | |
| | **20** | | **18** | | **18** |

**Total Credits 230.5**

* 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.

** General Education Requirements (http://catalog.drexel.edu/undergraduate/collegeofengineering/#generaleducationrequirementstext)

*** Any 300-499 level courses from AE, BIO, BMES, CHE, CHEM, CIVE, CS, ECE, ENVE, ENVS, MATE, MATH, MEM, PHYS, or SE. CIVE 250 is also allowed. The following courses duplicate content in required courses and will not be accepted: MATH 310, MATH 311, MATH 410, ECE 361, BMES 310, MEM 361, and CHE 350.

# Global Studies BA / Business Administration MBA

## Program 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 | 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 |
| **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 from below) | | 95.0-91.0 |
| **MBA Requirements** | | |
| 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 |
| **Experiential Requirements - Select one course:** | | **3.0** |
| 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 |
| **Total Credits** | | **229.0** |

* 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 |
| **Select one of the following** | | **3.0-4.0** |
| 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 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 | |
| CULA 426 | The Kitchen Garden: Summer | |
| or CULA 42 | 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 must have a global theme | |
| 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 | |
| **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 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 | |
| **Electives** | | **52.0-47.0** |
| **Total Credits** | | **95.0-91.0** |

## 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 |
| **Select one of the following** | | **4.0** |
| 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 | |
| **Electives** | | **49.0-45.0** |
| **Total Credits** | | **95.0-91.0** |

## 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 |
| **Select one of the following:** | | **3.0** |
| ARTH 301 [WI] | 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 | |
| **Media, Arts, and Cultures Distribution Options** **Students must complete at least 24 distribution credits from the approved list** | | **24.0** |
| 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 | | |
| | **15** | | **17** | | **15** | | **0** |

**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 Concentratic Requiremen | 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) Concentratic Requiremer | 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 | | | | | | |
| | **18** | | **17** | | **17** | | **13** |

**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) Concentratic Requiremen | 3.0 | | | | |
| | | (UG) Free elective | 3.0 | | | | |
| | **15** | | **16** | | **0** | | **0** |

**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) Concentratic Requiremen | 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 | | | | | | |
| | **15** | | **15** | | **15** | | **0** |

**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) Concentratic Requiremen | 6.0 | (GR) Concentratic Requiremen | 3.0 |
| | **9** | | **9** | | **12** | | **11** |

**Total Credits 229**

# Global Studies BA / Strategic & Digital Communication MS

## Program 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 |
| **Global Studies Core Courses** | | |
| 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 French, Spanish or Japanese, or minor in Asian Studies, or Middle East and North Africa Studies** | | **24.0** |
| Students must complete at least 24.0 credits above the 103 language level to earn a language minor. | | |
| **Global Health and Sustainability Concentration Requirements** | | |
| 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 | |
| **Choose one of the following ethics courses** | | **3.0** |
| PHIL 321 | Biomedical Ethics | |
| PHIL 340 | Environmental Ethics | |
| PBHL 309 | Public Health Ethics | |
| **Choose one of the following English courses** | | **3.0** |
| ENGL 300 [WI] | Literature & Science | |
| ENGL 302 | Environmental Literature | |
| ENGL 370 | Topics in Literature and Medicine | |
| **Global Health and Sustainability Distribution Requirements** | | **24.0** |
| 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 |
| **MS Strategic & Digital Communication** | | |
| **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 | |
| **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, ENVS, 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 | | |
| | **15** | | **14** | | **15** | | **0** |

**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 Concentratio Requiremen | 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 Concentratio Requiremen | 3.0 | (UG) GST Distribution Option | 3.0 |
| (UG) Free Electives | 6.0 | | | (UG) Free Elective | 3.0 | (UG) Free Elective | 3.0 |
| | **17** | | **16** | | **17** | | **16** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| (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 | | | | |
| | **19** | | **19** | | **0** | | **3** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| UNIV H201 | 1.0 | GST 400 | 3.0 | (UG) Free Electives | 9.0 | VACATION | |
| (UG) GST Concentratio Requiremen | 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 | | | | | | |
| | **17** | | **18** | | **18** | | **0** |

**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) Grad Electives | 6.0 (GR) Graduate Elective | 3.0 (GR) Graduate Elective | 3.0 |
| | **9** | **6** | **6** |

**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.

# History BA / Law JD

## Program Requirements

| | | |
|---|---|---|
| **General Education Requirements** | | |
| 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 |
| 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** | | **32.0** |
| 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 one requirement is fulfilled): | | |
| LAW 610S | Reproductive Rights Law | 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 | | | | |
| | **16** | | **14-16** | | **18-19** | | **0** |

**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 Environmen course | 4.0 | Internationa 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 | | |
| | **15-16** | | **17-18** | | **17** | | **0** |

**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 Reqts/Electives | 10.0 | LAW Reqts/ Electives | 12.0 |
| | **14** | | **14** |

**Sixth Year**

| Fall | Credits | Spring | Credits |
|---|---|---|---|
| LAW Reqts/Electives | 14.0 | LAW Reqts/ Electives | 14.0 |
| | | | |
| | **14** | | **14** |

**Total Credits 85**

# Juris Doctor (JD) / Business Administration (MBA)

## Program Requirements

| | | |
|---|---|---|
| **Required JD Courses** | | |
| LAW 550S | Torts | 4.0 |
| LAW 552S | Contracts | 4.0 |
| LAW 554S | Civil Procedure | 4.0 |
| LAW 555S | Legislation and Regulation | 3.0 |
| LAW 556S | Property | 4.0 |
| LAW 558S | Criminal Law | 4.0 |
| LAW 560S | Constitutional Law | 4.0 |
| LAW 565S | Legal Methods I | 3.0 |
| LAW 566S | Legal Methods II | 3.0 |
| LAW 830S | Professional Responsibility | 3.0 |
| One Upper-Level Writing Course (See table below) | | 2.0-3.0 |
| One Statutory Course (See table below) | | 2.0-4.0 |
| Co-op or Clinic | | 7.0-12.0 |
| JD Electives * | | 24.0-32.0 |
| **Required MBA Courses** | | |
| MGMT 530 | Managing and Leading the Total Enterprise | 2.0 |
| MKTG 510 | Marketing Strategy | 2.0 |
| STAT 510 | Introduction to Statistics for Business Analytics | 2.0 |
| ACCT 510 | Essentials of Financial Reporting | 2.0 |
| ORGB 640 | Negotiations for Leaders | 3.0 |
| FIN 601 | Corporate Financial Management | 3.0 |
| MGMT 510 | Business Problem Solving | 3.0 |
| MGMT 520 | Strategy Analysis | 2.0 |
| ECON 601 | Managerial Economics | 3.0 |
| POM 510 | Operations and Supply Chain Management | 2.0 |
| MGMT 770 | MBA Capstone | 2.0 |
| MBA Electives ** | | 15.0 |

* Unspecified LAW courses 550 and higher can be counted as electives.

** Accounting (ACCT), Statistics (STAT), Economics (ECON), Finance (FIN), General Business (BUSN), International Business (INTB), Legal Studies (BLAW), Management (MGMT), Management Information Systems (MIS), Marketing (MKTG), Operations Management (OPM), Operations Research (OPR), Organizational Behavior (ORGB), Production Operations Management (POM), Sport Management (SMT) or Taxation (TAX), with course number range between 600-799.

| | | |
|---|---|---|
| **Upper Level Writing (WUL) Courses** | | |
| May also be used as electives once requirement is fulfilled. | | |
| LAW 610S | Reproductive Rights Law | 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 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 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 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 |

## Sample Plan of Study

**First Year**

| Fall | Credits | Spring | Credits |
|---|---|---|---|
| LAW 550S | 4.0 | LAW 556S | 4.0 |
| LAW 552S | 4.0 | LAW 558S | 4.0 |
| LAW 554S | 4.0 | LAW 555S | 3.0 |
| LAW 565S | 3.0 | LAW 566S | 3.0 |
| | **15** | | **14** |

**Second Year**

| Fall | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|
| LAW 560S | 4.0 | LAW 830S | 3.0 | LAW 931S | 7.0 |
| Statutory Course | 4.0 | Law Electives | 11.0 | LAW 654S | 2.0 |
| Law Electives | 7.0 | | | | |
| | **15** | | **14** | | **9** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| MGMT 530 | 2.0 | FIN 601 | 3.0 | ECON 601 | 3.0 |
| MKTG 510 | 2.0 | MGMT 510 | 3.0 | POM 510 | 2.0 |

| | | | | | |
|---|---|---|---|---|---|
| STAT 510 | 2.0 | MGMT 520 | 2.0 | MGMT 770 | 2.0 |
| ACCT 510 | 2.0 | MBA Electives | 6.0 | MBA Electives | 6.0 |
| ORGB 640 | 3.0 | | | | |
| MBA Elective | 3.0 | | | | |
| | **14** | | **14** | | **13** |

