DREXEL UNIVERSITY
School of
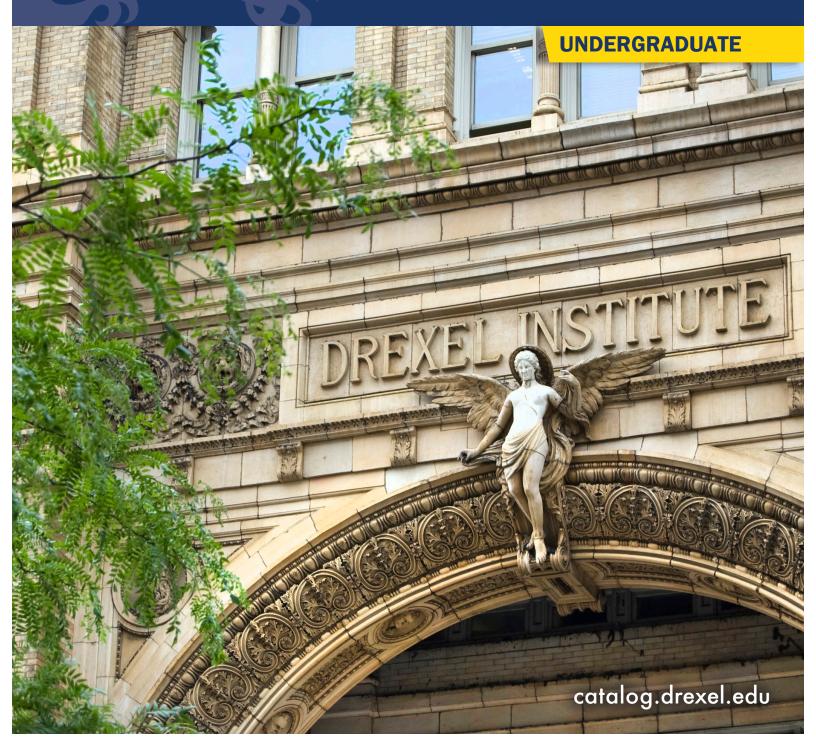Education

CATALOG
2022-2023

DREXEL INSTITUTE

catalog.drexel.edu

The School of Education

The School of Education offers Pennsylvania Department of Education-approved programs to certify students who want to become teachers. Undergraduate students have the option to choose from a variety of traditional full-time and non-traditional part-time on-campus and online programs. These programs are designed to meet the needs of a variety of diverse learners who wish to pursue a bachelor's degree and Pennsylvania State Certification in elementary (grades Prek-4), middle level (grades 4-8) and/or secondary (grades 7-12).

School of Education undergraduate students have the option to choose from the following program options: BS on-campus (full- or part-time) taking day or evening courses, or the part-time Online BS Degree completion program. In addition, any Drexel non-education undergraduate student who is interested in becoming a teacher has the option to enroll in either the BS/MS or BA/MS Dual Degree programs regardless of their major.

The School of Education (http://www.drexel.edu/soe/) seeks to enrich knowledge and practice related to lifespan learning, based on the most current and appropriate research and practice. Our goal is to improve human understanding through programs and activities that emphasize creative uses of human effort, technology, leadership, and problem solving.

Majors

Accelerated Degrees

Minors

Certificates

About the Curriculum

The School of Education's programs apply the most updated trends in theory, instruction, and leadership, with an emphasis on effective teaching integrating the sciences, enhancing teaching by using technology, two central components of every Drexel Education. In addition, this is the only such program in the country to incorporate a six-month paid internship in industry related to the student's area of certification or individual interest.

Certification for classroom instruction is organized according to the two majors, the BS in Elementary Education and the BS in Secondary

Education. Below is a list of all certification areas currently offered by the School of Education.

- Elementary education
  - Elementary: PK-4
  - Elementary: PK-4 and Special Education
  - Middle Level Math and English
  - Middle Level Science and English
  - Middle Level Science and Math
- Secondary education (grades 7-12)
  - Biology
  - Chemistry
  - Computer Science
  - Earth and Space Science
  - English
  - General Science
  - Mathematics
  - Physics
  - Social Studies

Students may acquire certification in more than one subject area.

The School of Education uses university-wide resources to prepare fully qualified teachers at both the elementary and secondary levels. The Teacher Education Program at Drexel University is closely aligned with National INTASC Teaching Standards as well as the Pennsylvania Department of Education's Four Domains for Professional Teaching. In addition, the Teacher Ed Program has identified seven *Program Outcomes*, which identify the specific qualities that set the Drexel Teacher Candidate apart from other candidates in the field. These program outcomes are directly aligned with the Drexel University Student Learning Priorities (DSLP). It is expected that students exiting the Teacher Education Program at Drexel University will exhibit these seven standards in his/her professional teaching practice.

Program Outcomes:

1. The teacher candidate demonstrates independent and creative academic leadership skills that can be applied in the classroom, school community and the profession.

2. The teacher candidate understands the changing role of the educator in an increasingly diverse society, and applies this understanding in the classroom, school community and profession.

3. The teacher candidate holds a global perspective on current issues in education, understands best pedagogical practices, and utilizes this knowledge in the classroom, school community and profession.

4. The teacher candidate recognizes the importance of the application of educational research as a tool to explore critical aspects of teaching and learning in PK-12 setting.

5. The teacher candidate demonstrates a strong academic background in all subject areas that meet PDE content requirements, with strong emphasis on mathematics and science.

6. The teacher candidate can effectively integrate tools of technology in curriculum, assessment and instruction to enhance PK-12 student learning.

7. The teacher candidate demonstrates the ability to reflect upon one's professional practice through the successful completion of course

work and engagement in experiential learning to promote positive, transformative change within the profession.

Pennsylvania Instructional I Teaching Certifications

There are multiple ways for Drexel University students to obtain their initial and add-on teaching certifications in Pennsylvania while pursuing their current major at Drexel. Education majors have the opportunity to achieve these certifications through the Bachelors of Science Education program, the BS/MS dual degree, the graduate level Post-baccalaureate (PBC) and Masters (MS) in Teaching Learning and Curriculum programs.

Non-teaching education majors may have the opportunity to build teacher certification into their program of study as electives, depending on their major. Those students who cannot manage the whole certification program may opt to participate in the education non-certification concentration. Undergraduate students also have the option to enroll in as many content courses as can be managed in their undergraduate degree and then finish their teaching certification requirements through the Post-baccalaureate Teaching Certification or Masters in Teaching Learning and Curriculum programs. Additionally, undergraduate non-education majors can pursue a Master's degree in Teaching, Learning, and Curriculum with Teaching Certification through the BA/MS or BS/MS dual degree route while in their current major provided they meet and maintain the program's minimum criteria of a 3.0 cumulative GPA requirement and have completed no more than 90-120 credits at Drexel at the time of applying for the dual degree program.

*Please note that during a Drexel student's senior year, undergraduate students have the option to take up to and including 9 graduate credits in core pedagogy education courses that can be applied to a future graduate level Post-baccalaureate Teacher Certification or MS degree program at Drexel provided that these graduate credits are not required for UG degree completion and the student received a minimum grade of a "B" in those graduate courses.

Please be advised that the Pennsylvania Department of Education requires that all teacher certification candidates must maintain a 3.0 GPA in their degree or certification program in order to be recommended for state certification.

Combination certifications are available from the School of Education. Sample combinations include:

- Grades PreK-4 certification, with certification in Special Education.
- Biology certification, with courses for additional certification in chemistry.
- Chemistry certification, with courses for additional certification in biology.
- Earth and space science certification, with courses for additional certification in chemistry.
- Earth and space science certification, with courses for additional certification in physics.
- Mathematics certification, with courses for additional certification in physics.
- Physics certification, with courses for additional certification in mathematics.

Students pursuing the appropriate majors in the College of Arts and Sciences may also complete the requirements for certification within their area of study.

For more information, please contact the Program Manager or the School of Education at 215.895.6770.

Post-Graduate Opportunities

Students obtain employment in the School District of Philadelphia and neighboring school districts in Pennsylvania and such surrounding states as New Jersey, Delaware, Ohio, and New York. Often, students begin a graduate degree program in combination with their employment.

Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the Writing Intensive Course List on the Drexel University Writing Center web page. Students scheduling their courses in Banner/DrexelOne can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.

Cooperative Education

Drexel students are well prepared for success in their career thanks in part to high-quality experiential learning like the cooperative learning experiences. Drexel's School of Education Cooperative Education program is well known for its outstanding field-based experiences that include a range of formal, school based and community activities. These experiences give students invaluable first-hand exposure to the classroom and the opportunity to apply what they have learned towards student teaching experiences. The cooperative learning experience offered as part of the professional career development support services at Drexel University pertains to full-time undergraduate students pursing teacher certification. Non-certification concentration students perform a Cooperative learning experience outside of the standard school-based classroom environment. Part-time students do not participate in cooperative learning experiences.

The on-campus BS degree is completed in four years. In addition to the Pennsylvania Department of Education's (PDE) state mandated field experiences and 2 quarter term student teaching residency, this program includes one six-month internship period of full-time employment related to the student's initial area of teacher certification. The goal of the co-op program in teacher education is to provide real-world experiences for future teachers to use in their classrooms.

Students typically participate in co-ops during their fall and winter terms of their sophomore year and pursue varied positions geared directly to their area(s) of certification. Candidates are asked to pursue a position that would allow them to see other areas of education that reach beyond K-12 teaching. This caveat to the requirement allows candidates to understand the broadness and extensive nature of the field of education both nationally and internationally.

Elementary Education

Major: Elementary Education
Degree Awarded: Bachelor of Science (BS)
Calendar Type: Quarter
Minimum Required Credits: 180.0 - 188.0
Co-op Options: One Co-op (Four years)
Classification of Instructional Programs (CIP) code: 13.1202; 13.1311; 13.1316
Standard Occupational Classification (SOC) code: 25-2022

About the Program

Elementary school teachers instruct classes of children in several subjects. Often they work as part of a team with other teachers who are jointly responsible for a group of students in at least one subject.

The BS in Elementary Education uses University-wide resources to prepare fully qualified teacher candidates at the early and elementary education levels. On-campus candidates in the School of Education participate in one six-month cooperative education (co-op) experience in a professional position related to their area of certification.

Primary teacher certification options include:

- Pre-Kindergarten - Grade 4 (p. 6)
- Pre-Kindergarten - Grade 4 & Special Education (p. 12)
- Middle Level (grades 4-8) Mathematics and English (p. 17)
- Middle Level (grades 4-8) Science and English (p. 27)
- Middle Level (grades 4-8) Science and Mathematics (p. 22)

Candidates may acquire certification in more than one subject area.

Elementary Education, Pre-Kindergarten through Grade 4: Candidates are certified to teach in pre-kindergarten through 4th grade. The competencies for this concentration include child development (birth through age 5), language development, early literacy and math foundations for preschool years, early intervention, integrating the arts for the developing child and family, and community partnerships.

Elementary Education, Pre-Kindergarten through Grade 4 and Special Education: Focused study to work with children in pre-kindergarten, kindergarten, and grades 1-4 across subject areas (ages 3-9) within the competencies listed previously. The special education PK-12 certification dual program also seeks to produce professionals who are equipped with the fundamental skills, knowledge, and competencies necessary to meet the needs of the students at risk for school failure and students with disabilities in multiple settings. This certificate program focuses on students at the pre-kindergarten through secondary level. The Special Education PK-12 certification program is intended for those interested in gaining greater skills and expertise in the area of special education and a teaching certificate in the area of PK-12 special education.

Elementary Education, Middle Level: Focused study to work with students in grades 4-6 across subjects and with students in grades 7-8 in two core academic subject(s) the teacher education candidate chooses to pursue:

- Middle School Mathematics and English
- Middle School Science and English
- Middle School Science and Math

Candidates pursuing the appropriate majors in the College of Arts and Sciences may also complete the requirements for certification within their area of study through our DragonsTeach and Dragons Teach Middle Years pathways. For more information, contact the program coordinator for the School of Education at 215-895-6770.

Additional Information

More information is available at the School of Education's (http://www.drexel.edu/soe/) website.

Education Faculty

Jennifer Adams, EdD *(Harvard University)*. Associate Professor. Comparative and international education; Poverty and education; Child welfare; Educational policy.

Ayana Allen, PhD *(Texas A&M University)*. Associate Professor. Urban education; Identity construction in school contexts; Urban school transformation.

Kristen Betts, EdD *(George Washington University)*. Clinical Professor. Higher education administration and governance, online blended education, instructional design and educational technology, program assessment and evaluation.

Eric Brewe, PhD *(Arizona State University)*. Associate Professor. Physics Education Research, introductory course reform, network analysis in learning, neuromechanisms of learning.

Stephanie Smith Budhai, PhD *(Drexel University)*. Associate Clinical Professor. Teacher and higher education, culturally responsive teaching, equity and social justice, online learning, community engagement and service-learning, family involvement and partnerships, and learning technologies.

José Luis Chávez, EdD *(University of Southern California)*. Clinical Professor. Higher education leadership and administration.

Rebecca Clothey, PhD *(University of Pittsburgh) Associate Department Head*. Associate Professor. Comparative and international education, education of ethnic and linguistic minorities, sociology of education.

James Connell, PhD *(Louisiana State University) Founding Clinical Core Director and Research Fellow, A.J. Drexel Autism Institute*. Associate Professor. Identifying the variables that influence adult behavior change in community settings; autism intervention; widespread dissemination of evidence-based interventions in school and community settings.

Kareem Edouard, PhD *(Stanford University)*. Assistant Professor. Educational technology; internet-based STEM learning; equity and inclusion in STEM education

Salvatore V. Falletta, EdD *(North Carolina State University)*. Clinical Professor. Human Resource intelligence (i.e., HR research and analytics practices); HRD assessment, measurement, and evaluation models and taxonomies; organizational diagnostic models; web-based employee and organizational survey methods, and computational modeling.

Aroutis N. Foster, PhD *(Michigan State University) Associate Dean for Academic Affairs and Graduate Studies*. Professor. Educational psychology and educational technology, especially the following: Motivation; Technological Pedagogical Content Knowledge (TPACK); Immersive Interactive Digital Environments (simulation, games, virtual realities.

Rajashi Ghosh, PhD *(University of Louisville, Kentucky) Department Chair for Policy, Organization & Leadership*. Associate Professor. Mentoring and leader development, workplace Incivility, workplace learning and development.

John M. Gould, PhD *(University of Pittsburgh) Harrisburg EdD Educational Leadership & Change Program*. Clinical Professor. Change leadership, curriculum re-design, the impact of technology on learning.

Dominic F. Gullo, PhD *(Indiana University)*. Professor. Studying the relative and long-range effects of early schooling experiences in prekindergarten and kindergarten on children's achievement and social adaptation to school routine.

H. Bernard Hall, PhD *(Temple University)*. Assistant Professor. Hip-hop Pedagogy, English Education, Urban Teacher Education.

Penny Hammrich, PhD *(University of Minnesota) Dean*. Distinguished University Professor. Urban education; science education; genetics; gender equity; science knowledge for conceptual teaching; sport science.

Paul Harrington, PhD *(University of Massachusetts, Boston) Director, Center for Labor Markets and Policy*. Professor. Teen and young adult job access; economic outlook, college labor market; workforce development, planning, and development; vocational rehabilitation and job market transition.

Michael J. Haslip, PhD *(Old Dominion University)*. Assistant Professor. Early childhood education, social and emotional learning, child guidance strategies, effects of public pre-school attendance.

Deanna Hill, JD, PhD *(University of Pittsburgh)*. Associate Clinical Professor. Higher education, international education, education law, education policy

Erin Horvat, PhD *(University of California, Los Angeles) Senior Vice Provost for Faculty Affairs*. Professor. Urban education, access and equity, high school dropout, parent involvement/family involvement, community engagement in research.