**Fourth Year**

| **Fall** | **Credits** |
|---|---|
| Law Electives | 12.0 |
| | **12** |

**Total Credits 120**

# Marketing BSBA / Strategic & Digital Communication MS

## Program Requirements

| | | |
|---|---|---|
| **Bachelor of Science in Business Administration (BSBA) Degree Requirements** | | |
| CIVC 101 | Introduction to Civic Engagement | 1.0 |
| COM 270 [WI] | Business 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 | |
| MATH 101 | Introduction to Analysis I | 4.0 |
| MATH 102 | Introduction to Analysis II | 4.0 |
| PHIL 105 | Critical Reasoning | 3.0 |
| PSY 101 | General Psychology I | 3.0 |
| UNIV B101 | The Drexel Experience | 1.0 |
| UNIV B201 [WI] | Career Management | 1.0 |
| English literature elective ENGL 200 through ENGL 399 | | 3.0 |
| Fine Arts elective | | 3.0 |
| Courses with the following subjects and course range from 100-499. Architecture (ARCH), Art History (ARTH), Dance (DANC), Film Studies (FMST), Interior Design (INTR), Music (MUSC), Photography (PHTO), Visual Studies (VSST), Screenwriting & Playwriting (SCRP),Theatre (THTR) | | |
| History (HIST) elective | | 4.0 |
| Select two of the following: | | 6.0 |
| BIO 100 | Applied Cells, Genetics & Physiology | |
| or BIO 101 | Applied Biological Diversity, Ecology & Evolution | |
| CHEM 151 | Applied Chemistry | |
| PHYS 151 | Applied Physics | |
| or PHYS 170 | Electricity and Motion | |
| or PHYS 175 | Light and Sound | |
| **General Education Electives** | | **12.0** |
| Students select (12.0) credits of general education electives, with a minimum of one course in each of the following four (4) categories. | | |
| Diversity & Multicultural | | |
| Society and Culture | | |
| Courses with the following subjects and course range from 100-499. Communications (COM), English (ENGL), Fine Arts (ARCH, ARTH, DANC, DIGM, FMVD, SCRP, FMST, INTR, MUSC, PHTO, THTR, WBDV, VSST), Global Studies (GST), Language (LANG) or Philosophy (PHIL) | | |
| Social Science | | |
| Courses with the following subjects and course range from 100-499. Anthropology (ANTH), Criminology and Justice Studies (CJS), History (HIST), Sociology (SOC), Political Science (PSCI), Psychology (PSY) | | |
| Science | | |
| Courses with the following subjects and course range from 100-499. Computer Science (CS), Information Systems (INFO), Science, Technology and Society (SCTS) | | |
| **Additional General Education Electives** | | |
| **Business Requirements** | | |
| ACCT 115 | Financial Accounting Foundations | 4.0 |
| ACCT 116 | Managerial Accounting Foundations | 4.0 |
| BLAW 201 | Business Law I | 4.0 |
| BSAN 160 | Business Analytics and Data Visualization | 4.0 |
| BUSN 101 | Foundations of Business I | 4.0 |
| BUSN 102 | Foundations of Business II | 4.0 |
| ECON 201 | Principles of Microeconomics | 4.0 |
| ECON 202 | Principles of Macroeconomics | 4.0 |
| FIN 301 | Introduction to Finance | 4.0 |
| INTB 200 | International Business | 4.0 |
| MGMT 450 | Strategy and Competitive Advantage | 4.0 |
| MIS 200 | Management Information Systems | 4.0 |
| MKTG 201 | Introduction to Marketing Management | 4.0 |
| OPM 200 | Operations Management | 4.0 |
| ORGB 300 [WI] | Organizational Behavior | 4.0 |
| STAT 201 | Introduction to Business Statistics | 4.0 |
| Select one of the following: | | 4.0 |
| MGMT 260 | Introduction to Entrepreneurship | |
| MGMT 370 | For-Profit Business Consulting | |
| MGMT 371 | Nonprofit Business Consulting | |
| MGMT 372 | Startup Business Consulting | |
| MGMT 380 | International Business Consulting | |
| ORGB 420 | Negotiations and Conflict Resolution | |
| SMT 372 | Sport Business Consulting | |
| STAT 202 | Business Statistics II | |
| **Marketing Major Required Course** | | |
| MKTG 326 | Marketing Insights | 4.0 |
| MKTG 356 | Consumer Behavior | 4.0 |
| MKTG 380 | Seminar in Marketing Strategy | 4.0 |
| Select six (6) of the following: | | 24.0 |
| MKTG 321 | Selling and Sales Management | |
| MKTG 322 | Advertising & Integrated Marketing Communications | |
| MKTG 324 | Marketing Channels and Distribution Systems | |
| MKTG 344 | Professional Personal Selling | |
| MKTG 347 | New Product Development | |
| MKTG 348 | Services Marketing | |
| MKTG 351 | Marketing for Non-Profit Organizations | |
| MKTG 355 | Interactive Marketing | |
| MKTG 357 | Global Marketing | |
| MKTG 362 | Brand and Reputation Management | |
| MKTG 364 | Marketing for New Ventures | |
| MKTG 365 | Digital Marketing | |
| MKTG 366 | Customer Analytics | |
| MKTG 367 | Data-Driven Digital Marketing | |
| MKTG 368 | Corporate Responsibility Management | |
| **Free Electives** | | **18.0** |
| **MS in Strategic & Digital Communication Degree 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 |
| **SDC 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** |

* 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 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, ENVS, 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

## 5 year, 1 coop

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| BUSN 101 | 4.0 | BUSN 102 | 4.0 | ACCT 115 | 4.0 | VACATION | |
| ECON 201 | 4.0 | CIVC 101 | 1.0 | BSAN 160 | 4.0 | | |
| ENGL 101 or 111 | 3.0 | ECON 202 | 4.0 | COOP 101* | 1.0 | | |
| MATH 101 | 4.0 | ENGL 102 or 112 | 3.0 | ENGL 103 or 113 | 3.0 | | |
| UNIV B101 | 1.0 | MATH 102 | 4.0 | PSY 101 | 3.0 | | |
| | | | | General Education Elective | 3.0 | | |
| | **16** | | **16** | | **18** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ACCT 116 | 4.0 | BLAW 201 | 4.0 | MIS 200 | 4.0 | FIN 301 | 4.0 |
| STAT 201 | 4.0 | COM 270 | 3.0 | MKTG 201 | 4.0 | MKTG 326 | 4.0 |
| (UG) History (HIST) Elective | 4.0 | INTB 200 | 4.0 | OPM 200 | 4.0 | General Education Elective | 3.0 |
| Select one of the following: | 3.0 | Select one of the following: | 3.0 | (UG) ENGL 200 - ENGL 399 course | 3.0 | (UG) Fine Arts Elective | 3.0 |
| BIO 100 or 101 | | BIO 100 or 101 | | (UG) Free Elective | 3.0 | (UG) MKTG Elective | 4.0 |
| CHEM 1 | | CHEM 1 | | | | | |
| PHYS 151, 170, or 175 | | PHYS 151, 170, or 175 | | | | | |
| | **15** | | **14** | | **18** | | **18** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ORGB 300 | 4.0 | (UG) Free Electives | 4.0 | COOP EXPERIENCE | | COOP EXPERIENCE | |
| PHIL 105 | 3.0 | (UG) MKTG Electives | 8.0 | | | COM 574 | 3.0 |
| (UG) MKTG Electives | 8.0 | COM 610 | 3.0 | | | | |
| COM 500 | 3.0 | | | | | | |
| | **18** | | **15** | | **0** | | **3** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| MKTG 356 | 4.0 | MKTG 380 | 4.0 | (UG) Free Electives | 8.0 | VACATION | |
| (UG) Free Elective | 3.0 | MGMT 450 | 4.0 | Select one of the following: | 4.0 | Undergrad Degree Awarded | |
| (UG) General Education Elective | 3.0 | UNIV B201 | 1.0 | MGMT 260 | | Student classified as Graduate Student | |
| (UG) MKTG Elective | 4.0 | (UG) General Education Elective | 3.0 | MGMT 3 | | | |
| COM 613 | 3.0 | COM 651 | 3.0 | MGMT 371 | | | |
| | | (GR) SDC Program Elective | 3.0 | ORGB 4 | | | |
| | | | | STAT 202 | | | |
| | | | | COM 615 | 3.0 | | |
| | | | | (GR) SDC Progam Elective | 3.0 | | |
| | **17** | | **18** | | **18** | | **0** |

**Fifth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| (GR) Graduate Electives | 6.0 | (GR) Graduate Elective | 3.0 | COM 698 | 3.0 |
| (GR) SDC Program Elective | 3.0 | (GR) SDC Program Elective | 3.0 | (GR) Graduate Elective | 3.0 |
| | **9** | | **6** | | **6** |

**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.

# Mechanical Engineering BSME / Materials Science & Engineering MSMSE

## Program Requirements

| | | |
|---|---|---|
| **General Education/Liberal Studies 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 | |
| HIST 285 | Technology in Historical Perspective | 4.0 |
| PHIL 315 | Engineering Ethics | 3.0 |
| UNIV E101 | The Drexel Experience | 1.0 |
| General Education Requirements [**] | | 12.0 |
| **Mathematics Requirements** | | |
| MATH 121 | Calculus I | 4.0 |
| MATH 122 | Calculus II | 4.0 |
| MATH 200 | Multivariate Calculus | 4.0 |
| MATH 201 | Linear Algebra | 4.0 |
| MATH 210 | Differential Equations | 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 |
| **Chemistry/Biology Requirements** | | |
| BIO 141 | Essential Biology | 4.5 |
| CHEM 101 | General Chemistry I | 3.5 |
| CHEM 102 | General Chemistry II | 4.5 |
| **Engineering Design Requirements** | | |
| ENGR 111 | Introduction to Engineering Design & Data Analysis | 3.0 |
| ENGR 113 | First-Year Engineering Design | 3.0 |
| ENGR 131 | Introductory Programming for Engineers | 3.0 |
| or ENGR 132 | Programming for Engineers | |
| **Engineering Requirements** | | |
| ENGR 210 | Introduction to Thermodynamics | 3.0 |
| **Engineering Economics Requirements** | | |
| CIVE 240 [WI] | Engineering Economic Analysis | 3.0 |
| **Materials Requirements** | | |
| ENGR 220 | Fundamentals of Materials | 4.0 |
| **Mechanical Requirements** | | |
| MEM 201 | Foundations of Computer Aided Design | 3.0 |
| MEM 202 | Statics | 3.0 |
| MEM 220 | Fluid Mechanics I | 4.0 |
| MEM 230 | Mechanics of Materials I | 4.0 |
| MEM 238 | Dynamics | 4.0 |
| MEM 255 | Introduction to Controls | 4.0 |
| MEM 310 | Thermodynamic Analysis I | 4.0 |
| MEM 311 | Thermal Fluid Science Laboratory | 2.0 |
| MEM 331 | Experimental Mechanics I | 2.0 |
| MEM 333 | Mechanical Behavior of Materials | 3.0 |
| MEM 345 | Heat Transfer | 4.0 |
| MEM 351 | Dynamic Systems Laboratory I | 2.0 |
| MEM 355 | Performance Enhancement of Dynamic Systems | 4.0 |
| MEM 361 | Engineering Reliability | 3.0 |
| MEM 391 | Introduction to Engineering Design Methods | 1.0 |
| MEM 435 | Introduction to Computer-Aided Design and Manufacturing | 4.0 |
| MEM 491 [WI] | Senior Design Project I [***] | 2.0 |
| MEM 492 [WI] | Senior Design Project II [***] | 3.0 |
| MEM 493 [WI] | Senior Design Project III [***] | 3.0 |
| MEM Fundamental Courses. Select four of the following: | | 12.0 |
| MEM 320 | Fluid Dynamics I | |
| MEM 330 | Mechanics of Materials II | |
| MEM 410 | Thermodynamic Analysis II | |
| MEM 417 | Introduction to Microfabrication | |
| MEM 423 | Mechanics of Vibration | |
| MEM 431 | Machine Design I | |
| MEM 437 | Manufacturing Process I | |
| MEM 440 | Thermal Systems Design | |
| MEM 458 | Micro-Based Control Systems I | |
| MEM 459 | Control Applications of DSP Microprocessors | |
| MEM Open Electives (Any two MEM courses 300 level or higher.) | | 6.0 |
| COE Electives (Any 2 College of Engineering courses, including MEM courses, 300 level or higher.) | | |
| MATE 510 and MATE 512 count as 6.0 credits of COE Electives as shared coursework | | |
| Math/Science Electives (300+ level MATH, PHYS, BIO, CHEM, CHEC, and ENVS.) | | 6.0 |
| Free Electives | | 6.0 |
| **Electives or Optional Concentration** [†] | | |
| **Aerospace Concentration** | | |
| Select five courses (15.0 credits) from the list below: | | |
| MEM 320 | Fluid Dynamics I | |
| MEM 330 | Mechanics of Materials II | |
| MEM 373 | Space Systems Engineering I | |
| MEM 374 | Space Systems Engineering II | |
| MEM 403 | Gas Turbines & Jet Propulsion | |
| MEM 405 | Principles of Combustion I | |
| MEM 406 | Principles of Combustion II | |
| MEM 420 | Aerodynamics | |
| MEM 423 | Mechanics of Vibration | |
| MEM 425 | Aircraft Design & Performance | |
| MEM 426 | Aerospace Structures | |
| MEM 427 | Finite Element Methods | |
| MEM 428 | Introduction to Composites I | |
| MEM 429 | Introduction to Composites II | |
| MEM 451 | Orbital Mechanics | |
| MEM 453 | Aircraft Flight Dynamics & Control I | |
| MEM 454 | Aircarft Flight Dynamics & Control II | |
| MEM 455 | Introduction to Robotics | |
| MEM 459 | Control Applications of DSP Microprocessors | |
| **Energy Concentration** | | |
| Select five courses (15.0 credits) from the list below: | | |
| AE 430 | Control Systems for HVAC | |
| CHE 431 | Fundamentals of Solar Cells | |
| ECEP 354 | Energy Management Principles | |
| ECEP 371 | Introduction to Nuclear Engineering | |
| ECEP 380 | Introduction to Renewable Energy | |
| ECEP 402 | Theory of Nuclear Reactors | |
| ECEP 403 | Nuclear Power Plant Design & Operation | |
| ECEP 406 | Introduction to Radiation Health Principles | |
| ECEP 411 | Power Systems I | |
| ECEP 422 | Power Distribution Automation and Control | |