Jennifer Katz-Buonincontro, PhD *(University of Oregon) Associate Dean of Research*. Associate Professor. Educational administration, leadership development, survey & instrument design.

Larry Keiser, PhD *(Drexel University)*. Assistant Clinical Professor. Education and corporate/business leaders' creativity and entrepreneurial mindsets; creative school/work environments; neuroscience of creativity; everyday creativity for teachers and educators.

Kristy Kelly, PhD *(University of Wisconsin, Madison)*. Associate Clinical Professor. Sociology of gender and development; anthropology of policy; comparative and international education; qualitative research methods; Vietnam and Southeast Asia.

Cameron Kiosoglous, PhD *(Virginia Tech University) Program Director*. Assistant Clinical Professor. Coached on the USRowing National Team staff since 2002, including the 2004, 2008, 2012, and 2016 Olympic Games; coaching development; measuring coaching quality; self-insight and reflective practices; coaching leadership; conference presenter; published author.

Valerie Klein, PhD *(Amherst College)*. Associate Clinical Professor. Mathematics learning and teaching; teacher's use of formative assessment in mathematics; creating opportunities for rich problem solving in the classroom; examining teachers growth and change; qualitative research methods.

Peggy Kong, PhD *(Harvard University)*. Associate Clinical Professor. Comparative and international education, equity in education, family and community, Chinese education and society, sociology of education

Michael G. Kozak, Ed.D. *(Rowan University)*. Assistant Clinical Professor. Leadership, STEAM, online and blended learning environments, systems thinking, experiential learning, K-12 education, and facilitating change

Amanda Lannie, PhD *(Syracuse University)*. Assistant Clinical Professor. Applied behavior analysis and special education; School-based consultation; system-wide interventions as a mechanism for delivery supports to all students; Designing effective and efficient interventions for students with emotional/behavioral disorders.

Vera Lee, EdD *(University of Pennsylvania) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Practitioner Research in online courses to explore inservice/preservice teachers' emerging understandings about issues of diversity; the development of information/digital literacies of urban youth; English language learners.

Bruce Levine, JD *(New York University)*. Associate Clinical Professor. Educational policy, school law, public-private partnerships, intersection of business and education.

Kristine Lewis-Grant, PhD *(Temple University)*. Clinical Professor. Experiences of students of African descent at predominantly white colleges and universities, college access and college student development, youth civic engagement in urban school reform, qualitative research and evaluation.

William Lynch, PhD *(University of Maryland)*. Professor. Curriculum and educational leadership, educational technology, distance learning policy development, higher and adult education.

Constance Lyttle, PhD, JD *(University of Pittsburgh, Duquesne University)*. Clinical Professor. Legal rights of gifted and talented children and children with disabilities; inclusive education of exceptional children; special education mediation; special education IEP/IFSP facilitation; resolution session facilitation

Joy Phillips, PhD *(The University of Texas at Austin)*. Associate Clinical Professor. Visionary leadership in theory and practice, school reform as innovative problem-setting, thinking qualitatively about school reform. thinking about school reform by drawing, Educational Leadership Program Assessment.

Kathleen Provinzano, PhD *(Marywood University)*. Assistant Professor. Educational administration.

Harriette Rasmussen, EdD *(Fielding Graduate University)*. Assistant Clinical Professor. Educational leadership and change.

Lori Severino, EdD *(Neumann University)*. Assistant Professor. Special education, differentiated instruction, reading, Wilson language, multi-sensory instruction, reading comprehension, assessment, adolescent literacy.

Jason Silverman, PhD *(Vanderbilt University)*. Professor. Teaching and learning of advanced mathematical ideas (algebra and calculus); improving teachers' ability to orchestrate and sustain inquiry-based and discussion-based instruction; technology in mathematics education.

Janet Sloand, EdD *(Duquesne University) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Special Education Leadership, Trauma-informed care, Parent engagement in special education service delivery.

Toni A. Sondergeld, PhD *(University of Toledo)*. Associate Professor. Cognitive and affective assessment development; program/grant evaluation; high stakes testing measurement; STEM education; urban education

Bridget Sweeney Blakely, PhD *(Temple University)*. Assistant Clinical Professor. Consultation; Positive Behavior Interventions and Supports (PBIS); Response to Intervention (RtI); Systems-level change; performance feedback

Mary Jean Tecce DeCarlo, EdD *(University of Pennsylvania)*. Associate Clinical Professor. Early literacy development, learning differences, knowledge construction, urban education.

Sarah P. Ulrich, EdD *(Saint Joseph's University) Associate Dean of Teacher Education and Undergraduate Affairs*. Clinical Professor. Cross-cultural, language and academic development, school reform, teacher preparation, teacher retention, teacher residencies in urban contexts.

Sheila Vaidya, PhD *(Temple University)*. Professor. Educational psychology, school psychology, research design.

Christina Vorndran, PhD *(Louisiana State University) Program Director, Applied Behavior Analysis and Special Education*. Clinical Professor. Designing effective and efficient community-based interventions, Severe behavior disorders, Functional behavior assessment

Christopher G. Wright, PhD *(Tufts University)*. Assistant Professor. Engineering and science education, Urban education, elementary teacher education.

Emeritus Faculty

Mary Jo Grdina, PhD *(Case Western Reserve University)*. Clinical Professor. Undergraduate studies, science education, curriculum design.

Joyce Pittman, PhD *(Iowa State University of Science and Technology)*. Clinical Professor. Curriculum and instruction K-16; teaching English as a foreign language (TEFL); instructional design business education and administration; industrial and career technology; oral and written communication; research methodology; instructional and assistive technology assessment; online learning pedagogy

Fredricka K. Reisman, PhD *(Syracuse University) School of Education, Founder, Drexel School of Education*. Professor Emerita. Director, Freddie Reisman Center for Translational Research in Creativity and Motivation, Creator and Former Director-Creativity and Innovation Programs, Co-Director-Drexel/Torrance Center for Creativity and Innovation, Drexel University Named Recognition- Freddie Reisman Faculty Scholarly and Creative Activity Awards

Elementary Education: PK-4

Major: Elementary Education
Degree Awarded: Bachelor of Science (BS)
Calendar Type: Quarter
Minimum Required Credits: 180.0
Co-op Options: One Co-op (Four years)
Classification of Instructional (CIP) code: 13.1202
Standard Occupational Classification (SOC) code: 25-2031

About the Concentration

This certification option within the BS in Elementary Education (p. 3) enables teachers to work with children in prekindergarten, kindergarten, and grades 1 through 4 (ages 3-9) across subject areas. Required competencies are covered in areas such as child development, language development, early literacy and math foundations for preschool years, early intervention, integrating the arts for the developing child, and family and community partnerships.

Additional Information

For more information about the program, visit the School of Education (http://drexel.edu/soe/) website.

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	
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	Inclusive Practices	3.0
EDEX 368 [WI]	Literacy and Content Skill Development PK-12	3.0
EDLT 325	Design for Learning with Digital Media	3.0
EDPO 312	Educational Policy, Law & Advocacy	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 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 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 [WI]	Student Teaching Seminar I	9.0
EDUC 410 [WI]	Student Teaching	9.0
Total Credits		**180.0**

*   COOP 101, CIVC 101 and UNIV T101 are not required for Education transfer students. Instead, these 3.0 credits are replaced with free electives. 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.

Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the Writing Intensive Course List (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/writing-intensive-courses/) at the University Writing Program (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/). (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/drexel-writing-center/) Students scheduling their courses can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.

Sample Plan of Study

4 year, 1 co-op

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	EDUC 108	1.0		
EDUC 120	3.0	COM 111	3.0	ENGL 103 or 113	3.0		
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
CHEM 111	4.0	BIO 101 or 161	3.0	EDUC 236	3.0	EDPO 312	3.0
EDEX 344	3.0	COOP 101*	1.0	EDUC 326	3.0	EDUC 210	3.0
EDUC 205	1.0	EDEX 368	3.0	EDUC 365	3.0	EDUC 306	3.0
EDUC 308	3.0	EDUC 216	3.0	NFS 100	2.0	EDUC 335	3.0
PSY 330	3.0	EDUC 314	3.0	NFS 101	1.0	HIST 275	3.0
		EDUC 316	3.0	PSY 320	3.0		
	14		**16**		**15**		**15**

Third Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
COOP EXPERIENCE		COOP EXPERIENCE		ECON 201	4.0	EDLT 325	3.0

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
MTED 417	3.0	EDUC 336	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
				English (Literature) Elective: ENGL 200 - ENGL 360	3.0	MTED 418	3.0
	3		**3**		**14**		**15**

Fourth Year

Fall	Credits	Winter	Credits	Spring	Credits
EDUC 405	1.0	EDUC 410	9.0	ENVS 260	3.0
EDUC 409	9.0	SOC 335	3.0	Free electives	10.0
EDUC 411	3.0				
	13		**12**		**13**

Total Credits 180

*   COOP 101, CIVC 101 and UNIV T101 are not required for Education transfer students. Instead, these 3.0 credits are replaced with free electives.

Transfer Student Part-time Plan of Study

First Year (Part-Time)

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
EDUC 101	3.0	EDUC 107	1.0	EDEX 142	3.0	EDUC 210	3.0
EDUC 106	1.0	EDUC 120	3.0	EDUC 108	1.0	EDUC 216	3.0
ENGL 101 or 111	3.0	ENGL 102 or 112	3.0	EDUC 121	3.0	ENGL 103 or 113	3.0
Free Elective	3.0	MATH 171	3.0	MATH 172	3.0	HIST 275	3.0
	10		**10**		**10**		**12**

Second Year (Part-Time)

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
BIO 161	3.0	BIO 162	3.0	EDUC 236	3.0	EDPO 312	3.0
EDEX 344	3.0	EDEX 368	3.0	EDUC 305	1.0	EDUC 306	3.0
EDUC 205	1.0	MUSC 130	3.0	EDUC 365	3.0	EDUC 335	3.0
MATH 173	3.0			ENGL 200-360 Literature Elective	3.0		
	10		**9**		**10**		**9**

Third Year (Part-Time)

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
EDUC 324	3.0	EDUC 316	3.0	COM 111	3.0	EDLT 325	3.0
EDUC 326	3.0	ENVS 260	3.0	EDUC 308	3.0	PHYS 151	3.0
PSY 101	3.0	NFS 100 & NFS 101	3.0	SOC 335	3.0	PSY 330	3.0
	9		**9**		**9**		**9**

Fourth Year (Part-Time)

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
EDUC 336	3.0	EDUC 314	3.0	EDUC 355	3.0	EDUC 338	3.0
EDUC 411	3.0	PSY 320	3.0	ESTM 342	3.0	MTED 418	3.0
MTED 417	3.0	Free Elective	3.0	Free Elective	4.0	Free Elective	3.0
	9		**9**		**10**		**9**

Fifth Year (Part-Time)

Fall	Credits	Winter	Credits	Spring	Credits
EDUC 405	1.0	EDUC 410	9.0	CHEM 111	4.0
EDUC 409	9.0			ECON 201	4.0
	10		**9**		**8**

Total Credits 180

*   Part-time transfer students do not take COOP 101, CIVC 101, and UNIV T101. Instead, they take 3.0 additional credits of free electives.

Education Faculty

Jennifer Adams, EdD *(Harvard University)*. Associate Professor. Comparative and international education; Poverty and education; Child welfare; Educational policy.

Ayana Allen, PhD *(Texas A&M University)*. Associate Professor. Urban education; Identity construction in school contexts; Urban school transformation.

Kristen Betts, EdD *(George Washington University)*. Clinical Professor. Higher education administration and governance, online blended education, instructional design and educational technology, program assessment and evaluation.

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Stephanie Smith Budhai, PhD *(Drexel University)*. Associate Clinical Professor. Teacher and higher education, culturally responsive teaching, equity and social justice, online learning, community engagement and service-learning, family involvement and partnerships, and learning technologies.

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Christina Vorndran, PhD *(Louisiana State University) Program Director, Applied Behavior Analysis and Special Education*. Clinical Professor. Designing effective and efficient community-based interventions, Severe behavior disorders, Functional behavior assessment

Christopher G. Wright, PhD *(Tufts University)*. Assistant Professor. Engineering and science education, Urban education, elementary teacher education.

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Fredricka K. Reisman, PhD *(Syracuse University) School of Education, Founder, Drexel School of Education*. Professor Emerita. Director, Freddie Reisman Center for Translational Research in Creativity and Motivation, Creator and Former Director-Creativity and Innovation Programs, Co-Director-Drexel/Torrance Center for Creativity and Innovation, Drexel University Named Recognition- Freddie Reisman Faculty Scholarly and Creative Activity Awards

Elementary Education: PK-4 and Special Education

Major: Elementary Education
Degree Awarded: Bachelor of Science (BS)
Calendar Type: Quarter
Minimum Required Credits: 188.0
Co-op Options: One Co-op (Four years)
Classification of Instructional Programs (CIP) code: 13.1202
Standard Occupational Classification (SOC) code: 25-2022

About the Concentration

This certification option within the BS in Elementary Education (p. 3) enables teachers to work with children in prekindergarten, kindergarten, and grades 1 through 4 (ages 3-9) across subject areas with the addition of being specialized to work with prekindergarten through secondary grade students at risk for disabilities or with disabilities. As with the Elementary PK-4 certification, the program covers required competencies such as child development, language development, early literacy and math foundations for preschool years, early intervention, integration of the arts for the developing child, and family and community partnerships.

Improvements in the diagnosis of learning disabilities at earlier ages have resulted in an increase in the number of students requiring special education. This program is designed to provide the information necessary to understand the complexities of the disabled learner's needs; modify a curriculum appropriately; provide remedial instruction; use technology to address the learner's needs/progress; and manage instruction for students with special needs in the inclusive classroom, as well as additional approaches to assessment and special education teaching techniques.

Additional Information

For more information about the program, visit the School of Education (http://drexel.edu/soe/) website.

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	Inclusive Practices	3.0
EDEX 368 [WI]	Literacy and Content Skill Development PK-12	3.0
EDLT 325	Design for Learning with Digital Media	3.0
EDPO 312	Educational Policy, Law & Advocacy	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 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	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 [WI]	Student Teaching Seminar I	9.0
EDEX 414 [WI]	Special Education Student Teaching Seminar	9.0
Total Credits		**188.0**

*   COOP 101, CIVC 101 and UNIV T101 are not required for Education transfer students. Instead, these 3.0 credits are replaced with a 3.0 credit elective choice of ESTM 342 or EDEX 375.

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.

Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the Writing Intensive Course List (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/writing-intensive-courses/) at the University Writing Program (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/). (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/drexel-writing-center/) Students scheduling their courses can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.

Sample Plan of Study

4 year, 1 co-op

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	EDUC 108	1.0		
EDUC 120	3.0	COM 111	3.0	ENGL 103 or 113	3.0		
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	1.0	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	EDPO 312	3.0
EDUC 205	1.0	EDEX 348	3.0	EDUC 365	3.0	EDUC 306	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		
	3		**3**		**16**		**15**

Fourth Year

Fall	Credits	Winter	Credits	Spring	Credits
EDEX 336	3.0	EDEX 355	3.0	CHEM 111	4.0
EDUC 405	1.0	EDEX 414	9.0	ECON 201	4.0
EDUC 409	9.0	SOC 335	3.0	EDEX 352	3.0

	EDLT 325	3.0
13	15	14

Total Credits 188

Education Faculty

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Elementary Education: Middle Level Math and English

Major: Elementary Education
Degree Awarded: Bachelor of Science (BS)
Calendar Type: Quarter
Minimum Required Credits: 180.0
Co-op Options: One Co-op (Four years)
Classification of Instructional (CIP) code: 13.1202
Standard Occupational Classification (SOC) code: 25-2022

About the Concentration

This certification option within the BS in Elementary Education (p. 3) enables to teachers to work with students in grades 4-6 across subjects and with students in grades 7-8 in the core academic subjects of mathematics and English.

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.

In addition, this certification area provides: (1) training in how to effectively deliver standards-based academic math content based on age-appropriate understanding and individual and group's needs; (2) courses devoted to teaching, age-appropriate, reading skills, and how to teach and assess writing effectively, as well as a specialized course in the genre of young adult fiction.

Additional Information

For more information about the program, visit the School of Education (http://drexel.edu/soe/) website.

Degree Requirements

General Education/Content Requirements

ARTH 101	History of Art I	3.0
BIO 161	General Biology I	3.0
BIO 162	General Biology II	3.0
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	
ENGL 304	Young Adult Fiction	3.0
ENVS 260	Environmental Science and Society	3.0
HIST 201	United States History to 1815	4.0
HIST 275	History of Pennsylvania	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	
MATH 205	Survey of Geometry	3.0
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
WRIT 225 [WI]	Creative Writing	3.0
or WRIT 301	Writing Poetry	
Pedagogy Requirements		
EDEX 142	Special Education Foundations: Referral and Assessment	3.0
EDEX 344	Inclusive Practices	3.0
EDEX 368 [WI]	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
EDPO 312	Educational Policy, Law & Advocacy	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 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 306	Assessment of Young Children	3.0
EDUC 308	Creating a Positive Classroom Climate	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 328	Language Arts Processes 4-8	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 365	Foundations in Instructing English Language Learners	3.0
EDUC 405	Senior Pedagogy Seminar	1.0
MTED 363	Middle Years Mathematics Methods (4-8)	1.5
MTED 418	Mathematics Methods and Content	3.0
Student Teaching Experience		
EDUC 409 [WI]	Student Teaching Seminar I	9.0
EDUC 410 [WI]	Student Teaching	9.0
Free Electives		9.0
Total Credits		**180.0**

*   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.

Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the Writing Intensive Course List (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/writing-intensive-courses/) at the University Writing Program (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/). (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/drexel-writing-center/) Students scheduling their courses can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.

Sample Plan of Study

4 year, 1 co-op

First Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
BIO 161	3.0	CIVC 101	1.0	EDEX 142	3.0	VACATION	
EDUC 101	3.0	COM 111	3.0	EDUC 108	1.0		
EDUC 106	1.0	EDUC 107	1.0	ENGL 103 or 113	3.0		
EDUC 123	3.0	ENGL 102 or 112	3.0	ENVS 260	3.0		
ENGL 101 or 111	3.0	MATH 172	3.0	LING 101	3.0		
MATH 171	3.0	MUSC 130	3.0	MATH 107 or 173	3.0		
UNIV T101	1.0						
	17		**14**		**16**		**0**

Second Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
BIO 162	3.0	EDUC 306	3.0	EDEX 368	3.0	CHEM 111	4.0
COOP 101	1.0	EDUC 365	3.0	EDUC 216	3.0	EDLT 325	3.0
EDEX 344	3.0	EDPO 312	3.0	EDUC 308	3.0	EDUC 305	1.0
EDUC 205	1.0	PHYS 151	3.0	MATH 205	3.0	PSY 320	3.0
EDUC 223	3.0	WRIT 225 or 301	3.0	MTED 418	3.0	SOC 335	3.0
HIST 275	3.0						
PSY 101	3.0						
	17		**15**		**15**		**14**

Third Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
COOP EXPERIENCE		COOP EXPERIENCE		EDLT 326	3.0	ECON 201	4.0
EDUC 361		EDUC 360	1.5	EDUC 316	1.5	EDUC 324	3.0
MTED 363		EDUC 362	1.5	EDUC 326	1.5	EDUC 328	3.0
				EDUC 355		ENGL 304	3.0
						PSY 330	3.0
	3		**3**		**12**		**16**

Fourth Year

Fall	Credits	Winter	Credits	Spring	Credits
EDUC 409	9.0	EDUC 410	9.0	ARTH 101	3.0
Free elective	3.0	Free elective	3.0	EDUC 405	1.0
				HIST 201	4.0
				NFS 100	2.0
				NFS 101	1.0
				Free elective	3.0
	12		**12**		**14**

Total Credits 180

Education Faculty

Jennifer Adams, EdD *(Harvard University)*. Associate Professor. Comparative and international education; Poverty and education; Child welfare; Educational policy.

Ayana Allen, PhD *(Texas A&M University)*. Associate Professor. Urban education; Identity construction in school contexts; Urban school transformation.

Kristen Betts, EdD *(George Washington University)*. Clinical Professor. Higher education administration and governance, online blended education, instructional design and educational technology, program assessment and evaluation.

Eric Brewe, PhD *(Arizona State University)*. Associate Professor. Physics Education Research, introductory course reform, network analysis in learning, neuromechanisms of learning.

Stephanie Smith Budhai, PhD *(Drexel University)*. Associate Clinical Professor. Teacher and higher education, culturally responsive teaching, equity and social justice, online learning, community engagement and service-learning, family involvement and partnerships, and learning technologies.

José Luis Chávez, EdD *(University of Southern California)*. Clinical Professor. Higher education leadership and administration.

Rebecca Clothey, PhD *(University of Pittsburgh) Associate Department Head*. Associate Professor. Comparative and international education, education of ethnic and linguistic minorities, sociology of education.

James Connell, PhD *(Louisiana State University) Founding Clinical Core Director and Research Fellow, A.J. Drexel Autism Institute*. Associate Professor. Identifying the variables that influence adult behavior change in community settings; autism intervention; widespread dissemination of evidence-based interventions in school and community settings.

Kareem Edouard, PhD *(Stanford University)*. Assistant Professor. Educational technology; internet-based STEM learning; equity and inclusion in STEM education

Salvatore V. Falletta, EdD *(North Carolina State University)*. Clinical Professor. Human Resource intelligence (i.e., HR research and analytics practices); HRD assessment, measurement, and evaluation models and taxonomies; organizational diagnostic models; web-based employee and organizational survey methods, and computational modeling.

Aroutis N. Foster, PhD *(Michigan State University) Associate Dean for Academic Affairs and Graduate Studies*. Professor. Educational psychology and educational technology, especially the following: Motivation; Technological Pedagogical Content Knowledge (TPACK); Immersive Interactive Digital Environments (simulation, games, virtual realities.

Rajashi Ghosh, PhD *(University of Louisville, Kentucky) Department Chair for Policy, Organization & Leadership*. Associate Professor. Mentoring and leader development, workplace Incivility, workplace learning and development.

John M. Gould, PhD *(University of Pittsburgh) Harrisburg EdD Educational Leadership & Change Program*. Clinical Professor. Change leadership, curriculum re-design, the impact of technology on learning.

Dominic F. Gullo, PhD *(Indiana University)*. Professor. Studying the relative and long-range effects of early schooling experiences in prekindergarten and kindergarten on children's achievement and social adaptation to school routine.

H. Bernard Hall, PhD *(Temple University)*. Assistant Professor. Hip-hop Pedagogy, English Education, Urban Teacher Education.

Penny Hammrich, PhD *(University of Minnesota) Dean*. Distinguished University Professor. Urban education; science education; genetics; gender equity; science knowledge for conceptual teaching; sport science.

Paul Harrington, PhD *(University of Massachusetts, Boston) Director, Center for Labor Markets and Policy*. Professor. Teen and young adult job access; economic outlook, college labor market; workforce development, planning, and development; vocational rehabilitation and job market transition.

Michael J. Haslip, PhD *(Old Dominion University)*. Assistant Professor. Early childhood education, social and emotional learning, child guidance strategies, effects of public pre-school attendance.

Deanna Hill, JD, PhD *(University of Pittsburgh)*. Associate Clinical Professor. Higher education, international education, education law, education policy

Erin Horvat, PhD *(University of California, Los Angeles) Senior Vice Provost for Faculty Affairs*. Professor. Urban education, access and equity, high school dropout, parent involvement/family involvement, community engagement in research.

Jennifer Katz-Buonincontro, PhD *(University of Oregon) Associate Dean of Research*. Associate Professor. Educational administration, leadership development, survey & instrument design.

Larry Keiser, PhD *(Drexel University)*. Assistant Clinical Professor. Education and corporate/business leaders' creativity and entrepreneurial mindsets; creative school/work environments; neuroscience of creativity; everyday creativity for teachers and educators.

Kristy Kelly, PhD *(University of Wisconsin, Madison)*. Associate Clinical Professor. Sociology of gender and development; anthropology of policy; comparative and international education; qualitative research methods; Vietnam and Southeast Asia.

Cameron Kiosoglous, PhD *(Virginia Tech University) Program Director*. Assistant Clinical Professor. Coached on the USRowing National Team staff since 2002, including the 2004, 2008, 2012, and 2016 Olympic Games; coaching development; measuring coaching quality; self-insight and reflective practices; coaching leadership; conference presenter; published author.

Valerie Klein, PhD *(Amherst College)*. Associate Clinical Professor. Mathematics learning and teaching; teacher's use of formative assessment in mathematics; creating opportunities for rich problem solving in the classroom; examining teachers growth and change; qualitative research methods.

Peggy Kong, PhD *(Harvard University)*. Associate Clinical Professor. Comparative and international education, equity in education, family and community, Chinese education and society, sociology of education

Michael G. Kozak, Ed.D. *(Rowan University)*. Assistant Clinical Professor. Leadership, STEAM, online and blended learning environments, systems thinking, experiential learning, K-12 education, and facilitating change

Amanda Lannie, PhD *(Syracuse University)*. Assistant Clinical Professor. Applied behavior analysis and special education; School-based consultation; system-wide interventions as a mechanism for delivery supports to all students; Designing effective and efficient interventions for students with emotional/behavioral disorders.

Vera Lee, EdD *(University of Pennsylvania) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Practitioner Research in online courses to explore inservice/preservice teachers' emerging understandings about issues of diversity; the development of information/digital literacies of urban youth; English language learners.

Bruce Levine, JD *(New York University)*. Associate Clinical Professor. Educational policy, school law, public-private partnerships, intersection of business and education.

Kristine Lewis-Grant, PhD *(Temple University)*. Clinical Professor. Experiences of students of African descent at predominantly white colleges and universities, college access and college student development, youth civic engagement in urban school reform, qualitative research and evaluation.

William Lynch, PhD *(University of Maryland)*. Professor. Curriculum and educational leadership, educational technology, distance learning policy development, higher and adult education.

Constance Lyttle, PhD, JD *(University of Pittsburgh, Duquesne University)*. Clinical Professor. Legal rights of gifted and talented children and children with disabilities; inclusive education of exceptional children; special education mediation; special education IEP/IFSP facilitation; resolution session facilitation

Joy Phillips, PhD *(The University of Texas at Austin)*. Associate Clinical Professor. Visionary leadership in theory and practice, school reform as innovative problem-setting, thinking qualitatively about school reform. thinking about school reform by drawing, Educational Leadership Program Assessment.

Kathleen Provinzano, PhD *(Marywood University)*. Assistant Professor. Educational administration.

Harriette Rasmussen, EdD *(Fielding Graduate University)*. Assistant Clinical Professor. Educational leadership and change.

Lori Severino, EdD *(Neumann University)*. Assistant Professor. Special education, differentiated instruction, reading, Wilson language, multi-sensory instruction, reading comprehension, assessment, adolescent literacy.

Jason Silverman, PhD *(Vanderbilt University)*. Professor. Teaching and learning of advanced mathematical ideas (algebra and calculus); improving teachers' ability to orchestrate and sustain inquiry-based and discussion-based instruction; technology in mathematics education.

Janet Sloand, EdD *(Duquesne University) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Special Education Leadership, Trauma-informed care, Parent engagement in special education service delivery.

Toni A. Sondergeld, PhD *(University of Toledo)*. Associate Professor. Cognitive and affective assessment development; program/grant evaluation; high stakes testing measurement; STEM education; urban education

Bridget Sweeney Blakely, PhD *(Temple University)*. Assistant Clinical Professor. Consultation; Positive Behavior Interventions and Supports (PBIS); Response to Intervention (Rtl); Systems-level change; performance feedback

Mary Jean Tecce DeCarlo, EdD *(University of Pennsylvania)*. Associate Clinical Professor. Early literacy development, learning differences, knowledge construction, urban education.

Sarah P. Ulrich, EdD *(Saint Joseph's University) Associate Dean of Teacher Education and Undergraduate Affairs*. Clinical Professor. Cross-cultural, language and academic development, school reform, teacher preparation, teacher retention, teacher residencies in urban contexts.

Sheila Vaidya, PhD *(Temple University)*. Professor. Educational psychology, school psychology, research design.

Christina Vorndran, PhD *(Louisiana State University) Program Director, Applied Behavior Analysis and Special Education*. Clinical Professor. Designing effective and efficient community-based interventions, Severe behavior disorders, Functional behavior assessment

Christopher G. Wright, PhD *(Tufts University)*. Assistant Professor. Engineering and science education, Urban education, elementary teacher education.

Emeritus Faculty

Mary Jo Grdina, PhD *(Case Western Reserve University)*. Clinical Professor. Undergraduate studies, science education, curriculum design.

Joyce Pittman, PhD *(Iowa State University of Science and Technology)*. Clinical Professor. Curriculum and instruction K-16; teaching English as a foreign language (TEFL); instructional design business education and administration; industrial and career technology; oral and written communication; research methodology; instructional and assistive technology assessment; online learning pedagogy

Fredricka K. Reisman, PhD *(Syracuse University) School of Education, Founder, Drexel School of Education*. Professor Emerita. Director, Freddie Reisman Center for Translational Research in Creativity and Motivation, Creator and Former Director-Creativity and Innovation Programs, Co-Director-Drexel/Torrance Center for Creativity and Innovation, Drexel University Named Recognition- Freddie Reisman Faculty Scholarly and Creative Activity Awards

Elementary Education: Middle Level Science and Math

Major: Elementary Education
Degree Awarded: Bachelor of Science (BS)
Calendar Type: Quarter
Minimum Required Credits: 180.0
Co-op Options: One Co-op (Four years)
Classification of Instructional (CIP) code: 13.1202
Standard Occupational Classification (SOC) code: 25-2022

About the Concentration

This certification option within the BS in Elementary Education (p. 3) enables teachers to work with students in grades 4-6 across subjects and with students in grades 7-8 in the core academic subjects of science and mathematics.

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.

In addition, this certification area provides: (1) training in how to effectively deliver standards-based academic math content based on age-appropriate understanding, and individual and group's needs; (2) training and methodology for teaching physical and life sciences (including using an inquiry-based model of learning, developing authentic assessments, drawing upon a variety of tools, and creating and maintaining a safe laboratory) as well as other skills necessary to meet the needs of diverse learners in science education.

Additional Information

For more information about the program, visit the School of Education (http://drexel.edu/soe/) website.

Degree Requirements

General Education/Content Requirements

ARTH 101	History of Art I	3.0
BIO 161	General Biology I	3.0
BIO 162	General Biology II	3.0
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	
ENGL 304	Young Adult Fiction	3.0
ENVS 260	Environmental Science and Society	3.0

Select one of the following		4.0
HIST 275	History of Pennsylvania	3.0
HIST 201	United States History to 1815	
or HIST 202	United States History, 1815-1900	
or HIST 203	United States History since 1900	
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	
MATH 205	Survey of Geometry	3.0
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
Free electives		12.0
Pedagogy Requirements		
EDEX 142	Special Education Foundations: Referral and Assessment	3.0
EDEX 344	Inclusive Practices	3.0
EDEX 368 [WI]	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
EDPO 312	Educational Policy, Law & Advocacy	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 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 306	Assessment of Young Children	3.0
EDUC 308	Creating a Positive Classroom Climate	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 328	Language Arts Processes 4-8	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 365	Foundations in Instructing English Language Learners	3.0
EDUC 405	Senior Pedagogy Seminar	1.0
ESTM 342	Teaching Engineering Concepts to Children	3.0
MTED 363	Middle Years Mathematics Methods (4-8)	1.5
MTED 418	Mathematics Methods and Content	3.0
Student Teaching Experience		
EDUC 409 [WI]	Student Teaching Seminar I	9.0
EDUC 410 [WI]	Student Teaching	9.0
Total Credits		**180.0**

*   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.

Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the Writing Intensive Course List (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/writing-intensive-courses/) at the University Writing Program (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/). (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/drexel-writing-center/) Students scheduling their courses can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.

Sample Plan of Study

4 year, 1 co-op

First Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
BIO 161	3.0	CIVC 101	1.0	EDEX 142	3.0	VACATION	
EDUC 101	3.0	COM 111	3.0	EDUC 108	1.0		
EDUC 106	1.0	EDUC 107	1.0	ENGL 103 or 113	3.0		
EDUC 123	3.0	ENGL 102 or 112	3.0	ENVS 260	3.0		
ENGL 101 or 111	3.0	MATH 172	3.0	LING 101	3.0		
MATH 171	3.0	MUSC 130	3.0	MATH 173 or 107	3.0		
UNIV T101	1.0						
	17		14		16		0

Second Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
BIO 162	3.0	EDPO 312	3.0	EDEX 368	3.0	CHEM 111	4.0
COOP 101*	1.0	EDUC 306	3.0	EDUC 216	3.0	EDLT 325	3.0
EDEX 344	3.0	EDUC 365	3.0	EDUC 308	3.0	EDUC 305	1.0
EDUC 205	1.0	PHYS 151	3.0	MATH 205	3.0	PSY 320	3.0
EDUC 223	3.0	Free Elective	3.0	MTED 418	3.0	SOC 335	3.0
HIST 275	3.0						
PSY 101	3.0						
	17		15		15		14

Third Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
COOP EXPERIENCE		COOP EXPERIENCE		EDLT 326	3.0	ECON 201	4.0
EDUC 361	1.5	EDUC 360	1.5	EDUC 316	1.5	EDUC 324	3.0
MTED 363	1.5	EDUC 362	1.5	EDUC 326	1.5	EDUC 328	3.0
				EDUC 355	3.0	ENGL 304	3.0
						PSY 330	3.0
	3		3		12		16

Fourth Year

Fall	Credits	Winter	Credits	Spring	Credits
EDUC 409	9.0	EDUC 410	9.0	ARTH 101	3.0
Free Elective	3.0	Free Elective	3.0	EDUC 405	1.0
				ESTM 342	3.0
				HIST 201	4.0
				NFS 100	2.0
				NFS 101	1.0
	12		12		14

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.

Education Faculty

Jennifer Adams, EdD *(Harvard University)*. Associate Professor. Comparative and international education; Poverty and education; Child welfare; Educational policy.

Ayana Allen, PhD *(Texas A&M University)*. Associate Professor. Urban education; Identity construction in school contexts; Urban school transformation.

Kristen Betts, EdD *(George Washington University)*. Clinical Professor. Higher education administration and governance, online blended education, instructional design and educational technology, program assessment and evaluation.

Eric Brewe, PhD *(Arizona State University)*. Associate Professor. Physics Education Research, introductory course reform, network analysis in learning, neuromechanisms of learning.

Stephanie Smith Budhai, PhD *(Drexel University)*. Associate Clinical Professor. Teacher and higher education, culturally responsive teaching, equity and social justice, online learning, community engagement and service-learning, family involvement and partnerships, and learning technologies.

José Luis Chávez, EdD *(University of Southern California)*. Clinical Professor. Higher education leadership and administration.

Rebecca Clothey, PhD *(University of Pittsburgh) Associate Department Head*. Associate Professor. Comparative and international education, education of ethnic and linguistic minorities, sociology of education.

James Connell, PhD *(Louisiana State University) Founding Clinical Core Director and Research Fellow, A.J. Drexel Autism Institute*. Associate Professor. Identifying the variables that influence adult behavior change in community settings; autism intervention; widespread dissemination of evidence-based interventions in school and community settings.

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Salvatore V. Falletta, EdD *(North Carolina State University)*. Clinical Professor. Human Resource intelligence (i.e., HR research and analytics practices); HRD assessment, measurement, and evaluation models and taxonomies; organizational diagnostic models; web-based employee and organizational survey methods, and computational modeling.

Aroutis N. Foster, PhD *(Michigan State University) Associate Dean for Academic Affairs and Graduate Studies*. Professor. Educational psychology and educational technology, especially the following: Motivation; Technological Pedagogical Content Knowledge (TPACK); Immersive Interactive Digital Environments (simulation, games, virtual realities.

Rajashi Ghosh, PhD *(University of Louisville, Kentucky) Department Chair for Policy, Organization & Leadership*. Associate Professor. Mentoring and leader development, workplace Incivility, workplace learning and development.

John M. Gould, PhD *(University of Pittsburgh) Harrisburg EdD Educational Leadership & Change Program*. Clinical Professor. Change leadership, curriculum re-design, the impact of technology on learning.

Dominic F. Gullo, PhD *(Indiana University)*. Professor. Studying the relative and long-range effects of early schooling experiences in prekindergarten and kindergarten on children's achievement and social adaptation to school routine.

H. Bernard Hall, PhD *(Temple University)*. Assistant Professor. Hip-hop Pedagogy, English Education, Urban Teacher Education.

Penny Hammrich, PhD *(University of Minnesota) Dean*. Distinguished University Professor. Urban education; science education; genetics; gender equity; science knowledge for conceptual teaching; sport science.

Paul Harrington, PhD *(University of Massachusetts, Boston) Director, Center for Labor Markets and Policy*. Professor. Teen and young adult job access; economic outlook, college labor market; workforce development, planning, and development; vocational rehabilitation and job market transition.

Michael J. Haslip, PhD *(Old Dominion University)*. Assistant Professor. Early childhood education, social and emotional learning, child guidance strategies, effects of public pre-school attendance.

Deanna Hill, JD, PhD *(University of Pittsburgh)*. Associate Clinical Professor. Higher education, international education, education law, education policy

Erin Horvat, PhD *(University of California, Los Angeles) Senior Vice Provost for Faculty Affairs*. Professor. Urban education, access and equity, high school dropout, parent involvement/family involvement, community engagement in research.

Jennifer Katz-Buonincontro, PhD *(University of Oregon) Associate Dean of Research*. Associate Professor. Educational administration, leadership development, survey & instrument design.

Larry Keiser, PhD *(Drexel University)*. Assistant Clinical Professor. Education and corporate/business leaders' creativity and entrepreneurial mindsets; creative school/work environments; neuroscience of creativity; everyday creativity for teachers and educators.

Kristy Kelly, PhD *(University of Wisconsin, Madison)*. Associate Clinical Professor. Sociology of gender and development; anthropology of policy; comparative and international education; qualitative research methods; Vietnam and Southeast Asia.

Cameron Kiosoglous, PhD *(Virginia Tech University) Program Director*. Assistant Clinical Professor. Coached on the USRowing National Team staff since 2002, including the 2004, 2008, 2012, and 2016 Olympic Games; coaching development; measuring coaching quality; self-insight and reflective practices; coaching leadership; conference presenter; published author.

Valerie Klein, PhD *(Amherst College)*. Associate Clinical Professor. Mathematics learning and teaching; teacher's use of formative assessment in mathematics; creating opportunities for rich problem solving in the classroom; examining teachers growth and change; qualitative research methods.

Peggy Kong, PhD *(Harvard University)*. Associate Clinical Professor. Comparative and international education, equity in education, family and community, Chinese education and society, sociology of education

Michael G. Kozak, Ed.D. *(Rowan University)*. Assistant Clinical Professor. Leadership, STEAM, online and blended learning environments, systems thinking, experiential learning, K-12 education, and facilitating change

Amanda Lannie, PhD *(Syracuse University)*. Assistant Clinical Professor. Applied behavior analysis and special education; School-based consultation; system-wide interventions as a mechanism for delivery supports to all students; Designing effective and efficient interventions for students with emotional/behavioral disorders.

Vera Lee, EdD *(University of Pennsylvania) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Practitioner Research in online courses to explore inservice/preservice teachers' emerging understandings about issues of diversity; the development of information/digital literacies of urban youth; English language learners.

Bruce Levine, JD *(New York University)*. Associate Clinical Professor. Educational policy, school law, public-private partnerships, intersection of business and education.

Kristine Lewis-Grant, PhD *(Temple University)*. Clinical Professor. Experiences of students of African descent at predominantly white colleges and universities, college access and college student development, youth civic engagement in urban school reform, qualitative research and evaluation.

William Lynch, PhD *(University of Maryland)*. Professor. Curriculum and educational leadership, educational technology, distance learning policy development, higher and adult education.

Constance Lyttle, PhD, JD *(University of Pittsburgh, Duquesne University)*. Clinical Professor. Legal rights of gifted and talented children and children with disabilities; inclusive education of exceptional children; special education mediation; special education IEP/IFSP facilitation; resolution session facilitation

Joy Phillips, PhD *(The University of Texas at Austin)*. Associate Clinical Professor. Visionary leadership in theory and practice, school reform as innovative problem-setting, thinking qualitatively about school reform. thinking about school reform by drawing, Educational Leadership Program Assessment.

Kathleen Provinzano, PhD *(Marywood University)*. Assistant Professor. Educational administration.

Harriette Rasmussen, EdD *(Fielding Graduate University)*. Assistant Clinical Professor. Educational leadership and change.

Lori Severino, EdD *(Neumann University)*. Assistant Professor. Special education, differentiated instruction, reading, Wilson language, multi-sensory instruction, reading comprehension, assessment, adolescent literacy.

Jason Silverman, PhD *(Vanderbilt University)*. Professor. Teaching and learning of advanced mathematical ideas (algebra and calculus); improving teachers' ability to orchestrate and sustain inquiry-based and discussion-based instruction; technology in mathematics education.

Janet Sloand, EdD *(Duquesne University) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Special Education Leadership, Trauma-informed care, Parent engagement in special education service delivery.

Toni A. Sondergeld, PhD *(University of Toledo)*. Associate Professor. Cognitive and affective assessment development; program/grant evaluation; high stakes testing measurement; STEM education; urban education

Bridget Sweeney Blakely, PhD *(Temple University)*. Assistant Clinical Professor. Consultation; Positive Behavior Interventions and Supports (PBIS); Response to Intervention (Rtl); Systems-level change; performance feedback

Mary Jean Tecce DeCarlo, EdD *(University of Pennsylvania)*. Associate Clinical Professor. Early literacy development, learning differences, knowledge construction, urban education.

Sarah P. Ulrich, EdD *(Saint Joseph's University) Associate Dean of Teacher Education and Undergraduate Affairs*. Clinical Professor. Cross-cultural, language and academic development, school reform, teacher preparation, teacher retention, teacher residencies in urban contexts.

Sheila Vaidya, PhD *(Temple University)*. Professor. Educational psychology, school psychology, research design.

Christina Vorndran, PhD *(Louisiana State University) Program Director, Applied Behavior Analysis and Special Education*. Clinical Professor. Designing effective and efficient community-based interventions, Severe behavior disorders, Functional behavior assessment

Christopher G. Wright, PhD *(Tufts University)*. Assistant Professor. Engineering and science education, Urban education, elementary teacher education.

Emeritus Faculty

Mary Jo Grdina, PhD *(Case Western Reserve University)*. Clinical Professor. Undergraduate studies, science education, curriculum design.

Joyce Pittman, PhD *(Iowa State University of Science and Technology)*. Clinical Professor. Curriculum and instruction K-16; teaching English as a foreign language (TEFL); instructional design business education and administration; industrial and career technology; oral and written communication; research methodology; instructional and assistive technology assessment; online learning pedagogy

Fredricka K. Reisman, PhD *(Syracuse University) School of Education, Founder, Drexel School of Education*. Professor Emerita. Director, Freddie Reisman Center for Translational Research in Creativity and Motivation, Creator and Former Director-Creativity and Innovation Programs, Co-Director-Drexel/Torrance Center for Creativity and Innovation, Drexel University Named Recognition- Freddie Reisman Faculty Scholarly and Creative Activity Awards

Elementary Education: Middle Level Science and English

Major: Elementary Education
Degree Awarded: Bachelor of Science (BS)
Calendar Type: Quarter
Total Credit Hours: 180.0
Co-op Options: One Co-op (Four years)
Classification of Instructional (CIP) code: 13.1202
Standard Occupational Classification (SOC) code: 25-2022

About the Concentration

This certification option within the BS in Elementary Education (p. 3) enables teachers to work with students in grades 4-6 across subjects and with students in grades 7-8 in the core academic subjects of science and English.

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.

In addition, this certification area provides: (1) training and methodology for teaching physical and life sciences (including using an inquiry-based model of learning, developing authentic assessments, drawing upon a variety of tools, and creating and maintaining a safe laboratory) as well as other skills necessary to meet the needs of diverse learners in science education; (2) courses devoted to teaching age-appropriate reading skills and how to teach and assess writing effectively, as well as a specialized course in the genre of young adult fiction.

Additional Information

For more information about the program, visit the School of Education (http://drexel.edu/soe/) website.

Degree Requirements

General Education/Content Requirements

ARTH 101	History of Art I	3.0
BIO 161	General Biology I	3.0
BIO 162	General Biology II	3.0
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	
ENGL 304	Young Adult Fiction	3.0
ENVS 260	Environmental Science and Society	3.0
Select one of the following		4.0
HIST 201	United States History to 1815	
or HIST 202	United States History, 1815-1900	
or HIST 203	United States History since 1900	
HIST 275	History of Pennsylvania	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 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
WRIT 225 [WI]	Creative Writing	3.0
or WRIT 301	Writing Poetry	
Free electives		9.0
Pedagogy Requirements		
EDEX 142	Special Education Foundations: Referral and Assessment	3.0
EDEX 344	Inclusive Practices	3.0
EDEX 368 [WI]	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
EDPO 312	Educational Policy, Law & Advocacy	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 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 306	Assessment of Young Children	3.0
EDUC 308	Creating a Positive Classroom Climate	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 328	Language Arts Processes 4-8	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 365	Foundations in Instructing English Language Learners	3.0
EDUC 405	Senior Pedagogy Seminar	1.0
ESTM 342	Teaching Engineering Concepts to Children	3.0
MTED 363	Middle Years Mathematics Methods (4-8)	1.5

MTED 418	Mathematics Methods and Content	3.0
Student Teaching Experience		
EDUC 409 [WI]	Student Teaching Seminar I	9.0
EDUC 410 [WI]	Student Teaching	9.0
Total Credits		**180.0**

*   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.

Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the Writing Intensive Course List (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/writing-intensive-courses/) at the University Writing Program (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/). (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/drexel-writing-center/) Students scheduling their courses can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.