| | | |
|---|---|---|
| ECEP 480 | Solar Energy Engineering | |
| MEM 320 | Fluid Dynamics I | |
| MEM 330 | Mechanics of Materials II | |
| MEM 371 | Introduction to Nuclear Engineering I | |
| MEM 400 | Internal Combustion Engines | |
| MEM 402 | Power Plant Design | |
| MEM 403 | Gas Turbines & Jet Propulsion | |
| MEM 405 & MEM 406 | Principles of Combustion I and Principles of Combustion II | |
| MEM 410 | Thermodynamic Analysis II | |
| MEM 413 & MEM 414 | HVAC Loads and HVAC Equipment | |
| MEM 415 | Fuel Cell Engines | |
| MEM 445 | Solar Energy Fundamentals | |
| MEM 446 & MEM 447 | Fundamentals of Plasmas I and Fundamentals of Plasmas II | |
| MEM 448 | Applications of Thermal Plasmas | |
| MEM 449 | Applications of Non-Thermal Plasmas | |
| **Master's Degree Courses** | | |
| Required Core Courses: | | |
| MATE 510 | Thermodynamics of Solids | 3.0 |
| MATE 512 | Introduction to Solid State Materials | 3.0 |
| Four additional Selected Core (SC) courses from the following: | | 12.0 |
| MATE 501 | Structure and Properties of Polymers | |
| MATE 507 | Kinetics | |
| MATE 515 | Experimental Technique in Materials | |
| MATE 535 | Numerical Engineering Methods | |
| MATE 563 | Ceramics | |
| MATE 610 | Mechanical Behavior of Solids | |
| MATE 661 | Biomedical Materials I | |
| Any additional related courses if approved by the graduate advisor. | | |
| **Graduate Technical Electives** †† | | **18.0** |
| **Thesis or Alternatives** | | **9.0** |
| 9.0 credits MATE 898 (MS thesis) or 9.0 credits of Technical Electives (TE). | | |
| **Total Credits** | | **228.5** |

* 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.

** General Education Requirements (http://catalog.drexel.edu/undergraduate/collegeofengineering/#generaleducationrequirementstext).

*** If a student chooses to pursue a graduate thesis in place of senior design, they will need to replace the 8.0 undergraduate credits from MEM 491 [WI (http://catalog.drexel.edu/programadmin/1109/)] , MEM 492 [WI (http://catalog.drexel.edu/programadmin/1109/)] , MEM 493 [WI (http://catalog.drexel.edu/programadmin/1109/)] with 8.0 credits from 400+ level MEM courses.

† Students may choose to do a concentration in either Aerospace or Energy. Concentrations consist of 15.0 concentration credits, and do not add additional credits to the program.

†† Of the 18.0 technical elective credits, which may include up to 6.0 credits of MATE 897, at least 9.0 credits must be taken as Materials Science and Engineering (MATE) courses, while the rest may be taken within the College of Engineering, College of Arts and Sciences, or at other colleges if consistent with the student's plan of study (and given advance written approval by their advisor). At least 9.0 of these 18.0 technical elective credits must be exclusive of independent study courses or research credits.
Any graduate-level course in a STEM field (Engineering, Physical Sciences, or Computing/Data), as approved by the MSE Graduate Advisor, excluding MATE 536 (Materials Seminar), MATE 503 (Introduction to Materials Engineering) and MATE 504 (Art of Being a Scientist).

# Sample Plan of Study

## 5 year, 3 coop Co-Terminal

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CHEM 101 | 3.5 | CHEM 102 | 4.5 | BIO 141 | 4.5 | VACATION | |
| ENGL 101 or 111 | 3.0 | CIVC 101 or COOP 101* | 1.0 | COOP 101 or CIVC 101* | 1.0 | | |
| ENGR 111 | 3.0 | ENGL 102 or 112 | 3.0 | ENGL 103 or 113 | 3.0 | | |
| MATH 121 | 4.0 | ENGR 131 or 132 | 3.0 | ENGR 113 | 3.0 | | |
| UNIV E101 | 1.0 | MATH 122 | 4.0 | MATH 200 | 4.0 | | |
| | | PHYS 101 | 4.0 | PHYS 102 | 4.0 | | |
| | **14.5** | | **19.5** | | **19.5** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ENGR 220 | 4.0 | ENGR 210 | 3.0 | COOP EXPERIENCE | | COOP EXPERIENCE | |
| MATH 201 | 4.0 | MATH 210 | 4.0 | | | | |
| MEM 202 | 3.0 | MEM 201 | 3.0 | | | | |
| PHYS 201 | 4.0 | MEM 238 | 4.0 | | | | |
| (UG) General Education Elective** | 3.0 | (UG) General Education Elective** | 4.0 | | | | |
| | **18** | | **18** | | **0** | | **0** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| MEM 230 | 4.0 | MEM 220 | 4.0 | COOP EXPERIENCE | | COOP EXPERIENCE | |
| MEM 310 | 4.0 | MEM 255 | 4.0 | (GR) Graduate MATE Technical Elective*** | 3.0 | | |
| PHIL 315 | 3.0 | MEM 331 | 2.0 | | | | |
| (UG) General Education Elective** | 3.0 | MEM 333 | 3.0 | | | | |
| (GR) Graduate Technical Elective*** | 3.0 | (GR) Graduate MATE Tech Elective*** | 3.0 | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | (GR) Graduate SC Core Course | 3.0 | | | | |
| | **17** | | **19** | | **3** | | **0** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| MEM 311 | 2.0 | MEM 351 | 2.0 | COOP EXPERIENCE | | COOP EXPERIENCE | |
| MEM 345 | 4.0 | MEM 361 | 3.0 | (GR) Graduate Tech Elective*** | 3.0 | (GR) Graduate Tech Elective*** | 3.0 |
| MEM 355 | 4.0 | MEM 391 | 1.0 | | | | |
| MEM 435 | 4.0 | (UG) MEM Fundamental Courses | 6.0 | | | | |
| (GR) Graduate MATE Tech Elective*** | 3.0 | MATE 510 (counts as UG COE Elective) | 3.0 | | | | |
| (GR) Graduate SC Core Course | 3.0 | (GR) Graduate SC Core Course | 3.0 | | | | |
| | **20** | | **18** | | **3** | | **3** |

**Fifth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| CIVE 240 | 3.0 | MEM 492 | 3.0 | HIST 285 | 4.0 |
| MEM 491 | 2.0 | (UG) General Education Elective** | 2.0 | MEM 493 | 3.0 |
| (UG) Free Elective | 3.0 | (UG) Math/ Science elective | 3.0 | (UG) Free Elective | 3.0 |
| (UG) Math/ Science Elective | 3.0 | (UG) MEM Open Elective | 3.0 | (UG) MEM Open Elective | 3.0 |
| (UG) MEM Fundamental Course | 3.0 | (UG) MEM Fundamental Course | 3.0 | MATE 898 or (GR) TECH ELECTIVE | 3.0 |
| MATE 898 or (GR) TECH | 3.0 | MATE 512 (counts as UG COE Elective) | 3.0 | | |
| (GR) Graduate SC Core Course | 3.0 | MATE 898 or (GR) TECH ELECTIVE | 3.0 | | |
| | **20** | | **20** | | **16** |

**Total Credits 228.5**

* 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.

** General Education Electives (http://catalog.drexel.edu/undergraduate/collegeofengineering/#generaleducationrequirementstext)

*** Of the 18.0 technical elective credits, which may include up to 6.0 credits of MATE 897, at least 9.0 credits must be taken as Materials Science and Engineering (MATE) courses, while the rest may be taken within the College of Engineering, College of Arts and Sciences, or at other colleges if consistent with the student's plan of study (and given advance written approval by their advisor). At least 9.0 of these 18.0 technical elective credits must be exclusive of independent study courses or research credits.
Any graduate-level course in a STEM field (Engineering, Physical Sciences, or Computing/Data), as approved by the MSE Graduate Advisor, excluding MATE 536 (Materials Seminar), MATE 503 (Introduction to Materials Engineering) and MATE 504 (Art of Being a Scientist).

# Mechanical Engineering BSME / Peace Engineering MS

## Program Requirements

| | | |
|---|---|---|
| **General Education/Liberal Studies 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 | |
| HIST 285 | Technology in Historical Perspective | 4.0 |
| PHIL 315 | Engineering Ethics | 3.0 |
| UNIV E101 | The Drexel Experience | 1.0 |
| General Education Requirements ** | | 12.0 |
| **Mathematics Requirements** | | |
| MATH 121 | Calculus I | 4.0 |
| MATH 122 | Calculus II | 4.0 |
| MATH 200 | Multivariate Calculus | 4.0 |
| MATH 201 | Linear Algebra | 4.0 |
| MATH 210 | Differential Equations | 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 |
| **Chemistry/Biology Requirements** | | |
| BIO 141 | Essential Biology | 4.5 |
| CHEM 101 | General Chemistry I | 3.5 |
| CHEM 102 | General Chemistry II | 4.5 |
| **Engineering Design Requirements** | | |
| ENGR 111 | Introduction to Engineering Design & Data Analysis | 3.0 |
| ENGR 113 | First-Year Engineering Design | 3.0 |
| ENGR 131 | Introductory Programming for Engineers | 3.0 |
| or ENGR 132 | Programming for Engineers | |
| **Engineering Requirements** | | |
| ENGR 210 | Introduction to Thermodynamics | 3.0 |
| **Engineering Economics Requirements** | | |
| CIVE 240 [WI] | Engineering Economic Analysis | 3.0 |
| **Materials Requirements** | | |
| ENGR 220 | Fundamentals of Materials | 4.0 |
| **Mechanical Requirements** | | |
| MEM 391 | Introduction to Engineering Design Methods | 1.0 |
| MEM 201 | Foundations of Computer Aided Design | 3.0 |
| MEM 202 | Statics | 3.0 |
| MEM 220 | Fluid Mechanics I | 4.0 |
| MEM 230 | Mechanics of Materials I | 4.0 |
| MEM 238 | Dynamics | 4.0 |
| MEM 255 | Introduction to Controls | 4.0 |
| MEM 310 | Thermodynamic Analysis I | 4.0 |
| MEM 311 | Thermal Fluid Science Laboratory | 2.0 |
| MEM 331 | Experimental Mechanics I | 2.0 |
| MEM 333 | Mechanical Behavior of Materials | 3.0 |
| MEM 345 | Heat Transfer | 4.0 |
| MEM 351 | Dynamic Systems Laboratory I | 2.0 |
| MEM 355 | Performance Enhancement of Dynamic Systems | 4.0 |
| MEM 361 | Engineering Reliability | 3.0 |
| MEM 435 | Introduction to Computer-Aided Design and Manufacturing | 4.0 |
| MEM 491 [WI] | Senior Design Project I *** | 2.0 |
| MEM 492 [WI] | Senior Design Project II *** | 3.0 |
| MEM 493 [WI] | Senior Design Project III *** | 3.0 |
| MEM Fundamental Courses. Select four of the following: | | 12.0 |
| MEM 320 | Fluid Dynamics I | |
| MEM 330 | Mechanics of Materials II | |
| MEM 410 | Thermodynamic Analysis II | |
| MEM 417 | Introduction to Microfabrication | |
| MEM 423 | Mechanics of Vibration | |
| MEM 431 | Machine Design I | |
| MEM 437 | Manufacturing Process I | |
| MEM 440 | Thermal Systems Design | |
| MEM 458 | Micro-Based Control Systems I | |
| MEM 459 | Control Applications of DSP Microprocessors | |
| MEM Open Electives (Any two MEM courses 300 level or higher.) | | 6.0 |
| COE Electives (Any 2 College of Engineering courses, including MEM courses, 300 level or higher) | | |
| ENVE 750 and SYSE 540 count as 6.0 credits of COE Electives as shared coursework | | |
| Math/Science Electives (300+ level MATH, PHYS, BIO, CHEM, CHEC, and ENVS.) | | 6.0 |
| Free Electives | | 6.0 |
| **Electives or Optional Concentration †** | | |
| **Aerospace Concentration** | | |
| Select five courses from the list below: | | |
| MEM 320 | Fluid Dynamics I | |
| MEM 330 | Mechanics of Materials II | |
| MEM 373 | Space Systems Engineering I | |
| MEM 374 | Space Systems Engineering II | |
| MEM 403 | Gas Turbines & Jet Propulsion | |
| MEM 405 | Principles of Combustion I | |
| MEM 406 | Principles of Combustion II | |
| MEM 420 | Aerodynamics | |
| MEM 423 | Mechanics of Vibration | |
| MEM 425 | Aircraft Design & Performance | |
| MEM 426 | Aerospace Structures | |
| MEM 427 | Finite Element Methods | |
| MEM 428 | Introduction to Composites I | |
| MEM 429 | Introduction to Composites II | |
| MEM 451 | Orbital Mechanics | |
| MEM 453 | Aircraft Flight Dynamics & Control I | |
| MEM 454 | Aircarft Flight Dynamics & Control II | |
| MEM 455 | Introduction to Robotics | |
| MEM 459 | Control Applications of DSP Microprocessors | |
| **Energy Concentration** | | |
| Select five courses from the list below: | | |
| AE 430 | Control Systems for HVAC | |
| CHE 431 | Fundamentals of Solar Cells | |
| ECEP 354 | Energy Management Principles | |
| ECEP 371 | Introduction to Nuclear Engineering | |
| ECEP 380 | Introduction to Renewable Energy | |
| ECEP 402 | Theory of Nuclear Reactors | |
| ECEP 403 | Nuclear Power Plant Design & Operation | |
| ECEP 406 | Introduction to Radiation Health Principles | |
| ECEP 411 | Power Systems I | |
| ECEP 422 | Power Distribution Automation and Control | |
| ECEP 480 | Solar Energy Engineering | |
| MEM 320 | Fluid Dynamics I | |

| | | |
|---|---|---|
| MEM 330 | Mechanics of Materials II | |
| MEM 371 | Introduction to Nuclear Engineering I | |
| MEM 400 | Internal Combustion Engines | |
| MEM 402 | Power Plant Design | |
| MEM 403 | Gas Turbines & Jet Propulsion | |
| MEM 405 & MEM 406 | Principles of Combustion I and Principles of Combustion II | |
| MEM 410 | Thermodynamic Analysis II | |
| MEM 413 & MEM 414 | HVAC Loads and HVAC Equipment | |
| MEM 415 | Fuel Cell Engines | |
| MEM 445 | Solar Energy Fundamentals | |
| MEM 446 & MEM 447 | Fundamentals of Plasmas I and Fundamentals of Plasmas II | |
| MEM 448 | Applications of Thermal Plasmas | |
| MEM 449 | Applications of Non-Thermal Plasmas | |
| **Master's Degree Requirements** | | |
| **Core Peacebuilding Requirements** | | **12.0** |
| PENG 501 | Peace Engineering Seminar - Fall | |
| PENG 502 | Peace Engineering Seminar - Winter | |
| PENG 503 | Peace Engineering Seminar - Spring | |
| PENG 545 | Introduction to Peacebuilding for Engineers | |
| PENG 550 | Conflict Management for Engineers | |
| PENG 560 | Peacebuilding Skills | |
| **Core Engineering Requirements** | | **9.0** |
| ENVE 727 | Risk Assessment | |
| PROJ 501 | Introduction to Project Management | |
| SYSE 540 | Systems Engineering for Peacebuilding | |
| **Research Methods** | | **9.0** |
| CAEE 501 | Community-Based Design | |
| ENVE 750 | Data-based Engineering Modeling | |
| SCTS 502 | Research Methods | |
| **Experiential Learning** | | **6.0** |
| PENG 600 | Peace Engineering Experiential Learning | |
| **Social Dimensions of Conflict Electives** †† | | **6.0** |
| **Technical Focus Sequences** ‡ | | **6.0** |
| **Total Credits** | | **231.5** |

* 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.

** General Education Requirements (http://catalog.drexel.edu/undergraduate/collegeofengineering/#generaleducationrequirementstext)

*** If a student chooses to pursue a graduate thesis in place of senior design, they will need to replace the 8.0 undergraduate credits from MEM 491 [WI] , MEM 492 [WI] , MEM 493 [WI] with 8.0 credits from 400+ level MEM courses.

† Students may choose to do a concentration in either Aerospace or Energy. Concentrations consist of 15.0 concentration credits and do not add additional credits to the program.