Sample Plan of Study

4 year, 1 co-op

First Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
BIO 161	3.0	CIVC 101	1.0	EDEX 142	3.0	VACATION	
EDUC 101	3.0	COM 111	3.0	EDUC 108	1.0		
EDUC 106	1.0	EDUC 107	1.0	ENGL 103 or 113	3.0		
EDUC 123	3.0	ENGL 102 or 112	3.0	ENVS 260	3.0		
ENGL 101 or 111	3.0	MATH 172	3.0	LING 101	3.0		
MATH 171	3.0	MUSC 130	3.0	MATH 173 or 107	3.0		
UNIV T101	1.0						
	17		**14**		**16**		**0**

Second Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
BIO 162	3.0	EDPO 312	3.0	EDEX 368	3.0	CHEM 111	4.0
COOP 101	1.0	EDUC 306	3.0	EDUC 216	3.0	EDLT 325	3.0
EDEX 344	3.0	EDUC 365	3.0	EDUC 308	3.0	EDUC 305	1.0
EDUC 205	1.0	PHYS 151	3.0	MTED 418	3.0	PSY 320	3.0
EDUC 223	3.0	Free elective	3.0			SOC 335	3.0
HIST 275	3.0						
PSY 101	3.0						
	17		**15**		**12**		**14**

Third Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
COOP EXPERIENCE		COOP EXPERIENCE		EDLT 326	3.0	ECON 201	4.0
EDUC 361	1.5	EDUC 360	1.5	EDUC 316	3.0	EDUC 324	3.0
MTED 363	1.5	EDUC 362	1.5	EDUC 326	3.0	EDUC 328	3.0
				EDUC 355	3.0	ENGL 304	3.0
				Free elective	3.0	PSY 330	3.0
	3		**3**		**15**		**16**

Fourth Year

Fall	Credits	Winter	Credits	Spring	Credits
EDUC 409	9.0	EDUC 410	9.0	ARTH 101	3.0
Free elective	3.0	WRIT 225 or 301	3.0	EDUC 405	1.0

	ESTM 342	3.0
	HIST 201, 202, or 203	4.0
	NFS 100	2.0
	NFS 101	1.0
12	**12**	**14**

Total Credits 180

Education Faculty

Jennifer Adams, EdD *(Harvard University)*. Associate Professor. Comparative and international education; Poverty and education; Child welfare; Educational policy.

Ayana Allen, PhD *(Texas A&M University)*. Associate Professor. Urban education; Identity construction in school contexts; Urban school transformation.

Kristen Betts, EdD *(George Washington University)*. Clinical Professor. Higher education administration and governance, online blended education, instructional design and educational technology, program assessment and evaluation.

Eric Brewe, PhD *(Arizona State University)*. Associate Professor. Physics Education Research, introductory course reform, network analysis in learning, neuromechanisms of learning.

Stephanie Smith Budhai, PhD *(Drexel University)*. Associate Clinical Professor. Teacher and higher education, culturally responsive teaching, equity and social justice, online learning, community engagement and service-learning, family involvement and partnerships, and learning technologies.

José Luis Chávez, EdD *(University of Southern California)*. Clinical Professor. Higher education leadership and administration.

Rebecca Clothey, PhD *(University of Pittsburgh) Associate Department Head*. Associate Professor. Comparative and international education, education of ethnic and linguistic minorities, sociology of education.

James Connell, PhD *(Louisiana State University) Founding Clinical Core Director and Research Fellow, A.J. Drexel Autism Institute*. Associate Professor. Identifying the variables that influence adult behavior change in community settings; autism intervention; widespread dissemination of evidence-based interventions in school and community settings.

Kareem Edouard, PhD *(Stanford University)*. Assistant Professor. Educational technology; internet-based STEM learning; equity and inclusion in STEM education

Salvatore V. Falletta, EdD *(North Carolina State University)*. Clinical Professor. Human Resource intelligence (i.e., HR research and analytics practices); HRD assessment, measurement, and evaluation models and taxonomies; organizational diagnostic models; web-based employee and organizational survey methods, and computational modeling.

Aroutis N. Foster, PhD *(Michigan State University) Associate Dean for Academic Affairs and Graduate Studies*. Professor. Educational psychology and educational technology, especially the following: Motivation; Technological Pedagogical Content Knowledge (TPACK); Immersive Interactive Digital Environments (simulation, games, virtual realities.

Rajashi Ghosh, PhD *(University of Louisville, Kentucky) Department Chair for Policy, Organization & Leadership*. Associate Professor. Mentoring and leader development, workplace Incivility, workplace learning and development.

John M. Gould, PhD *(University of Pittsburgh) Harrisburg EdD Educational Leadership & Change Program*. Clinical Professor. Change leadership, curriculum re-design, the impact of technology on learning.

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Sheila Vaidya, PhD *(Temple University)*. Professor. Educational psychology, school psychology, research design.

Christina Vorndran, PhD *(Louisiana State University) Program Director, Applied Behavior Analysis and Special Education*. Clinical Professor. Designing effective and efficient community-based interventions, Severe behavior disorders, Functional behavior assessment

Christopher G. Wright, PhD *(Tufts University)*. Assistant Professor. Engineering and science education, Urban education, elementary teacher education.

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Fredricka K. Reisman, PhD *(Syracuse University) School of Education, Founder, Drexel School of Education*. Professor Emerita. Director, Freddie Reisman Center for Translational Research in Creativity and Motivation, Creator and Former Director-Creativity and Innovation Programs, Co-Director-Drexel/Torrance Center for Creativity and Innovation, Drexel University Named Recognition- Freddie Reisman Faculty Scholarly and Creative Activity Awards

Elementary Education: Non-Certification

Major: Education
Degree Awarded: Bachelor of Science (BS)
Calendar Type: Quarter
Minimum Required Credits: 180.0
Co-op Options: One Co-op (Four years); No Co-op (Four years)
Classification of Instructional Programs (CIP) code: 13.0101
Standard Occupational Classification (SOC) code: 25-1081

About the Program

Note: Students will not receive Teaching Certification at the completion of this program.

The Bachelor of Science in Elementary Education Non-Certification track prepares students who are informed about theories of teaching and learning and recognize what happens in educational settings. Students then use that information to support teaching and learning in non-school-based settings such as educational non-profits, youth advocacy, or educational entrepreneurial ventures. Students learn skills and knowledge necessary to design, develop, and implement learning environments for a variety of settings. Students will work with their academic advisor to select free elective coursework in creativity and innovation, learning technology, special education, sports leadership and coaching, or other education courses based on their interests.

Admission Requirements

- Three years of high school math (algebra I and II, geometry)
- One year of high school lab science
- Standard undergraduate application with essay and two letters of recommendation
- Standard standardized test scores

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 [**]		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 & NFS 101	Nutrition, Foods, and Health and Introduction to Nutrition & Food	3.0
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		
EDEX 142	Special Education Foundations: Referral and Assessment	3.0
EDEX 344	Inclusive Practices	3.0
EDLT 325	Design for Learning with Digital Media	3.0
EDPO 312	Educational Policy, Law & Advocacy	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 123	Adolescent 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 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 338	Expressive Arts for PK-4	3.0
EDUC 411	Family and Community Partnerships	3.0
Free Electives [†]		**50.0**
Total Credits		**180.0**

[*]   UNIV T101, COOP 101 and CIVC 101 are not required for Education transfer students. Instead, these 3.0 credits are replaced with ESTM 342. 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.

[**]   English (Literature) elective: Select course between ENGL 200 [WI] - ENGL 365

†   Suggested Electives: CRTV 301, CRTV 302, CRTV 303, EDEX 368 [WI] , EDEX 375, EDLT 101, EDLT 201, EDLT 238, EDLT 301, EDLT 303, EDLT 343, EDUC 112, EDUC 113, EDUC 223, EDUC 314, EDUC 322, EDUC 355, EDUC 365, ESTM 342, MTED 418, MTED 428, SCL 101, SCL 102, SCL 201, SCL 203.

Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the Writing Intensive Course List (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/writing-intensive-courses/) at the University Writing Program (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/). (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/drexel-writing-center/) Students scheduling their courses can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.

Sample Plan of Study

4 year, 1 co-op

On-campus Full-time Plan of Study

First Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
EDUC 101	3.0	CIVC 101	1.0	EDEX 142	3.0	VACATION	
EDUC 106	1.0	COM 111	3.0	EDUC 108	1.0		
EDUC 120	3.0	EDUC 107	1.0	EDUC 123	3.0		
ENGL 101 or 111	3.0	EDUC 121	3.0	ENGL 103 or 113	3.0		
MATH 171	3.0	ENGL 102 or 112	3.0	MATH 173 or 107	3.0		
UNIV T101	1.0	MATH 172	3.0	PSY 101	3.0		
	14		**14**		**16**		**0**

Second Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
BIO 101 or 161	3.0	BIO 101 or 162	3.0	EDUC 236	3.0	EDUC 210	3.0
CHEM 111	4.0	COOP 101*	1.0	EDUC 305	1.0	EDUC 306	3.0
EDEX 344	3.0	EDUC 335	3.0	NFS 100 & NFS 101	3.0	EDUC 316	3.0
EDUC 205	1.0	MUSC 130	3.0	PSY 320	3.0	HIST 275	3.0
PSY 330	3.0	Free electives	6.0	Free electives	6.0	Free elective	3.0
Free elective	3.0						
	17		**16**		**16**		**15**

Third Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
COOP EXPERIENCE		COOP EXPERIENCE		ECON 201	4.0	EDLT 325	3.0
				EDUC 326	3.0	EDPO 312	3.0
				SOC 335	3.0	EDUC 324	3.0
				English (Literature) Elective: ENGL 200 - ENGL 365	3.0	EDUC 338	3.0
						Free elective	3.0
	0		**0**		**13**		**15**

Fourth Year

Fall	Credits	Winter	Credits	Spring	Credits
EDUC 411	3.0	EDUC 216	3.0	EDUC 308	3.0
ENVS 260	3.0	Free electives	12.0	PHYS 151	3.0
Free electives	9.0			Free electives	8.0
	15		**15**		**14**

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.

Transfer/Online Part-time Plan of Study

Successfully completed and equivalent course credits from other institutions will be evaluated for transfer credit by an academic advisor. In addition, an individual plan of study will be created for transfer students based on the official transfer credit evaluation.

First Year (Part-Time)

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
EDUC 101	3.0	EDUC 107	1.0	EDEX 142	3.0	ENGL 103 or 113	3.0
EDUC 106	1.0	EDUC 120	3.0	EDUC 108	1.0	EDUC 210	3.0
MATH 171	3.0	ENGL 102 or 112	3.0	EDUC 121	3.0	EDUC 306	3.0
ENGL 101 or 111	3.0	MATH 172	3.0	MATH 172	3.0	HIST 275	3.0
	10		**10**		**10**		**12**

Second Year (Part-Time)

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
BIO 161	3.0	BIO 162	3.0	EDUC 123	3.0	EDPO 312	3.0
EDEX 344	3.0	MUSC 130	3.0	EDUC 236	3.0	EDUC 322	3.0
EDUC 205	1.0	Free elective	3.0	EDUC 305	3.0	EDUC 335	1.0
Free elective	3.0			ENGL 205	3.0		
	10		**9**		**10**		**9**

Third Year (Part-Time)

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
EDUC 324	3.0	EDUC 314 (Or Free elective)	3.0	ECON 201	4.0	EDLT 325	3.0
EDUC 326	3.0	EDUC 316	3.0	EDUC 308	3.0	PHYS 151	3.0
PSY 101	3.0	NFS 100 & NFS 101	3.0	SOC 335	3.0	PSY 330	3.0
	9		**9**		**10**		**9**

Fourth Year (Part-Time)

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
CHEM 111	4.0	ENVS 260	3.0	COM 111	3.0	EDUC 338	3.0
EDUC 411	3.0	PSY 320	3.0	EDUC 355 (Or Free elective)	3.0	MTED 418 (Or Free elective)	3.0
Free elective	3.0	Free elective	3.0	ESTM 342	3.0	Free elective	3.0
	10		**9**		**9**		**9**

Fifth Year (Part-Time)

Fall	Credits	Winter	Credits	Spring	Credits
Free electives	9.0	Free electives	9.0	Free electives	8.0
	9		**9**		**8**

Total Credits 180

Learning Sciences, Experience Design, and Technology

Major: Learning Sciences, Experience Design, and Technology
Degree Awarded: Bachelor of Science (BS)
Calendar Type: Quarter
Minimum Required Credits: 180.0
Co-op Options: One Co-op (Four years)
Classification of Instructional Programs (CIP) code: 13.0501
Standard Occupational Classification (SOC) code: 13-1151

About the Program

Note: Contact us now, but students will not be admitted to the Bachelors of Science online degree completion program in Learning Sciences, Experience Design, and Technology until Fall 2023.

This Bachelor of Science degree completion program (90 transfer credits can be applied toward your BS degree completion). The program is offered exclusively online providing a meaningful credential for future leaders, managers, and workers focused on learning that occurs outside of traditional PK-12 teaching careers. Entrepreneurs are encouraged to apply. The program is appropriate for those who want to be equipped with the working knowledge and experience needed to improve outcomes, for learners of all ages and in all contexts. Students who complete this degree will be prepared

to apply their skills and talents addressing learning in and out of traditional formal education settings and will have practical lab-based and industry experience to build on.

This learner-centered online degree can be completed in as little as two years of full-time study or longer on a part-time schedule. The program provides significant choices for elective coursework enabling a personalized approach. The degree is centered on the practical benefits of the evolving field of learning engineering, the learning sciences, and learning experience design, coupled with maker-labs, social media, and a practical knowledge of learning throughout the lifespan. Taken together with courses in creativity and innovation and human resource development, this enriched degree is appropriate preparation for careers in designing and developing learning environments for any age-group, including adult learners in professional contexts.

This bachelor's degree program is designed for current or future professionals in for-profit organizations, non-profits, schools, government, and higher education, or any employee seeking to improve and innovate learning by creating effective environments and experiences created and delivered through advanced learning technologies for learners of any age-group from children to working-age adults to seniors.

Admission Requirements

Completed application, Personal essay, Official transcripts

To be eligible for admission to this program, students may transfer up to 60.0 semester (90.0 quarter credits) of college credits towards Tier I. Students may enroll in Tier I coursework if they have not completed the maximum transfer credit hours. To graduate, students must have completed 180.0 quarter credits.

Degree Requirements

Tier I Courses

ANTH 101	Introduction to Cultural Diversity	3.0
BIO 100	Applied Cells, Genetics & Physiology	3.0
BIO 101	Applied Biological Diversity, Ecology & Evolution	3.0
CHEM 111	General Chemistry I	4.0
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	
HIST 201	United States History to 1815	4.0
or HIST 202	United States History, 1815-1900	
or HIST 203	United States History since 1900	
INFO 105	Introduction to Informatics	3.0
MATH 101	Introduction to Analysis I	4.0
MUSC 130	Introduction to Music	3.0
PHYS 151	Applied Physics	3.0
PSY 101	General Psychology I	3.0
PSY 330	Cognitive Psychology	3.0
SOC 335	Sociology of Education	3.0
Free Electives		35.0
Tier II Courses		
CRTV 301	Foundations in Creativity	3.0
CRTV 303	Creativity in the Workplace	3.0
EDLT 101	Learning, Culture & Technology Workshop I	3.0
EDLT 201	Learning, Culture and Technology Workshop II	3.0
EDLT 250	Sociocultural Perspectives on Learning	3.0
EDLT 302	Learning Experience Design	3.0
EDLT 303	The Learning Sciences	3.0
EDLT 304	Learning Engineering	3.0
EDLT 310	Making Culture: Designing/Maker-Centered Learning Environments	3.0
EDLT 312	Using and Integrating Learning Technologies	3.0
EDLT 341	Foundations of Game-Based Learning	3.0
EDLT 355	Learning with Social Media and Mobiles	3.0
EDLT 391	Learning Analytics: Lenses on Students, Teaching, and Curriculum Enactment	3.0
EDLT 395	Learning through the Lifespan	3.0

EDLT 491	Senior Project I	3.0
EDLT 492	Senior Project II	3.0
EDLT 493	Senior Project III	3.0
EHRD 460	Principles of Adult Learning	3.0
ELL 304	Learning Technologies and Disabilities	3.0
Free Electives		6.0
Suggested Electives *		27.0
Total Credits		**180.0**

*   Suggested Electives: CRTV 302, EDHE 320, EDHE 321, EDHE 322, EDLT 238, EDLT 343, EDLT 344, EDLT 352, EDLT 354, EDLT 396, ELL 303, EDUC 312, EDUC 316, EDUC 335, EDUC 411, ESTM 342, SCL 201

Sample Plan of Study

Enrollment in Tier II assumes the student has completed the minimum credit hours in Tier I.