†† **Social Dimensions of Conflict Electives**
Students must complete a minimum of 6.0 credits, at the graduate level, from the following approved courses.
- **Science, Technology and Society electives:** SCTS 501, SCTS 570, SCTS 571, SCTS 615, SCTS 620, SCTS 641, SCTS
- **Politics electives:** ENVP 552, PSCI 510, PSCI 553
- **Education electives**: EDGI 533, EDGI 536, EDGI 550

‡ **Technical Focus Sequences**
Students must complete one sequence of at least 2 courses (6.0 credits) from the following approved sequences.
- **Systems Analysis**: SYSE 688, SYSE 690, EGMT 660
- **Software Development**: CS 502, CS 575, CS 576
- **Machine Learning and AI**: CS 510, CS 613, CS 610
- **Information Security**: INFO 517, INFO 712, INFO 710
- **Database Management**: INFO 605, INFO 606, INFO 607
- **Information Retrieval**: INFO 605, INFO 624, INFO 633
- **Data Mining**: INFO 605, INFO 634, INFO 633
- **Web and Mobile Development**: INFO 552, INFO 655
- **Game Design**: DIGM 505, DIGM 506
- **Serious gaming**: DIGM 530, DIGM 531
- **Interactivity:** DIGM 520, DIGM 521
- **WASH:** CIVE 564, CIVE 567, CIVE 561
- **Power Systems and Distribution:** ECEP 501, ECEP 502, ECEP 601

# Sample Plan of Study

## 5 year, 3 coop Co-Terminal

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CHEM 101 | 3.5 | CHEM 102 | 4.5 | BIO 141 | 4.5 | VACATION | |
| ENGL 101 or 111 | 3.0 | COOP 101 or CIVC 101* | 1.0 | CIVC 101 or COOP 101* | 1.0 | | |
| ENGR 111 | 3.0 | ENGL 102 or 112 | 3.0 | ENGL 103 or 113 | 3.0 | | |
| MATH 121 | 4.0 | ENGR 131 or 132 | 3.0 | ENGR 113 | 3.0 | | |
| UNIV 101 | 1.0 | MATH 122 | 4.0 | MATH 200 | 4.0 | | |
| | | PHYS 101 | 4.0 | PHYS 102 | 4.0 | | |
| | **14.5** | | **19.5** | | **19.5** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | ENGR 220 | 4.0 | ENGR 210 | 3.0 |
| | | | | MATH 201 | 4.0 | MATH 210 | 4.0 |
| | | | | MEM 202 | 3.0 | MEM 201 | 3.0 |
| | | | | PHYS 201 | 4.0 | MEM 238 | 4.0 |
| | | | | (UG) General Education Requirement** | 3.0 | (UG) Free Elective | 3.0 |
| | | | | | | (UG) General Education Requiremer | 3.0 |
| | **0** | | **0** | | **18** | | **20** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | HIST 285 | 4.0 | MEM 220 | 4.0 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| (GR) Social Dimensions Elective[†] | 3.0 | | | MEM 230 | 4.0 | MEM 255 | 4.0 |
| | | | | MEM 310 | 4.0 | MEM 331 | 2.0 |
| | | | | PENG 545 | 3.0 | MEM 333 | 3.0 |
| | | | | PHIL 315 | 3.0 | PENG 550 | 3.0 |
| | | | | | | (GR) Social Dimensions Elective[†] | 3.0 |
| | **3** | | **0** | | **18** | | **19** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | MEM 311 | 2.0 | MEM 351 | 2.0 |
| PENG 600 | 3.0 | PENG 600 | 3.0 | MEM 345 | 4.0 | MEM 361 | 3.0 |
| | | | | MEM 355 | 4.0 | MEM 391 | 1.0 |
| | | | | MEM 435 | 4.0 | (UG) MEM Fundamental Electives | 6.0 |
| | | | | PROJ 501 | 3.0 | (GR) Technical Focus Courses[††] | 6.0 |
| | | | | SYSE 540 (counts as UG COE Elective) | 3.0 | | |
| | **3** | | **3** | | **20** | | **18** |

**Fifth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| CIVE 240 | 3.0 | MEM 492[***] | 3.0 | MEM 493[***] | 3.0 |
| MEM 491[***] | 2.0 | (UG) Math/ Science Elective | 3.0 | (UG) Free Elective | 3.0 |
| (UG) General Education Requirement[**] | 3.0 | (UG) MEM Elective | 3.0 | (UG) General Education Requirement[**] | 3.0 |
| (UG) Math/ Science Elective | 3.0 | (UG) MEM Fundamental Elective | 3.0 | (UG) MEM Elective | 3.0 |
| (UG) MEM Fundamental Elective | 3.0 | ENVE 727 | 3.0 | CAEE 501 | 3.0 |
| ENVE 750 (counts as UG COE Elective) | 3.0 | PENG 502 | 1.0 | PENG 503 | 1.0 |
| PENG 501 | 1.0 | SCTS 502 | 3.0 | PENG 560 | 3.0 |
| | **18** | | **19** | | **19** |

**Total Credits 231.5**

* 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.

** General Education Requirements (http://catalog.drexel.edu/undergraduate/collegeofengineering/#generaleducationrequirementstext)

*** If a student chooses to pursue a graduate thesis in place of senior design, they will need to replace the 8.0 undergraduate credits from MEM 491 [WI] , MEM 492 [WI] , MEM 493 [WI] with 8.0 credits from 400+ level MEM courses.

† **Social Dimensions of Conflict Electives**
Students must complete a minimum of 6.0 credits, at the graduate level, from the following approved courses.

- **Science, Technology and Society electives:** SCTS 501, SCTS 570, SCTS 571, SCTS 615, SCTS 620, SCTS 641, SCTS
- **Politics electives:** ENVP 552, PSCI 510, PSCI 553
- **Education electives**: EDGI 533, EDGI 536, EDGI 550

†† **Technical Focus Sequences**
Students must complete one sequence of at least 2 courses (6.0 credits) from the following approved sequences.

- **Systems Analysis**: SYSE 688, SYSE 690, EGMT 660
- **Software Development**: CS 502, CS 575, CS 576
- **Machine Learning and AI**: CS 510, CS 613, CS 610
- **Information Security**: INFO 517, INFO 712, INFO 710
- **Database Management**: INFO 605, INFO 606, INFO 607
- **Information Retrieval**: INFO 605, INFO 624, INFO 633
- **Data Mining**: INFO 605, INFO 634, INFO 633
- **Web and Mobile Development**: INFO 552, INFO 655
- **Game Design**: DIGM 505, DIGM 506
- **Serious gaming**: DIGM 530, DIGM 531
- **Interactivity:** DIGM 520, DIGM 521
- **WASH:** CIVE 564, CIVE 567, CIVE 561
- **Power Systems and Distribution:** ECEP 501, ECEP 502, ECEP 601

# Nursing Leadership in Health Systems Management MSN / Business Administration MBA

## Program Requirements

| | | |
|---|---|---|
| **MSN Requirements** | | |
| **MSN Core Courses** | | |
| NURS 500 [WI] | Confronting Issues in Contemporary Health Care Environments | 3.0 |
| NURS 502 | Advanced Ethical Decision Making in Health Care | 3.0 |
| NURS 544 | Quality and Safety in Healthcare | 3.0 |
| RSCH 503 | Research Methods and Biostatistics | 3.0 |
| RSCH 504 | Evaluation and Translation of Health Research | 3.0 |
| **Major Courses** | | |
| PROJ 501 | Introduction to Project Management | 3.0 |
| NUPR 663 | Communication and Self-Awareness for Leadership | 4.5 |
| NUPR 664 | The Economics and Business of Healthcare | 4.5 |
| NUPR 665 | Managing Operations and Human Resources for Quality Outcomes of Care Delivery | 4.5 |
| **Practicum Course** | | |
| NURS 666 | Leadership in Health Systems Management Practicum ((6 Credits Shared)) | 6.0 |
| **MSN Electives** | | |
| MSN Electives (7.5 total, 6 credits of which are satisfied by MBA Electives) ** | | 1.5 |
| **MBA Requirements** | | |
| 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 |
| MBA Free Electives (3 credits Satisfied by NURS 666 Practicum) * | | 9.0 |
| Concentration | | 6.0 |
| Experiential Requirement (3 Credits Satisfied by NURS 666 Practicum) | | |
| 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 | |
| **Total Credits** | | **82.0** |

* MBA Electives include any courses in Accounting (ACCT), Statistics (STAT), Economics (ECON), Finance (FIN), General Business (BUSN), International Business (INTB), Legal Studies (BLAW), Management (MGMT), Management Information Systems (MIS), Marketing (MKTG), Operations Management (OPM), Operations Research (OPR), Organizational Behavior (ORGB), Production Operations Management (POM), Sport Management (SMT) or Taxation (TAX), with course number range between 500-799.

** MSN Electives include any course in Nursing (NURS, NUPR) or Interprofessional Studies (IPS) with course number ranging 500-699.

## Writing-Intensive Course Requirement

A [WI], Writing Intensive, next to a graduate course in this catalog indicates that the graduate course is a writing intensive course. The graduate course is a required course in your curriculum.

## Sample Plan of Study

**First Year (Part-Time)**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ACCT 510 | 2.0 | FIN 601 | 3.0 | MGMT 530 | 2.0 | MGMT 510 | 3.0 |
| NURS 500 | 3.0 | NURS 502 | 3.0 | NURS 544 | 3.0 | RSCH 503 | 3.0 |
| | **5** | | **6** | | **5** | | **6** |

**Second Year (Part-Time)**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| MKTG 510 | 2.0 | NUPR 663 | 4.5 | NUPR 664 | 4.5 | MBA Electives (Satisfies MSN Elective) | 6.0 |
| RSCH 504 | 3.0 | MBA Elective | 3.0 | STAT 510 | 2.0 | | |
| | **5** | | **7.5** | | **6.5** | | **6** |

**Third Year (Part-Time)**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| ORGB 511 | 3.0 | MGMT 520 | 2.0 | POM 510 | 2.0 | NUPR 665 | 4.5 |
| PROJ 501 | 3.0 | MBA Concentrati | 3.0 | MBA Concentrati | 3.0 | | |
| | **6** | | **5** | | **5** | | **4.5** |

**Fourth Year (Part-Time)**

| Fall | Credits | Winter | Credits |
|---|---|---|---|
| BLAW 510 | 1.0 | MGMT 770 | 2.0 |
| ECON 601 | 3.0 | NURS 666 (Satisfies 3 Credits MBA Experiential and 3 Credits MBA Elective) | 6.0 |
| ORGB 520 | 1.0 | | |
| MSN Elective | 1.5 | | |
| | **6.5** | | **8** |

**Total Credits 82**

# Political Science BA / Law JD

## Program 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** | | **16.0** |
| 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 | |
| **Political Science Electives** | | **32.0** |
| Choose up to eight 200-level of above PSCI courses | | |
| **Free electives fulfilled by 22.0 semester credits from first-year law courses (Law School Requirements)** | | **33.0** |
| Law School required courses | | |
| 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 Law | |
| 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 654 | Lawyering Practice Seminar |
| LAW 933S | Co-op Intensive |
| or LAW 654 | 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 944 | Civil Litigation Clinic II |
| or LAW 656 | 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 951 | Community Lawyering Clinic II |
| or LAW 656 | 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 | | |
| | **16** | | **16** | | **17** | | **0** |

**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 | | |
| | **15** | | **17** | | **17** | | **0** |

**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 | Internationa Studies Elective | 3.0 | Social Science | 3.0 | | |
| Diversity Elective | 3.0 | Humanities | 3.0 | International Studies Elevtive | 3.0 | | |
| | **16** | | **18** | | **16** | | **0** |

**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 |
| | **15** | | **14** |

**Fifth Year**

| Fall | Credits | Spring | Credits |
|---|---|---|---|
| LAW 560S | 4.0 | LAW 830S | 2.0 |
| Law Requirements/Electives | 10.0 | Law Requirements/ Electives | 12.0 |
| | **14** | | **14** |

**Sixth Year**

| Fall | Credits | Spring | Credits |
|---|---|---|---|
| Law Requirements/Electives | 14.0 | Law Requirements/ Electives | 14.0 |
| | **14** | | **14** |

**Total Credits 85**

# Psychology BS / Law JD

## Program Requirements

| | | |
|---|---|---|
| **College Requirements** | | |
| CIVC 101 | Introduction to Civic Engagement | 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 | |
| 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 |
| **Departmental Requirements** | | |
| **General Psychology Requirements** | | |
| PSY 111 | Pre-Professional General Psychology I * | 3.0 |
| PSY 112 | Pre-Professional General Psychology II * | 3.0 |
| **100-Level Requirements** | | |
| Select two of the following: | | 6.0 |
| PSY 120 | Developmental Psychology | |
| PSY 140 | Approaches to Personality | |
| PSY 150 | Introduction to Social Psychology | |
| **Required Psychology Courses** | | |
| 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 |
| **Advanced Psychology Electives** | | |
| 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 |
| **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 | | |

* 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) or check with their advisor.

| Upper-Level Writing (WUL) Courses (may also be used as elective once requirement is filled) | | |
|---|---|---|
| LAW 610S | Reproductive Rights Law | 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 1 | | Select one of the following: | 4.0 | Fine Arts Elective | 3.0 | | |
| BIO 107 & BIO 108 | | BIO 109 & BIO 110 | | | | | |
| PHYS 1 & PHYS | | CHEM 1 | | | | | |
| | | PHYS 175 & PHYS 176 | | | | | |
| | **15** | | **18** | | **16** | | **0** |

**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 | | |
| | **15-16** | | **15** | | **15** | | **0** |

**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 | | | | |
| | **13** | | **16** | | **14** | | **0** |

**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 |
| | **15** | | **14** |

**Fifth Year**

| Fall | Credits | Spring | Credits |
|---|---|---|---|
| LAW 560S | 4.0 | LAW 830S | 2.0 |

| | | | |
|---|---|---|---|
| LAW Reqts/Electives | 10.0 | LAW Reqts/ Electives | 12.0 |
| | **14** | | **14** |

**Sixth Year**

| **Fall** | **Credits** | **Spring** | **Credits** |
|---|---|---|---|
| LAW Reqts/Electives | 14.0 | LAW Reqts/ Electives | 14.0 |
| | **14** | | **14** |

**Total Credits 85**

# Sociology BA / Law JD

## Program 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 |
| 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 |
| **Sociology Core Requirements** | | **3.0** |
| SOC 101 | Introduction to Sociology | |
| **Required Major Capstone** | | **4.0** |
| SOC 450 | Capstone in Sociology | |
| **Theory Sequence** | | **8.0** |
| SOC 355 [WI] | Classical Social Theory ([WI]) | |
| SOC 356 [WI] | Contemporary Social Theory ([WI]) | |
| **Methods Sequence** | | **8.0** |
| SOC 241 | Research Design: Qualitative Methods | |
| SOC 242 | Research Design: Quantitative Methods | |
| **Required Sociology Electives** | | **40.0** |
| 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 |
| **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 | | |
| Upper level writing (WUL) courses (may also be used as electives once requirement is fulfilled): | | |
| LAW 610S | Reproductive Rights Law | 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 |
| 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 | | | | | | |
| | **17** | | **15** | | **16** | | **0** |

**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 | | |
| | **15** | | **17** | | **17** | | **0** |

**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 | | |
| Internationa 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 | | |
| | **17** | | **17** | | **16** | | **0** |

**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 |
| | **15** | | **14** |

**Fifth Year**

| Fall | Credits | Spring | Credits |
|---|---|---|---|
| LAW 560S | 4.0 | LAW 830S | 2.0 |
| Law Requirements/Electives | 10.0 | Law Requirements/ Electives | 12.0 |
| | **14** | | **14** |

**Sixth Year**

| Fall | Credits | Spring | Credits |
|---|---|---|---|
| Law Requirements/Electives | 14.0 | Law Requirements/ Electives | 14.0 |
| | **14** | | **14** |

**Total Credits 85**

# Teacher Education, English BS / Teaching Learning and Curriculum MS

## Degree Requirements

| | | |
|---|---|---|
| **General Education Requirements** | | |
| ARTH 101 | History of Art I | 3.0 |
| CIVC 101 | Introduction to Civic Engagement | 1.0 |
| COOP 101 | Career Management and Professional Development | 1.0 |
| COM 230 | Techniques of Speaking | 3.0 |
| ECON 201 | Principles of Microeconomics | 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 | |
| ENVS 260 | Environmental Science and Society | 3.0 |
| Select one American History course: | | 4.0 |
| HIST 201 | United States History to 1815 | |
| HIST 202 | United States History, 1815-1900 | |
| HIST 203 | United States History since 1900 | |
| INFO 101 | Introduction to Computing and Security Technology | 3.0 |
| LING 101 | Introduction to Linguistics | 3.0 |
| MATH 171 | Introduction to Analysis A | 3.0 |
| MATH 172 | Introduction to Analysis B | 3.0 |
| MATH 173 | Introduction to Analysis C | 3.0 |
| or MATH 107 | Probability and Statistics for Liberal Arts | |
| MUSC 130 | Introduction to Music | 3.0 |
| NFS 100 | Nutrition, Foods, and Health | 2.0 |
| NFS 101 | Introduction to Nutrition & Food | 1.0 |
| PHYS 131 | Survey of the Universe | 3.0 |
| PSY 101 | General Psychology I | 3.0 |
| PSY 320 [WI] | Educational Psychology | 3.0 |
| SOC 335 | Sociology of Education | 3.0 |
| WRIT 225 [WI] | Creative Writing | 3.0 |
| WRIT 301 [WI] | Writing Poetry | 3.0 |
| UNIV T101 | The Drexel Experience | 1.0 |
| **Science Sequence** | | **6.0-8.0** |
| Select one of the following: | | |
| CHEM 111 | General Chemistry I | |
| CHEM 112 | General Chemistry II | |
| or | | |
| PHYS 170 | Electricity and Motion | |
| PHYS 175 | Light and Sound | |
| **English Requirements (option to minor in English)** | | |
| ENGL 200 [WI] | Classical to Medieval Literature | 3.0 |
| ENGL 201 | Renaissance to the Enlightenment | 3.0 |
| ENGL 204 | Post-Colonial Literature | 3.0 |
| ENGL 205 [WI] | American Literature I | 3.0 |
| ENGL 206 [WI] | American Literature II | 3.0 |
| ENGL 211 [WI] | British Literature I | 3.0 |
| ENGL 212 | British Literature II | 3.0 |
| ENGL 304 | Young Adult Fiction | 3.0 |
| ENGL 325 | Topics in World Literature | 3.0 |
| ENGL 335 | Mythology | 3.0 |
| ENGL 355 [WI] | Women and Literature | 3.0 |
| **Pedagogy Requirements** | | |
| EDEX 142 | Special Education Foundations: Referral and Assessment | 3.0 |
| EDEX 344 | Inclusionary Practices for Exceptional Students | 3.0 |
| EDEX 368 | Literacy and Content Skill Development PK-12 | 3.0 |
| EDLT 325 | Design for Learning with Digital Media | 3.0 |
| EDUC 101 | Foundations in Education I: A Historical and Philosophical Perspective | 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 113 | Organizational Structure of Secondary Schools | 3.0 |
| EDUC 123 | Adolescent Development | 3.0 |
| EDUC 205 | Sophomore Pedagogy Seminar | 1.0 |
| EDUC 216 | Diversity and Today's Teacher | 3.0 |
| EDUC 223 | Teaching the Middle School Child | 3.0 |
| EDUC 305 [WI] | Junior Pedagogy Seminar | 1.0 |
| EDUC 308 | Creating a Positive Classroom Climate | 3.0 |
| EDUC 312 | Educational Policy, Law & Advocacy | 3.0 |
| EDUC 316 | Teaching in Urban Contexts | 3.0 |
| EDUC 322 | Evaluation of Instruction | 3.0 |
| EDUC 324 | Current Research in Curriculum & Instruction | 3.0 |
| EDUC 358 | English Teaching Methods | 3.0 |
| EDUC 365 | Foundations in Instructing English Language Learners | 3.0 |
| EDUC 405 | Senior Pedagogy Seminar | 1.0 |
| **Student Teaching Experiences** | | |
| EDUC 409 | Student Teaching Seminar I | 9.0 |
| EDUC 410 [WI] | Student Teaching | 9.0 |
| **MS in TLC Core** | | |
| EDAM 714 | Instructional and Curriculum Leadership | 3.0 |
| EDLT 532 | Designing Virtual Communities for Staff Development - Non-Field Experience | 3.0 |
| EDUC 524 | Current Research in Curriculum & Instruction | 3.0 |
| EDUC 530 | Advanced Techniques in Instruction & Assessment | 3.0 |
| EDUC 609 | Language & Culture in Education | 3.0 |
| **Policy, Law & Organization Courses (Choose 2)** | | **3.0** |
| EDPO 620 | Education Policy: Concepts, Issues, and Applications | 3.0 |
| or EDAM 705 | School Law and Politics | |
| or EDUC 804 | Program Evaluation in Organizations | |
| **MS in TLC Capstone Sequence** | | |
| EDU 780 | Capstone Research | 3.0 |
| EDUL 780 | Lesson Study Capstone Course I | 3.0 |
| or EDUT 780 | Thesis Capstone Course I | |
| or EDUP 780 | Practitioner Capstone Course I | |
| EDUL 781 | Lesson Study Capstone Course II | 3.0 |
| or EDUT 780 | Thesis Capstone Course I | |
| or EDUP 780 | Practitioner Capstone Course I | |
| **Professional or Concentration Electives** | | **15.0** |
| **Total Credits** | | **224.0-226.0** |