Tier II, Full-time Sample Plan of Study

First Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
EDLT 304	3.0	EDLT 101	3.0	CRTV 301	3.0	VACATION	
EDLT 310	3.0	EDLT 303	3.0	EDLT 201	3.0		
EDLT 312	3.0	EDLT 395	3.0	EDLT 302	3.0		
EDLT 341	3.0	Free Elective	3.0	ELL 304	3.0		
Suggested Elective	3.0	Suggested Elective	3.0	Suggested Elective	3.0		
	15		**15**		**15**		**0**

Second Year

Fall	Credits	Winter	Credits	Spring	Credits
EDLT 391	3.0	CRTV 303	3.0	EDLT 355	3.0
EDLT 491	3.0	EDLT 250	3.0	EDLT 493	3.0
EHRD 460	3.0	EDLT 492	3.0	Free Elective	3.0
Suggested Electives	6.0	Suggested Electives	6.0	Suggested Electives	6.0
	15		**15**		**15**

Total Credits 90

Tier II, Part-time Sample Plan of Study

First Year (Part-Time)

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
EDLT 304	3.0	EDLT 101	3.0	EDLT 201	3.0	CRTV 301	3.0
EDLT 310	3.0	EDLT 303	3.0	EDLT 302	3.0	ELL 304	3.0
EDLT 312	3.0	EDLT 395	3.0	Suggested Elective	3.0	Suggested Elective	3.0
	9		**9**		**9**		**9**

Second Year (Part-Time)

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
EDLT 341	3.0	CRTV 303	3.0	EDLT 355	3.0	Free Elective	3.0
EDLT 391	3.0	EDLT 250	3.0	Suggested Elective	3.0	Suggested Elective	3.0
EHRD 460	3.0	Suggested Elective	3.0				
	9		**9**		**6**		**6**

Third Year (Part-Time)

Fall	Credits	Winter	Credits	Spring	Credits
EDLT 491	3.0	EDLT 492	3.0	EDLT 493	3.0
Free Elective	3.0	Suggested Electives	6.0	Suggested Elective	3.0
Suggested Elective	3.0				
	9		**9**		**6**

Total Credits 90

Education Faculty

Jennifer Adams, EdD *(Harvard University)*. Associate Professor. Comparative and international education; Poverty and education; Child welfare; Educational policy.

Ayana Allen, PhD *(Texas A&M University)*. Associate Professor. Urban education; Identity construction in school contexts; Urban school transformation.

Kristen Betts, EdD *(George Washington University)*. Clinical Professor. Higher education administration and governance, online blended education, instructional design and educational technology, program assessment and evaluation.

Eric Brewe, PhD *(Arizona State University)*. Associate Professor. Physics Education Research, introductory course reform, network analysis in learning, neuromechanisms of learning.

Stephanie Smith Budhai, PhD *(Drexel University)*. Associate Clinical Professor. Teacher and higher education, culturally responsive teaching, equity and social justice, online learning, community engagement and service-learning, family involvement and partnerships, and learning technologies.

José Luis Chávez, EdD *(University of Southern California)*. Clinical Professor. Higher education leadership and administration.

Rebecca Clothey, PhD *(University of Pittsburgh) Associate Department Head*. Associate Professor. Comparative and international education, education of ethnic and linguistic minorities, sociology of education.

James Connell, PhD *(Louisiana State University) Founding Clinical Core Director and Research Fellow, A.J. Drexel Autism Institute*. Associate Professor. Identifying the variables that influence adult behavior change in community settings; autism intervention; widespread dissemination of evidence-based interventions in school and community settings.

Kareem Edouard, PhD *(Stanford University)*. Assistant Professor. Educational technology; internet-based STEM learning; equity and inclusion in STEM education

Salvatore V. Falletta, EdD *(North Carolina State University)*. Clinical Professor. Human Resource intelligence (i.e., HR research and analytics practices); HRD assessment, measurement, and evaluation models and taxonomies; organizational diagnostic models; web-based employee and organizational survey methods, and computational modeling.

Aroutis N. Foster, PhD *(Michigan State University) Associate Dean for Academic Affairs and Graduate Studies*. Professor. Educational psychology and educational technology, especially the following: Motivation; Technological Pedagogical Content Knowledge (TPACK); Immersive Interactive Digital Environments (simulation, games, virtual realities.

Rajashi Ghosh, PhD *(University of Louisville, Kentucky) Department Chair for Policy, Organization & Leadership*. Associate Professor. Mentoring and leader development, workplace Incivility, workplace learning and development.

John M. Gould, PhD *(University of Pittsburgh) Harrisburg EdD Educational Leadership & Change Program*. Clinical Professor. Change leadership, curriculum re-design, the impact of technology on learning.

Dominic F. Gullo, PhD *(Indiana University)*. Professor. Studying the relative and long-range effects of early schooling experiences in prekindergarten and kindergarten on children's achievement and social adaptation to school routine.

H. Bernard Hall, PhD *(Temple University)*. Assistant Professor. Hip-hop Pedagogy, English Education, Urban Teacher Education.

Penny Hammrich, PhD *(University of Minnesota) Dean*. Distinguished University Professor. Urban education; science education; genetics; gender equity; science knowledge for conceptual teaching; sport science.

Paul Harrington, PhD *(University of Massachusetts, Boston) Director, Center for Labor Markets and Policy*. Professor. Teen and young adult job access; economic outlook, college labor market; workforce development, planning, and development; vocational rehabilitation and job market transition.

Michael J. Haslip, PhD *(Old Dominion University)*. Assistant Professor. Early childhood education, social and emotional learning, child guidance strategies, effects of public pre-school attendance.

Deanna Hill, JD, PhD *(University of Pittsburgh)*. Associate Clinical Professor. Higher education, international education, education law, education policy

Erin Horvat, PhD *(University of California, Los Angeles) Senior Vice Provost for Faculty Affairs.* Professor. Urban education, access and equity, high school dropout, parent involvement/family involvement, community engagement in research.

Jennifer Katz-Buonincontro, PhD *(University of Oregon) Associate Dean of Research*. Associate Professor. Educational administration, leadership development, survey & instrument design.

Larry Keiser, PhD *(Drexel University)*. Assistant Clinical Professor. Education and corporate/business leaders' creativity and entrepreneurial mindsets; creative school/work environments; neuroscience of creativity; everyday creativity for teachers and educators.

Kristy Kelly, PhD *(University of Wisconsin, Madison)*. Associate Clinical Professor. Sociology of gender and development; anthropology of policy; comparative and international education; qualitative research methods; Vietnam and Southeast Asia.

Cameron Kiosoglous, PhD *(Virginia Tech University) Program Director*. Assistant Clinical Professor. Coached on the USRowing National Team staff since 2002, including the 2004, 2008, 2012, and 2016 Olympic Games; coaching development; measuring coaching quality; self-insight and reflective practices; coaching leadership; conference presenter; published author.

Valerie Klein, PhD *(Amherst College)*. Associate Clinical Professor. Mathematics learning and teaching; teacher's use of formative assessment in mathematics; creating opportunities for rich problem solving in the classroom; examining teachers growth and change; qualitative research methods.

Peggy Kong, PhD *(Harvard University)*. Associate Clinical Professor. Comparative and international education, equity in education, family and community, Chinese education and society, sociology of education

Michael G. Kozak, Ed.D. *(Rowan University)*. Assistant Clinical Professor. Leadership, STEAM, online and blended learning environments, systems thinking, experiential learning, K-12 education, and facilitating change

Amanda Lannie, PhD *(Syracuse University)*. Assistant Clinical Professor. Applied behavior analysis and special education; School-based consultation; system-wide interventions as a mechanism for delivery supports to all students; Designing effective and efficient interventions for students with emotional/behavioral disorders.

Vera Lee, EdD *(University of Pennsylvania) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Practitioner Research in online courses to explore inservice/preservice teachers' emerging understandings about issues of diversity; the development of information/digital literacies of urban youth; English language learners.

Bruce Levine, JD *(New York University)*. Associate Clinical Professor. Educational policy, school law, public-private partnerships, intersection of business and education.

Kristine Lewis-Grant, PhD *(Temple University)*. Clinical Professor. Experiences of students of African descent at predominantly white colleges and universities, college access and college student development, youth civic engagement in urban school reform, qualitative research and evaluation.

William Lynch, PhD *(University of Maryland)*. Professor. Curriculum and educational leadership, educational technology, distance learning policy development, higher and adult education.

Constance Lyttle, PhD, JD *(University of Pittsburgh, Duquesne University)*. Clinical Professor. Legal rights of gifted and talented children and children with disabilities; inclusive education of exceptional children; special education mediation; special education IEP/IFSP facilitation; resolution session facilitation

Joy Phillips, PhD *(The University of Texas at Austin)*. Associate Clinical Professor. Visionary leadership in theory and practice, school reform as innovative problem-setting, thinking qualitatively about school reform. thinking about school reform by drawing, Educational Leadership Program Assessment.

Kathleen Provinzano, PhD *(Marywood University)*. Assistant Professor. Educational administration.

Harriette Rasmussen, EdD *(Fielding Graduate University)*. Assistant Clinical Professor. Educational leadership and change.

Lori Severino, EdD *(Neumann University)*. Assistant Professor. Special education, differentiated instruction, reading, Wilson language, multi-sensory instruction, reading comprehension, assessment, adolescent literacy.

Jason Silverman, PhD *(Vanderbilt University)*. Professor. Teaching and learning of advanced mathematical ideas (algebra and calculus); improving teachers' ability to orchestrate and sustain inquiry-based and discussion-based instruction; technology in mathematics education.

Janet Sloand, EdD *(Duquesne University) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Special Education Leadership, Trauma-informed care, Parent engagement in special education service delivery.

Toni A. Sondergeld, PhD *(University of Toledo)*. Associate Professor. Cognitive and affective assessment development; program/grant evaluation; high stakes testing measurement; STEM education; urban education

Bridget Sweeney Blakely, PhD *(Temple University)*. Assistant Clinical Professor. Consultation; Positive Behavior Interventions and Supports (PBIS); Response to Intervention (Rtl); Systems-level change; performance feedback

Mary Jean Tecce DeCarlo, EdD *(University of Pennsylvania)*. Associate Clinical Professor. Early literacy development, learning differences, knowledge construction, urban education.

Sarah P. Ulrich, EdD *(Saint Joseph's University) Associate Dean of Teacher Education and Undergraduate Affairs*. Clinical Professor. Cross-cultural, language and academic development, school reform, teacher preparation, teacher retention, teacher residencies in urban contexts.

Sheila Vaidya, PhD *(Temple University)*. Professor. Educational psychology, school psychology, research design.

Christina Vorndran, PhD *(Louisiana State University) Program Director, Applied Behavior Analysis and Special Education*. Clinical Professor. Designing effective and efficient community-based interventions, Severe behavior disorders, Functional behavior assessment

Christopher G. Wright, PhD *(Tufts University)*. Assistant Professor. Engineering and science education, Urban education, elementary teacher education.

Emeritus Faculty

Mary Jo Grdina, PhD *(Case Western Reserve University)*. Clinical Professor. Undergraduate studies, science education, curriculum design.

Joyce Pittman, PhD *(Iowa State University of Science and Technology)*. Clinical Professor. Curriculum and instruction K-16; teaching English as a foreign language (TEFL); instructional design business education and administration; industrial and career technology; oral and written communication; research methodology; instructional and assistive technology assessment; online learning pedagogy

Fredricka K. Reisman, PhD *(Syracuse University) School of Education, Founder, Drexel School of Education*. Professor Emerita. Director, Freddie Reisman Center for Translational Research in Creativity and Motivation, Creator and Former Director-Creativity and Innovation Programs, Co-Director-Drexel/Torrance Center for Creativity and Innovation, Drexel University Named Recognition- Freddie Reisman Faculty Scholarly and Creative Activity Awards

Special Education PK-12

Major: Special Education PK-12
Degree Awarded: Bachelor of Science (BS)
Calendar Type: Quarter
Minimum Required Credits:181.0
Co-op Options: No Co-op (Four years)
Classification of Instructional Programs (CIP) code: 13.1001
Standard Occupational Classification (SOC) code: 25-2051; 25-2055; 25-2056; 20-2057; 25-2058

About the Program

Special educators are in a unique position to support diverse young learners to develop social, emotional, academic, and life skills that will serve them throughout their lives. The role of the special educator is challenging and rewarding and requires extensive knowledge and practical experience and insight into their learners' unique abilities and challenges. Drexel's BS in Special Education offers students the opportunity to develop professional knowledge and skills to assist these learners in a full- or part-time online option.

The courses address all required state and federal regulations as well as the Pennsylvania General Standards for Special Education and the competencies and standards outline by the Council of Exceptional Children (CEC). Most courses include a fieldwork component that helps the student apply the skills and content learned in the classroom to real world educational environments.

Admission Requirements

- HS Diploma or GED (in last 2 years) plus transcript
- SAT/ACT score no more than 5 years old

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
EDPO 312	Educational Policy, Law & Advocacy	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 308	Creating a Positive Classroom Climate	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 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 363	Middle Years Mathematics Methods (4-8)	1.5
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	3.0
EDEX 344	Inclusive Practices	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 [WI]	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 [WI]	Student Teaching Seminar I	9.0
EDEX 414 [WI]	Special Education Student Teaching Seminar	9.0
Total Credits		**181.0-182.0**

Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the Writing Intensive Course List (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/writing-intensive-courses/) at the University Writing Program (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/). (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/drexel-writing-center/) Students scheduling their courses can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.

Sample Plan of Study

First Year (Part-Time)

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
EDUC 101	3.0	EDUC 107	1.0	EDEX 142	3.0	EDUC 216	3.0
EDUC 106	1.0	EDUC 120	3.0	EDUC 108	1.0	ENGL 103	3.0
ENGL 101	3.0	ENGL 102	3.0	EDUC 121	3.0	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	EDEX 336	3.0
EDEX 344	3.0	EDEX 368	3.0	EDUC 305	1.0	EDPO 312	3.0
EDUC 205	1.0	EDUC 322	3.0	EDUC 308	3.0	Art History or Music Elective	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
						MTED 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

Education Faculty

Jennifer Adams, EdD *(Harvard University)*. Associate Professor. Comparative and international education; Poverty and education; Child welfare; Educational policy.

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Teacher Education

Major: Teacher Education
Degree Awarded: Bachelor of Science (BS)
Calendar Type: Quarter
Minimum Required Credits: 181.5-195.0
Co-op Options: One Co-op (Four years)
Classification of Instructional Programs (CIP) code: 13.1205
Standard Occupational Classification (SOC) code: 25-2031

About the Program

The Bachelor of Science in Teacher Education program uses University-wide resources to prepare fully qualified teachers at the secondary education levels in various content areas. Drexel's Bachelor of Science in Secondary Education has technology at its core and with a strong emphasis on STEM subject areas. Certification in secondary education prepares teachers for classrooms in grades 7-12. Candidates may work with their academic advisor to satisfy teacher certification requirements for multiple areas, if desired. Available certification areas include:

- Biology (p. 48)
- Chemistry (p. 53)
- Computer Science (p. 58)
- Earth & Space Science (http://catalog.drexel.edu/undergraduate/schoolofeducation/teachereducation/earthandspacescience/)
- English (p. 64)
- General Science (p. 69)
- Mathematics (p. 74)
- Physics (p. 79)
- Social Studies (p. 84)

Candidates pursuing the appropriate majors in the College of Arts and Sciences may also complete the requirements for certification within their area of study through our DragonsTeach certification pathway. For more information, contact the program coordinator for the School of Education at 215-895-6770.