## Sample Plan of Study

### 4 year, 1 co-op

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| CHEM 111 or PHYS 170 | 3.0-4.0 | ARTH 101 | 3.0 | EDEX 142 | 3.0 | VACATION | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| EDUC 101 | 3.0 | CHEM 112 or PHYS 175 | 3.0-4.0 | EDUC 108 | 1.0 | | |
| EDUC 106 | 1.0 | CIVC 101 | 1.0 | EDUC 123 | 3.0 | | |
| ENGL 101 or 111 | 3.0 | EDUC 107 | 1.0 | ENGL 103 or 113 | 3.0 | | |
| MATH 171 | 3.0 | EDUC 113 | 3.0 | MATH 173 | 3.0 | | |
| PSY 101 | 3.0 | ENGL 102 or 112 | 3.0 | PHYS 131 | 3.0 | | |
| UNIV T101 | 1.0 | MATH 172 | 3.0 | | | | |
| | **17-18** | | **17-18** | | **16** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP 101 | 1.0 | EDUC 216 | 3.0 | COM 230 | 3.0 | ECON 201 | 4.0 |
| EDEX 344 | 3.0 | ENGL 201 | 3.0 | EDEX 368 | 3.0 | EDLT 325 | 3.0 |
| ENGL 200 | 3.0 | INFO 101 | 3.0 | EDUC 308 | 3.0 | EDUC 322 | 3.0 |
| EDUC 205 | 1.0 | LING 101 | 3.0 | EDUC 305 | 1.0 | HIST 201, 202, or 203 | 4.0 |
| EDUC 223 | 3.0 | NFS 100 & NFS 101 | 3.0 | ENVS 260 | 3.0 | | |
| EDUC 365 | 3.0 | WRIT 301 | 3.0 | | | | |
| WRIT 225 | 3.0 | | | | | | |
| | **17** | | **18** | | **13** | | **14** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | EDUC 316 | 3.0 | EDUC 312 | 3.0 |
| EDUC 358 | 3.0 | ENGL 211 | 3.0 | ENGL 304 | 3.0 | EDUC 324 | 3.0 |
| | | | | PSY 320 | 3.0 | ENGL 212 | 3.0 |
| | | | | SOC 335 | 3.0 | ENGL 335 | 3.0 |
| | | | | (GR) MS Professional Elective | 3.0 | (GR) MS Professional Elective | 3.0 |
| | **3** | | **3** | | **15** | | **15** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| EDUC 409 | 9.0 | EDUC 410 | 9.0 | EDUC 405 | 1.0 | EDAM 705 | 3.0 |
| ENGL 204 | 3.0 | ENGL 335 | 3.0 | ENGL 205 | 3.0 | EDUC 530 | 3.0 |
| EDPO 620 or EDUC 804 | 3.0 | EDLT 532 | 3.0 | ENGL 206 | 3.0 | EDUC 524 | 3.0 |
| | | | | ENGL 325 | 3.0 | | |
| | | | | MUSC 130 | 3.0 | | |
| | | | | EDAM 714 | 3.0 | | |
| | | | | Student converts to Grad status at the end of the Spring term | | | |
| | **15** | | **15** | | **16** | | **9** |

**Fifth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| EDU 780 | 3.0 | EDUL 780, EDUT 780, or EDUP 780 | 3.0 | EDUL 781, EDUT 780, or EDUP 780 | 3.0 |
| EDUC 609 | 3.0 | (GR) MS Professiona Elective | 3.0 | (GR) MS Professiona Elective | 3.0 |
| (GR) MS Professional Elective | 3.0 | | | | |
| | **9** | | **6** | | **6** |

**Total Credits 224-226**

# Teacher Education, Secondary Mathematics BS / Teaching, Learning, and Curriculum MS

## Program Requirements

| | | |
|---|---|---|
| **General Education Requirements** | | |
| CIVC 101 | Introduction to Civic Engagement | 1.0 |
| COOP 101 | Career Management and Professional Development | 1.0 |
| CS 150 | Computer Science Principles | 3.0 |
| ECON 201 | Principles of Microeconomics | 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 | |
| English elective course between 200-329 | | 3.0 |
| HIST 289 | History of Science: Enlightenment to Modernity | 4.0 |
| PHIL 251 | Ethics | 3.0 |
| PSY 101 | General Psychology I | 3.0 |
| PSY 320 [WI] | Educational Psychology | 3.0 |
| UNIV T101 | The Drexel Experience | 1.0 |
| **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 205 | Survey of Geometry | 3.0 |
| MATH 210 | Differential Equations | 4.0 |
| MATH 220 [WI] | Introduction to Mathematical Reasoning | 3.0 |
| MATH 221 | Discrete Mathematics | 3.0 |
| MATH 311 | Probability and Statistics I | 4.0 |
| MATH 312 | Probability and Statistics II | 4.0 |
| MATH 331 | Abstract Algebra I | 4.0 |
| **Science Requirements** | | |
| BIO 107 | Cells, Genetics & Physiology | 3.0 |
| BIO 108 | Cells, Genetics and Physiology Laboratory | 1.0 |
| BIO 109 | Biological Diversity, Ecology & Evolution | 3.0 |
| BIO 110 | Biological Diversity, Ecology and Evolution Laboratory | 1.0 |
| CHEM 101 | General Chemistry I | 3.5 |
| CHEM 102 | General Chemistry II | 4.5 |
| ENVS 260 | Environmental Science and Society | 3.0 |
| PHYS 101 | Fundamentals of Physics I | 4.0 |
| PHYS 102 | Fundamentals of Physics II | 4.0 |
| **Pedagogy Requirements** | | |
| EDEX 142 | Special Education Foundations: Referral and Assessment | 3.0 |
| EDEX 344 | Inclusionary Practices for Exceptional Students | 3.0 |
| EDEX 368 | Literacy and Content Skill Development PK-12 | 3.0 |
| EDLT 325 | Design for Learning with Digital Media | 3.0 |
| EDLT 326 | Technology Applications for Learning | 3.0 |
| EDUC 101 | Foundations in Education I: A Historical and Philosophical Perspective | 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 113 | Organizational Structure of Secondary Schools | 3.0 |
| EDUC 123 | Adolescent Development | 3.0 |
| EDUC 205 | Sophomore Pedagogy Seminar | 1.0 |
| EDUC 216 | Diversity and Today's Teacher | 3.0 |
| EDUC 223 | Teaching the Middle School Child | 3.0 |
| EDUC 305 [WI] | Junior Pedagogy Seminar | 1.0 |
| EDUC 308 | Creating a Positive Classroom Climate | 3.0 |
| EDUC 312 | Educational Policy, Law & Advocacy | 3.0 |
| EDUC 316 | Teaching in Urban Contexts | 3.0 |
| EDUC 322 | Evaluation of Instruction | 3.0 |
| EDUC 324 | Current Research in Curriculum & Instruction | 3.0 |
| EDUC 365 | Foundations in Instructing English Language Learners | 3.0 |
| EDUC 405 | Senior Pedagogy Seminar | 1.0 |
| MTED 419 | Teaching Secondary Mathematics | 3.0 |
| MTED 428 | Cultural and Historical Significance of Mathematics | 3.0 |
| **Student Teaching Experience** | | |
| EDUC 409 | Student Teaching Seminar I | 9.0 |
| EDUC 410 [WI] | Student Teaching | 9.0 |
| **MS in TLC Core** | | |
| EDAM 714 | Instructional and Curriculum Leadership | 3.0 |
| EDLT 532 | Designing Virtual Communities for Staff Development - Non-Field Experience | 3.0 |
| EDUC 524 | Current Research in Curriculum & Instruction | 3.0 |
| EDUC 530 | Advanced Techniques in Instruction & Assessment | 3.0 |
| EDUC 609 | Language & Culture in Education | 3.0 |
| **Policy, Law & Organization Courses (Choose 2)** | | **3.0** |
| EDPO 620 | Education Policy: Concepts, Issues, and Applications | 3.0 |
| or EDAM 705 | School Law and Politics | |
| or EDUC 804 | Program Evaluation in Organizations | |
| **MS in TLC Capstone Sequence** | | |
| EDU 780 | Capstone Research | 3.0 |
| EDUL 780 | Lesson Study Capstone Course I | 3.0 |
| or EDUT 780 | Thesis Capstone Course I | |
| or EDUP 780 | Practitioner Capstone Course I | |
| EDUL 781 | Lesson Study Capstone Course II | 3.0 |
| or EDUT 780 | Thesis Capstone Course I | |
| or EDUP 780 | Practitioner Capstone Course I | |
| **Professional or Concentration Electives** | | **15.0** |
| **Total Credits** | | **230.0** |

## Sample Plan of Study

### 4 year, 1 co-op

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| EDUC 101 | 3.0 | CIVC 101 | 1.0 | BIO 107 | 3.0 | VACATION | |
| EDUC 106 | 1.0 | EDUC 107 | 1.0 | BIO 108 | 1.0 | | |
| ENGL 101 or 111 | 3.0 | EDUC 113 | 3.0 | EDEX 142 | 3.0 | | |
| MATH 121 | 4.0 | ENGL 102 or 112 | 3.0 | EDUC 108 | 1.0 | | |
| PSY 101 | 3.0 | MATH 122 | 4.0 | EDUC 123 | 3.0 | | |
| UNIV 101 | 1.0 | PHIL 251 | 3.0 | ENGL 103 or 113 | 3.0 | | |
| | | | | MATH 123 | 4.0 | | |
| | **15** | | **15** | | **18** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP 101 | 1.0 | ECON 201 | 4.0 | CHEM 101 | 3.5 | BIO 109 | 3.0 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| EDEX 344 | 3.0 | EDUC 216 | 3.0 | EDEX 368 | 3.0 | BIO 110 | 1.0 |
| EDUC 205 | 1.0 | INFO 108 or CS 150 | 3.0 | EDUC 305 | 1.0 | CHEM 102 | 4.5 |
| EDUC 223 | 3.0 | MATH 201 | 4.0 | EDUC 308 | 3.0 | EDLT 325 | 3.0 |
| EDUC 365 | 3.0 | | | MATH 205 | 3.0 | EDUC 322 | 3.0 |
| HIST 289 | 4.0 | | | MATH 210 | 4.0 | MTED 428 | 3.0 |
| MATH 200 | 4.0 | | | | | | |
| | **19** | | **14** | | **17.5** | | **17.5** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | EDLT 326 | 3.0 | EDUC 312 | 3.0 |
| MTED 419 | 3.0 | | | EDUC 316 | 3.0 | EDUC 324 | 3.0 |
| | | | | MATH 220 | 3.0 | MATH 221 | 3.0 |
| | | | | PHYS 101 | 4.0 | PHYS 102 | 4.0 |
| | | | | (GR) MS Professional Elective | 3.0 | (GR) MS Professional Elective | 3.0 |
| | **3** | | **0** | | **16** | | **16** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| EDUC 409 | 9.0 | EDUC 410 | 9.0 | EDUC 405 | 1.0 | EDAM 705 | 3.0 |
| MATH 331 | 4.0 | MATH 311 | 4.0 | ENGL 200 - ENGL 395 | 3.0 | EDUC 524 | 3.0 |
| EDPO 620, EDAM 705, or EDUC 804 | 3.0 | EDLT 532 | 3.0 | ENVS 260 | 3.0 | EDUC 530 | 3.0 |
| | | | | MATH 312 | 4.0 | | |
| | | | | PSY 320 | 3.0 | | |
| | | | | EDAM 714 | 3.0 | | |
| | | | | Student converts to Grad status at the end of the Spring term | | | |
| | **16** | | **16** | | **17** | | **9** |

**Fifth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| EDU 780 | 3.0 | EDUL 780, EDUT 780, or EDUP 780 | 3.0 | EDUL 781, EDUT 780, or EDUP 780 | 3.0 |
| EDUC 609 | 3.0 | (GR) MS Professiona Elective | 3.0 | (GR) MS Professiona Elective | 3.0 |
| (GR) MS Professional Elective | 3.0 | | | | |
| | **9** | | **6** | | **6** |

**Total Credits 230**

# Teacher Education, Secondary Social Studies BS / Teaching, Learning and Curriculum MS

## Program Requirements

| | | |
|---|---|---|
| **General Education Requirements** | | |
| ANTH 101 | Introduction to Cultural Diversity | 3.0 |
| ANTH 110 | Human Past: Anthropology and Prehistoric Archeology | 3.0 |
| 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 | |
| ENGL 205 [WI] | American Literature I | 3.0 |
| MATH 171 | Introduction to Analysis A | 3.0 |
| MATH 172 | Introduction to Analysis B | 3.0 |
| MATH 173 | Introduction to Analysis C | 3.0 |
| or MATH 107 | Probability and Statistics for Liberal Arts | |
| PSY 101 | General Psychology I | 3.0 |
| PSY 150 | Introduction to Social Psychology | 3.0 |
| PSY 320 [WI] | Educational Psychology | 3.0 |
| SOC 101 | Introduction to Sociology | 3.0 |
| SOC 210 | Race, Ethnicity and Social Inequality | 4.0 |
| SOC 335 | Sociology of Education | 3.0 |
| UNIV T101 | The Drexel Experience | 1.0 |
| **Social Studies Content Requirments:** | | |
| Select two: | | 8.0 |
| HIST 161 | Themes in World Civilization I | |
| HIST 162 | Themes in World Civilization II | |
| HIST 163 | Themes in World Civilization III | |
| HIST 201 | United States History to 1815 | 4.0 |
| HIST 202 | United States History, 1815-1900 | 4.0 |
| HIST 203 | United States History since 1900 | 4.0 |
| HIST 212 | Themes in African-American History | 4.0 |
| HIST 214 | United States Civil Rights Movement | 4.0 |
| HIST 275 | History of Pennsylvania | 3.0 |
| PSCI 110 | American Government | 4.0 |
| PSCI 140 | Comparative Politics I | 4.0 |
| PSCI 150 | International Politics | 4.0 |
| PSCI 220 | Constitutional Law I | 4.0 |
| PSCI 240 | Comparative Politics II | 4.0 |
| PSCI 375 | Politics of Immigration | 4.0 |
| **Pedagogy Requirements** | | |
| EDEX 142 | Special Education Foundations: Referral and Assessment | 3.0 |
| EDEX 344 | Inclusionary Practices for Exceptional Students | 3.0 |
| EDEX 368 | Literacy and Content Skill Development PK-12 | 3.0 |
| EDLT 325 | Design for Learning with Digital Media | 3.0 |
| EDUC 101 | Foundations in Education I: A Historical and Philosophical Perspective | 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 112 | Integrative Instruction: Focus on World Geography | 3.0 |
| EDUC 113 | Organizational Structure of Secondary Schools | 3.0 |
| EDUC 123 | Adolescent Development | 3.0 |
| EDUC 205 | Sophomore Pedagogy Seminar | 1.0 |
| EDUC 216 | Diversity and Today's Teacher | 3.0 |
| EDUC 223 | Teaching the Middle School Child | 3.0 |
| EDUC 305 [WI] | Junior Pedagogy Seminar | 1.0 |
| EDUC 308 | Creating a Positive Classroom Climate | 3.0 |
| EDUC 312 | Educational Policy, Law & Advocacy | 3.0 |
| EDUC 316 | Teaching in Urban Contexts | 3.0 |
| EDUC 322 | Evaluation of Instruction | 3.0 |
| EDUC 324 | Current Research in Curriculum & Instruction | 3.0 |
| EDUC 356 | Secondary Social Studies Methods | 3.0 |
| EDUC 365 | Foundations in Instructing English Language Learners | 3.0 |
| EDUC 405 | Senior Pedagogy Seminar | 1.0 |
| **Student Teaching Experience** | | |
| EDUC 409 | Student Teaching Seminar I | 9.0 |
| EDUC 410 [WI] | Student Teaching | 9.0 |
| **MS in TLC Core** | | |
| EDAM 714 | Instructional and Curriculum Leadership | 3.0 |
| EDLT 532 | Designing Virtual Communities for Staff Development - Non-Field Experience | 3.0 |
| EDUC 524 | Current Research in Curriculum & Instruction | 3.0 |
| EDUC 530 | Advanced Techniques in Instruction & Assessment | 3.0 |
| EDUC 609 | Language & Culture in Education | 3.0 |
| **Policy, Law & Organization Courses (Choose 2)** | | **6.0** |
| EDAM 705 | School Law and Politics | |
| EDPO 620 | Education Policy: Concepts, Issues, and Applications | |
| EDUC 804 | Program Evaluation in Organizations | |
| **MS in TLC Capstone Sequence** | | |
| EDU 780 | Capstone Research | 3.0 |
| EDUL 780 | Lesson Study Capstone Course I | 3.0 |
| or EDUT 780 | Thesis Capstone Course I | |
| or EDUP 780 | Practitioner Capstone Course I | |
| EDUL 781 | Lesson Study Capstone Course II | 3.0 |
| or EDUT 780 | Thesis Capstone Course I | |
| or EDUP 780 | Practitioner Capstone Course I | |
| **Professional or Concentration Electives** | | **15.0** |
| **Total Credits** | | **232.0** |

## Sample Plan of Study

### 4 year, 1 co-op

**First Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| EDUC 101 | 3.0 | ANTH 101 | 3.0 | ANTH 110 | 3.0 | VACATION | |
| EDUC 106 | 1.0 | CIVC 101 | 1.0 | EDEX 142 | 3.0 | | |
| ENGL 101 or 111 | 3.0 | EDUC 107 | 1.0 | EDUC 108 | 1.0 | | |
| MATH 171 | 3.0 | EDUC 113 | 3.0 | EDUC 123 | 3.0 | | |
| HIST 161 | 4.0 | ENGL 102 or 112 | 3.0 | ENGL 103 or 113 | 3.0 | | |
| PSY 101 | 3.0 | HIST 162 or 163 | 4.0 | MATH 173 | 3.0 | | |
| UNIV T101 | 1.0 | MATH 172 | 3.0 | | | | |
| | **18** | | **18** | | **16** | | **0** |

**Second Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP 101 | 1.0 | EDUC 216 | 3.0 | EDEX 368 | 3.0 | EDLT 325 | 3.0 |
| EDEX 344 | 3.0 | HIST 201 | 4.0 | EDUC 305 | 1.0 | EDUC 322 | 3.0 |
| EDUC 112 | 3.0 | HIST 214 | 4.0 | EDUC 308 | 3.0 | HIST 275 | 3.0 |
| EDUC 205 | 1.0 | PSCI 110 | 4.0 | HIST 202 | 4.0 | PSCI 375 | 4.0 |
| EDUC 223 | 3.0 | PSY 150 | 3.0 | HIST 203 | 4.0 | SOC 101 | 3.0 |
| EDUC 365 | 3.0 | | | PSCI 140 | 4.0 | | |
| | **14** | | **18** | | **19** | | **16** |

**Third Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| COOP EXPERIENCE | | COOP EXPERIENCE | | EDLT 326 | 3.0 | EDUC 312 | 3.0 |
| EDUC 356 | 3.0 | | | EDUC 316 | 3.0 | EDUC 324 | 3.0 |
| | | | | PSY 320 | 3.0 | PSCI 150 | 4.0 |
| | | | | SOC 335 | 3.0 | SOC 210 | 4.0 |
| | | | | (GR) MS Professional Elective | 3.0 | (GR) MS Professional Elective | 3.0 |
| | **3** | | **0** | | **15** | | **17** |

**Fourth Year**

| Fall | Credits | Winter | Credits | Spring | Credits | Summer | Credits |
|---|---|---|---|---|---|---|---|
| EDUC 409 | 9.0 | ECON 201 | 4.0 | ECON 202 | 4.0 | EDAM 705 | 3.0 |
| PSCI 220 | 4.0 | EDUC 410 | 9.0 | EDUC 405 | 1.0 | EDUC 530 | 3.0 |
| EDPO 620 or EDUC 804 | 3.0 | EDLT 532 | 3.0 | HIST 212 | 4.0 | EDUC 524 | 3.0 |
| | | | | PSCI 240 | 4.0 | | |
| | | | | EDAM 714 | 3.0 | | |
| | | | | Student converts to Grad status at the end of the Spring term | | | |
| | **16** | | **16** | | **16** | | **9** |

**Fifth Year**

| Fall | Credits | Winter | Credits | Spring | Credits |
|---|---|---|---|---|---|
| EDU 780 | 3.0 | EDUL 780, EDUT 780, or EDUP 780 | 3.0 | EDUL 781 | 3.0 |
| EDUC 609 | 3.0 | (GR) MS Professiona Elective | 3.0 | (GR) MS Professiona Elective | 3.0 |
| (GR) MS Professional Elective | 3.0 | | | | |
| | **9** | | **6** | | **6** |

**Total Credits 232**