Additional Information

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Teacher Education: Biology

Major: Teacher Education
Degree Awarded: Bachelor of Science (BS)
Calendar Type: Quarter
Minimum Required Credits: 195.0
Co-op Options: One Co-op (Four years)
Classification of Instructional Programs (CIP) code: 13.1205
Standard Occupational Classification (SOC) code: 25-2031

About the Biology Concentration

Certification is for grades 7-12

This certification option within the BS in Teacher Education (p. 45) emphasizes coursework in the biological sciences, including genetics, morphology and physiology, biochemistry, microbiology, and ecology. Candidates may work with their academic advisor to satisfy teacher certification requirements for multiple areas, if desired.

The program requires that candidates have a B average (3.0 GPA) in content courses needed for teacher certification in addition to the grade of B or better in each EDEX, EDLT, EDUC, and MTED courses throughout their time in the program. These requirements must be satisfied in order for Drexel to recommend the candidates for teacher certification upon graduation and/or be considered to have completed the program.

Candidates pursuing the appropriate majors in the College of Arts and Sciences may also complete the requirements for certification within their area of study through our DragonsTeach certification pathway. For more information, contact the program coordinator for the School of Education at 215-895-6770.

Additional Information

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Degree Requirements

Degree Requirements		
CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development [*]	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
HIST 289	History of Science: Enlightenment to Modernity	4.0
MATH 121	Calculus I	4.0
MATH 122	Calculus II	4.0
MATH 123	Calculus III	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
Science Requirements		
BIO 131 & BIO 134	Cells and Biomolecules and Cells and Biomolecules Lab	5.0
BIO 132 & BIO 135	Genetics and Evolution and Genetics and Evolution Lab	5.0
BIO 133 & BIO 136	Physiology and Ecology and Anatomy and Ecology Lab	5.0
BIO 201	Human Physiology I	4.0
BIO 214	Principles of Cell Biology	4.0
BIO 215	Techniques in Cell Biology	3.0
BIO 218	Principles of Molecular Biology	4.0
BIO 219 [WI]	Techniques in Molecular Biology	3.0

BIO 228	Evolutionary Biology & Human Health	3.0
BIO 306	Biochemistry Laboratory	2.0
BIO 373	Developmental Biology	3.0
BIO 374	Developmental Biology Lab	2.0
BIO 404	Structure and Function of Biomolecules	4.0
CHEM 101	General Chemistry I	3.5
CHEM 102	General Chemistry II	4.5
CHEM 241	Organic Chemistry I	4.0
CHEM 242	Organic Chemistry II	4.0
CHEM 244	Organic Chemistry Laboratory I	3.0
CHEM 245	Organic Chemistry Laboratory II	3.0
ENVS 230	General Ecology	3.0
ENVS 284	Physiological and Population Ecology	3.0
PHYS 152	Introductory Physics I	4.0
PHYS 153	Introductory Physics II	4.0
Pedagogy Requirements		
EDEX 142	Special Education Foundations: Referral and Assessment	3.0
EDEX 344	Inclusive Practices	3.0
EDEX 368 [WI]	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
EDPO 312	Educational Policy, Law & Advocacy	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 315	Secondary 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 365	Foundations in Instructing English Language Learners	3.0
EDUC 405	Senior Pedagogy Seminar	1.0
Student Teaching Experience		
EDUC 409 [WI]	Student Teaching Seminar I	9.0
EDUC 410 [WI]	Student Teaching	9.0
Total Credits		**195.0**

*   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 not participating in co-op will take one additional credit of free elective instead of COOP 101.

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Sample Plan of Study

4 year, 1 co-op

First Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
BIO 131 & BIO 134	5.0	BIO 132 & BIO 135	5.0	BIO 133 & BIO 136	5.0	VACATION	
EDUC 101	3.0	CIVC 101	1.0	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
BIO 201	4.0	BIO 215	3.0	BIO 214	4.0	BIO 218	4.0
CHEM 101	3.5	CHEM 102	4.5	CHEM 241	4.0	CHEM 242	4.0
COOP 101[*]	1.0	EDUC 216	3.0	EDEX 368	3.0	EDLT 325	3.0
EDEX 344	3.0	PSY 101	3.0	EDUC 305	1.0	EDUC 322	3.0
EDUC 205	1.0			EDUC 308	3.0	PHYS 153	4.0
EDUC 223	3.0			PHYS 152	4.0		
EDUC 365	3.0						
	18.5		**13.5**		**19**		**18**

Third Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
COOP EXPERIENCE		COOP EXPERIENCE		BIO 219	3.0	BIO 228	3.0
EDUC 315	3.0	CHEM 244	3.0	BIO 373	3.0	BIO 306	2.0
				BIO 374	2.0	EDPO 312	3.0
				EDLT 326	3.0	EDUC 324	3.0
				EDUC 316	3.0	ENVS 230	3.0
	3		**3**		**14**		**14**

Fourth Year

Fall	Credits	Winter	Credits	Spring	Credits
BIO 404	4.0	EDUC 410	9.0	CHEM 245	3.0
EDUC 409	9.0	ENVS 284	3.0	EDUC 405	1.0
				HIST 289	4.0
				PHIL 251	3.0
				PSY 320	3.0
	13		**12**		**14**

Total Credits 195

[*]   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, no co-op

First Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
BIO 131 & BIO 134	5.0	BIO 132 & BIO 135	5.0	BIO 133 & BIO 136	5.0	VACATION	
ENGL 101 or 111	3.0	CIVC 101	1.0	EDEX 142	3.0		
EDUC 101	3.0	EDUC 107	1.0	EDUC 108	1.0		
EDUC 106	1.0	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
BIO 201	4.0	BIO 215	3.0	BIO 214	4.0	VACATION	
CHEM 101	3.5	CHEM 102	4.5	CHEM 241	4.0		
EDEX 344	3.0	EDUC 216	3.0	EDEX 368	3.0		
EDUC 205	1.0	EDUC 322	3.0	EDUC 305	1.0		
EDUC 223	3.0	PSY 101	3.0	EDUC 308	3.0		
EDUC 365	3.0			PHYS 152	4.0		
	17.5		**16.5**		**19**		**0**

Third Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
BIO 218	4.0	BIO 219	3.0	BIO 228	3.0	VACATION	
CHEM 242	4.0	BIO 373	3.0	BIO 306	2.0		
EDLT 325	3.0	BIO 374	2.0	EDPO 312	3.0		
EDUC 315	3.0	CHEM 244	3.0	EDUC 324	3.0		
PHYS 153	4.0	EDLT 326	3.0	ENVS 230	3.0		
		EDUC 316	3.0				
	18		**17**		**14**		**0**

Fourth Year

Fall	Credits	Winter	Credits	Spring	Credits
BIO 404	4.0	EDUC 410	9.0	CHEM 245	3.0
EDUC 409	9.0	ENVS 284	3.0	EDUC 405	1.0
				HIST 289	4.0
				PHIL 251	3.0
				PSY 320	3.0
				Free elective [*]	1.0
	13		**12**		**15**

Total Credits 195

*   Students not participating in co-op will take one additional credit of free elective instead of COOP 101.

Education Faculty

Jennifer Adams, EdD *(Harvard University)*. Associate Professor. Comparative and international education; Poverty and education; Child welfare; Educational policy.

Ayana Allen, PhD *(Texas A&M University)*. Associate Professor. Urban education; Identity construction in school contexts; Urban school transformation.

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Harriette Rasmussen, EdD *(Fielding Graduate University)*. Assistant Clinical Professor. Educational leadership and change.

Lori Severino, EdD *(Neumann University)*. Assistant Professor. Special education, differentiated instruction, reading, Wilson language, multi-sensory instruction, reading comprehension, assessment, adolescent literacy.

Jason Silverman, PhD *(Vanderbilt University)*. Professor. Teaching and learning of advanced mathematical ideas (algebra and calculus); improving teachers' ability to orchestrate and sustain inquiry-based and discussion-based instruction; technology in mathematics education.

Janet Sloand, EdD *(Duquesne University) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Special Education Leadership, Trauma-informed care, Parent engagement in special education service delivery.

Toni A. Sondergeld, PhD *(University of Toledo)*. Associate Professor. Cognitive and affective assessment development; program/grant evaluation; high stakes testing measurement; STEM education; urban education

Bridget Sweeney Blakely, PhD *(Temple University)*. Assistant Clinical Professor. Consultation; Positive Behavior Interventions and Supports (PBIS); Response to Intervention (Rtl); Systems-level change; performance feedback

Mary Jean Tecce DeCarlo, EdD *(University of Pennsylvania)*. Associate Clinical Professor. Early literacy development, learning differences, knowledge construction, urban education.

Sarah P. Ulrich, EdD *(Saint Joseph's University) Associate Dean of Teacher Education and Undergraduate Affairs*. Clinical Professor. Cross-cultural, language and academic development, school reform, teacher preparation, teacher retention, teacher residencies in urban contexts.

Sheila Vaidya, PhD *(Temple University)*. Professor. Educational psychology, school psychology, research design.

Christina Vorndran, PhD *(Louisiana State University) Program Director, Applied Behavior Analysis and Special Education*. Clinical Professor. Designing effective and efficient community-based interventions, Severe behavior disorders, Functional behavior assessment

Christopher G. Wright, PhD *(Tufts University)*. Assistant Professor. Engineering and science education, Urban education, elementary teacher education.

Emeritus Faculty

Mary Jo Grdina, PhD *(Case Western Reserve University)*. Clinical Professor. Undergraduate studies, science education, curriculum design.

Joyce Pittman, PhD *(Iowa State University of Science and Technology)*. Clinical Professor. Curriculum and instruction K-16; teaching English as a foreign language (TEFL); instructional design business education and administration; industrial and career technology; oral and written communication; research methodology; instructional and assistive technology assessment; online learning pedagogy

Fredricka K. Reisman, PhD *(Syracuse University) School of Education, Founder, Drexel School of Education*. Professor Emerita. Director, Freddie Reisman Center for Translational Research in Creativity and Motivation, Creator and Former Director-Creativity and Innovation Programs, Co-Director-Drexel/Torrance Center for Creativity and Innovation, Drexel University Named Recognition- Freddie Reisman Faculty Scholarly and Creative Activity Awards

Teacher Education: Chemistry

Major: Teacher Education
Degree Awarded: Bachelor of Science (BS)
Calendar Type: Quarter
Minimum Required Credits: 186.0
Co-op Options: One Co-op (Four years)
Classification of Instructional Programs (CIP) code: 13.1205
Standard Occupational Classification (SOC) code: 25-2031

About the Concentration

Certification is for grades 7-12

This certification option within the BS in Teacher Education (p. 45) emphasizes coursework in areas such as organic chemistry, physical chemistry, biochemistry, analytical chemistry, and inorganic chemistry. Candidates may work with their academic advisor to satisfy teacher certification requirements for multiple areas, if desired.

The program requires that candidates have a B average (3.0 GPA) in content courses needed for teacher certification in addition to the grade of B or better in each EDEX, EDLT, EDUC, and MTED courses throughout their time in the program. These requirements must be satisfied in order for Drexel to recommend the candidates for teacher certification upon graduation and/or be considered to have completed the program.

Candidates pursuing the appropriate majors in the College of Arts and Sciences may also complete the requirements for certification within their area of study through our DragonsTeach certification pathway. For more information, contact the program coordinator for the School of Education at 215-895-6770.

Additional Information

For more information about the program, visit the School of Education (http://www.drexel.edu/soe/) website.

Degree Requirements

General Education Requirements

CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development [*]	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
English elective course between 200-329		3.0
MATH 121	Calculus I	4.0
MATH 122	Calculus II	4.0
MATH 200	Multivariate Calculus	4.0
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
Science Requirements		
BIO 107	Cells, Genetics & Physiology	3.0
BIO 108	Cells, Genetics and Physiology Laboratory	1.0
CHEM 101	General Chemistry I	3.5
CHEM 102	General Chemistry II	4.5
CHEM 103	General Chemistry III	4.5
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
CHEM 243	Organic Chemistry III	3.0
CHEM 244	Organic Chemistry Laboratory I	3.0
CHEM 245	Organic Chemistry Laboratory II	3.0
CHEM 253	Thermodynamics and Kinetics	4.0
CHEM 357 [WI]	Physical Chemistry Laboratory I	2.5
CHEM 420	Molecular Symmetry and Group Theory Applied Chemistry	3.0
CHEM 421	Inorganic Chemistry I	3.0
ENVS 401	Chemistry of the Environment	3.0
PHEV 145	Weather I: Climate and Global Change	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
Pedagogy Requirements		
EDEX 142	Special Education Foundations: Referral and Assessment	3.0
EDEX 344	Inclusive Practices	3.0
EDEX 368 [WI]	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
EDPO 312	Educational Policy, Law & Advocacy	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 315	Secondary 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 365	Foundations in Instructing English Language Learners	3.0
EDUC 405	Senior Pedagogy Seminar	1.0
Student Teaching Experiences		
EDUC 409 [WI]	Student Teaching Seminar I	9.0
EDUC 410 [WI]	Student Teaching (Chemistry)	9.0
Total Credits		**186.0**

*   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.

Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the Writing Intensive Course List (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/writing-intensive-courses/) at the University Writing Program (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/). (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/drexel-writing-center/) Students scheduling their courses can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.

Sample Plan of Study

4 year, 1 co-op

First Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
CHEM 101	3.5	CHEM 102	4.5	CHEM 103	4.5	VACATION	
EDUC 101	3.0	CIVC 101	1.0	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		
PSY 101	3.0	MATH 122	4.0				
UNIV T101	1.0						
	18.5		**16.5**		**14.5**		**0**

Second Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
BIO 107	3.0	CHEM 231	2.0	CHEM 242	4.0	CHEM 243	3.0
BIO 108	1.0	CHEM 241	1.0	EDEX 368	4.0	EDLT 325	3.0

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
CHEM 230	4.0	EDUC 216	3.0	EDUC 305	1.0	EDUC 322	3.0
COOP 101*	1.0	MATH 200	4.0	EDUC 308	3.0	PHEV 145	4.0
EDEX 344	3.0			PHYS 101	4.0	PHYS 102	4.0
EDUC 205	1.0						
EDUC 223	3.0						
EDUC 365	3.0						
	19		**13**		**15**		**17**

Third Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
COOP EXPERIENCE		COOP EXPERIENCE		CHEM 245	3.0	CHEM 253	4.0
EDUC 315	3.0	CHEM 244	3.0	EDLT 326	3.0	EDPO 312	3.0
				EDUC 316	3.0	EDUC 324	3.0
				PHYS 201	4.0	PHIL 251	3.0
	3		**3**		**13**		**13**

Fourth Year

Fall	Credits	Winter	Credits	Spring	Credits
CHEM 357	2.5	CHEM 420	3.0	CHEM 421	3.0
EDUC 409	9.0	EDUC 410	9.0	EDUC 405	1.0
ENGL 200 - ENGL 329	3.0			ENVS 401	3.0
				HIST 289	4.0
				PSY 320	3.0
	14.5		**12**		**14**

Total Credits 186

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Kathleen Provinzano, PhD *(Marywood University)*. Assistant Professor. Educational administration.

Harriette Rasmussen, EdD *(Fielding Graduate University)*. Assistant Clinical Professor. Educational leadership and change.

Lori Severino, EdD *(Neumann University)*. Assistant Professor. Special education, differentiated instruction, reading, Wilson language, multi-sensory instruction, reading comprehension, assessment, adolescent literacy.

Jason Silverman, PhD *(Vanderbilt University)*. Professor. Teaching and learning of advanced mathematical ideas (algebra and calculus); improving teachers' ability to orchestrate and sustain inquiry-based and discussion-based instruction; technology in mathematics education.

Janet Sloand, EdD *(Duquesne University) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Special Education Leadership, Trauma-informed care, Parent engagement in special education service delivery.

Toni A. Sondergeld, PhD *(University of Toledo)*. Associate Professor. Cognitive and affective assessment development; program/grant evaluation; high stakes testing measurement; STEM education; urban education

Bridget Sweeney Blakely, PhD *(Temple University)*. Assistant Clinical Professor. Consultation; Positive Behavior Interventions and Supports (PBIS); Response to Intervention (RtI); Systems-level change; performance feedback

Mary Jean Tecce DeCarlo, EdD *(University of Pennsylvania)*. Associate Clinical Professor. Early literacy development, learning differences, knowledge construction, urban education.

Sarah P. Ulrich, EdD *(Saint Joseph's University) Associate Dean of Teacher Education and Undergraduate Affairs*. Clinical Professor. Cross-cultural, language and academic development, school reform, teacher preparation, teacher retention, teacher residencies in urban contexts.

Sheila Vaidya, PhD *(Temple University)*. Professor. Educational psychology, school psychology, research design.

Christina Vorndran, PhD *(Louisiana State University) Program Director, Applied Behavior Analysis and Special Education*. Clinical Professor. Designing effective and efficient community-based interventions, Severe behavior disorders, Functional behavior assessment

Christopher G. Wright, PhD *(Tufts University)*. Assistant Professor. Engineering and science education, Urban education, elementary teacher education.

Emeritus Faculty

Mary Jo Grdina, PhD *(Case Western Reserve University)*. Clinical Professor. Undergraduate studies, science education, curriculum design.

Joyce Pittman, PhD *(Iowa State University of Science and Technology)*. Clinical Professor. Curriculum and instruction K-16; teaching English as a foreign language (TEFL); instructional design business education and administration; industrial and career technology; oral and written communication; research methodology; instructional and assistive technology assessment; online learning pedagogy

Fredricka K. Reisman, PhD *(Syracuse University) School of Education, Founder, Drexel School of Education*. Professor Emerita. Director, Freddie Reisman Center for Translational Research in Creativity and Motivation, Creator and Former Director-Creativity and Innovation Programs, Co-Director-Drexel/Torrance Center for Creativity and Innovation, Drexel University Named Recognition- Freddie Reisman Faculty Scholarly and Creative Activity Awards

Teacher Education: Computer Science

Major: Teacher Education
Degree Awarded: Bachelor of Science (BS)
Calendar Type: Quarter
Minimum Required Credits: 183.0
Co-op Options: One Co-op (Four years)
Classification of Instructional Programs (CIP) code: 13.1316
Standard Occupational Classification (SOC) code: 25-2031

About the Concentration

Certification is for grades 7-12

This certification option within the BS in Teacher Education (p. 45)is a well-rounded program collaborating with the College of Computing and Informatics to prepare Computer Science teachers in the state of Pennsylvania. Candidates may work with their academic advisor to satisfy teacher certification requirements for multiple areas, if desired.

The program requires that candidates have a B average (3.0 GPA) in content courses needed for teacher certification in addition to the grade of B or better in each EDEX, EDLT, CS, EDUC, and ESTM courses throughout their time in the program. These requirements must be satisfied in order for Drexel to recommend the candidates for teacher certification upon graduation and/or be considered to have completed the program.

Candidates pursuing the appropriate majors in the College of Arts and Sciences may also complete the requirements for certification within their area of study through our DragonsTeach certification pathway.

Additional Information

For more information about the program, visit the School of Education (https://nam10.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.drexel.edu%2Fsoe&data=04%7C01%7Cdha25%40drexel.edu%7C7724584055354fc5303b08d92f40ac3d%7C3664e6fa47bd45a696708c4f080f8ca6%7C0%7C0%7C637592777068701188%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=jvgI5KX1BeChKo%2BaLBJrasq6Yrd7lPxXQ1qpwk5FHG4%3D&reserved=0) website.

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 & BIO 134	Cells and Biomolecules and Cells and Biomolecules Lab	
BIO 132 & BIO 135	Genetics and Evolution and Genetics and Evolution Lab	
BIO 133 & BIO 136	Physiology and Ecology and Anatomy and Ecology Lab	
CHEM 101 & CHEM 102 & CHEM 103	General Chemistry I and General Chemistry II and General Chemistry III	
PHYS 101 & PHYS 102 & PHYS 201	Fundamentals of Physics I and Fundamentals of Physics II 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, CT, INFO, SE 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	Inclusive Practices	3.0
EDEX 368 [WI]	Literacy and Content Skill Development PK-12	3.0
EDLT 326	Technology Applications for Learning	3.0
EDPO 312	Educational Policy, Law & Advocacy	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 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 [WI]	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**

*   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.

Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the Writing Intensive Course List (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/writing-intensive-courses/) at the University Writing Program (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/). (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/drexel-writing-center/) Students scheduling their courses can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.

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	EDPO 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

* 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.

Education Faculty

Jennifer Adams, EdD *(Harvard University)*. Associate Professor. Comparative and international education; Poverty and education; Child welfare; Educational policy.

Ayana Allen, PhD *(Texas A&M University)*. Associate Professor. Urban education; Identity construction in school contexts; Urban school transformation.

Kristen Betts, EdD *(George Washington University)*. Clinical Professor. Higher education administration and governance, online blended education, instructional design and educational technology, program assessment and evaluation.

Eric Brewe, PhD *(Arizona State University)*. Associate Professor. Physics Education Research, introductory course reform, network analysis in learning, neuromechanisms of learning.

Stephanie Smith Budhai, PhD *(Drexel University)*. Associate Clinical Professor. Teacher and higher education, culturally responsive teaching, equity and social justice, online learning, community engagement and service-learning, family involvement and partnerships, and learning technologies.

José Luis Chávez, EdD *(University of Southern California)*. Clinical Professor. Higher education leadership and administration.

Rebecca Clothey, PhD *(University of Pittsburgh) Associate Department Head*. Associate Professor. Comparative and international education, education of ethnic and linguistic minorities, sociology of education.

James Connell, PhD *(Louisiana State University) Founding Clinical Core Director and Research Fellow, A.J. Drexel Autism Institute*. Associate Professor. Identifying the variables that influence adult behavior change in community settings; autism intervention; widespread dissemination of evidence-based interventions in school and community settings.

Kareem Edouard, PhD *(Stanford University)*. Assistant Professor. Educational technology; internet-based STEM learning; equity and inclusion in STEM education

Salvatore V. Falletta, EdD *(North Carolina State University)*. Clinical Professor. Human Resource intelligence (i.e., HR research and analytics practices); HRD assessment, measurement, and evaluation models and taxonomies; organizational diagnostic models; web-based employee and organizational survey methods, and computational modeling.

Aroutis N. Foster, PhD *(Michigan State University) Associate Dean for Academic Affairs and Graduate Studies*. Professor. Educational psychology and educational technology, especially the following: Motivation; Technological Pedagogical Content Knowledge (TPACK); Immersive Interactive Digital Environments (simulation, games, virtual realities.

Rajashi Ghosh, PhD *(University of Louisville, Kentucky) Department Chair for Policy, Organization & Leadership*. Associate Professor. Mentoring and leader development, workplace Incivility, workplace learning and development.

John M. Gould, PhD *(University of Pittsburgh) Harrisburg EdD Educational Leadership & Change Program*. Clinical Professor. Change leadership, curriculum re-design, the impact of technology on learning.

Dominic F. Gullo, PhD *(Indiana University)*. Professor. Studying the relative and long-range effects of early schooling experiences in prekindergarten and kindergarten on children's achievement and social adaptation to school routine.

H. Bernard Hall, PhD *(Temple University)*. Assistant Professor. Hip-hop Pedagogy, English Education, Urban Teacher Education.

Penny Hammrich, PhD *(University of Minnesota) Dean*. Distinguished University Professor. Urban education; science education; genetics; gender equity; science knowledge for conceptual teaching; sport science.

Paul Harrington, PhD *(University of Massachusetts, Boston) Director, Center for Labor Markets and Policy*. Professor. Teen and young adult job access; economic outlook, college labor market; workforce development, planning, and development; vocational rehabilitation and job market transition.

Michael J. Haslip, PhD *(Old Dominion University)*. Assistant Professor. Early childhood education, social and emotional learning, child guidance strategies, effects of public pre-school attendance.

Deanna Hill, JD, PhD *(University of Pittsburgh)*. Associate Clinical Professor. Higher education, international education, education law, education policy

Erin Horvat, PhD *(University of California, Los Angeles) Senior Vice Provost for Faculty Affairs*. Professor. Urban education, access and equity, high school dropout, parent involvement/family involvement, community engagement in research.

Jennifer Katz-Buonincontro, PhD *(University of Oregon) Associate Dean of Research*. Associate Professor. Educational administration, leadership development, survey & instrument design.

Larry Keiser, PhD *(Drexel University)*. Assistant Clinical Professor. Education and corporate/business leaders' creativity and entrepreneurial mindsets; creative school/work environments; neuroscience of creativity; everyday creativity for teachers and educators.

Kristy Kelly, PhD *(University of Wisconsin, Madison)*. Associate Clinical Professor. Sociology of gender and development; anthropology of policy; comparative and international education; qualitative research methods; Vietnam and Southeast Asia.

Cameron Kiosoglous, PhD *(Virginia Tech University) Program Director*. Assistant Clinical Professor. Coached on the USRowing National Team staff since 2002, including the 2004, 2008, 2012, and 2016 Olympic Games; coaching development; measuring coaching quality; self-insight and reflective practices; coaching leadership; conference presenter; published author.

Valerie Klein, PhD *(Amherst College)*. Associate Clinical Professor. Mathematics learning and teaching; teacher's use of formative assessment in mathematics; creating opportunities for rich problem solving in the classroom; examining teachers growth and change; qualitative research methods.

Peggy Kong, PhD *(Harvard University)*. Associate Clinical Professor. Comparative and international education, equity in education, family and community, Chinese education and society, sociology of education

Michael G. Kozak, Ed.D. *(Rowan University)*. Assistant Clinical Professor. Leadership, STEAM, online and blended learning environments, systems thinking, experiential learning, K-12 education, and facilitating change

Amanda Lannie, PhD *(Syracuse University)*. Assistant Clinical Professor. Applied behavior analysis and special education; School-based consultation; system-wide interventions as a mechanism for delivery supports to all students; Designing effective and efficient interventions for students with emotional/behavioral disorders.

Vera Lee, EdD *(University of Pennsylvania) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Practitioner Research in online courses to explore inservice/preservice teachers' emerging understandings about issues of diversity; the development of information/digital literacies of urban youth; English language learners.

Bruce Levine, JD *(New York University)*. Associate Clinical Professor. Educational policy, school law, public-private partnerships, intersection of business and education.

Kristine Lewis-Grant, PhD *(Temple University)*. Clinical Professor. Experiences of students of African descent at predominantly white colleges and universities, college access and college student development, youth civic engagement in urban school reform, qualitative research and evaluation.

William Lynch, PhD *(University of Maryland)*. Professor. Curriculum and educational leadership, educational technology, distance learning policy development, higher and adult education.

Constance Lyttle, PhD, JD *(University of Pittsburgh, Duquesne University)*. Clinical Professor. Legal rights of gifted and talented children and children with disabilities; inclusive education of exceptional children; special education mediation; special education IEP/IFSP facilitation; resolution session facilitation

Joy Phillips, PhD *(The University of Texas at Austin)*. Associate Clinical Professor. Visionary leadership in theory and practice, school reform as innovative problem-setting, thinking qualitatively about school reform. thinking about school reform by drawing, Educational Leadership Program Assessment.

Kathleen Provinzano, PhD *(Marywood University)*. Assistant Professor. Educational administration.

Harriette Rasmussen, EdD *(Fielding Graduate University)*. Assistant Clinical Professor. Educational leadership and change.

Lori Severino, EdD *(Neumann University)*. Assistant Professor. Special education, differentiated instruction, reading, Wilson language, multi-sensory instruction, reading comprehension, assessment, adolescent literacy.

Jason Silverman, PhD *(Vanderbilt University)*. Professor. Teaching and learning of advanced mathematical ideas (algebra and calculus); improving teachers' ability to orchestrate and sustain inquiry-based and discussion-based instruction; technology in mathematics education.

Janet Sloand, EdD *(Duquesne University) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Special Education Leadership, Trauma-informed care, Parent engagement in special education service delivery.

Toni A. Sondergeld, PhD *(University of Toledo)*. Associate Professor. Cognitive and affective assessment development; program/grant evaluation; high stakes testing measurement; STEM education; urban education

Bridget Sweeney Blakely, PhD *(Temple University)*. Assistant Clinical Professor. Consultation; Positive Behavior Interventions and Supports (PBIS); Response to Intervention (Rtl); Systems-level change; performance feedback

Mary Jean Tecce DeCarlo, EdD *(University of Pennsylvania)*. Associate Clinical Professor. Early literacy development, learning differences, knowledge construction, urban education.

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Sheila Vaidya, PhD *(Temple University)*. Professor. Educational psychology, school psychology, research design.

Christina Vorndran, PhD *(Louisiana State University) Program Director, Applied Behavior Analysis and Special Education*. Clinical Professor. Designing effective and efficient community-based interventions, Severe behavior disorders, Functional behavior assessment

Christopher G. Wright, PhD *(Tufts University)*. Assistant Professor. Engineering and science education, Urban education, elementary teacher education.

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Fredricka K. Reisman, PhD *(Syracuse University) School of Education, Founder, Drexel School of Education*. Professor Emerita. Director, Freddie Reisman Center for Translational Research in Creativity and Motivation, Creator and Former Director-Creativity and Innovation Programs, Co-Director-

Drexel/Torrance Center for Creativity and Innovation, Drexel University Named Recognition- Freddie Reisman Faculty Scholarly and Creative Activity Awards

Teacher Education: English

Major: Teacher Education
Degree Awarded: Bachelor of Science (BS)
Calendar Type: Quarter
Minimum Required Credits: 182.0
Co-op Options: One Co-op (Four years)
Classification of Instructional Programs (CIP) code: 13.1305
Standard Occupational Classification (SOC) code: 25-2031

About the Concentration

Certification is for grades 7-12

This certification option within the BS in Teacher Education (p. 45) emphasizes coursework in areas such as literature and writing, young adult fiction, and techniques for effectively teaching reading and writing skills. Candidates may work with their academic advisor to satisfy teacher certification requirements for multiple areas, if desired.

The program requires that candidates have a B average (3.0 GPA) in content courses needed for teacher certification in addition to the grade of B or better in each EDEX, EDLT, EDUC, and MTED courses throughout their time in the program. These requirements must be satisfied in order for Drexel to recommend the candidates for teacher certification upon graduation and/or be considered to have completed the program.

Candidates pursuing the appropriate majors in the College of Arts and Sciences may also complete the requirements for certification within their area of study through our DragonsTeach certification pathway. For more information, contact the program coordinator for the School of Education at 215-895-6770.

Additional Information

For more information about the program, visit the School of Education (http://www.drexel.edu/soe/) website.

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	Inclusive Practices	3.0
EDEX 368 [WI]	Literacy and Content Skill Development PK-12	3.0
EDLT 325	Design for Learning with Digital Media	3.0
EDPO 312	Educational Policy, Law & Advocacy	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 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 [WI]	Student Teaching Seminar I	9.0
EDUC 410 [WI]	Student Teaching	9.0
Free Elective		3.0
Total Credits		**182.0-184.0**

*   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.

Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the Writing Intensive Course List (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/writing-intensive-courses/) at the University Writing Program (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/). (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/drexel-writing-center/) Students scheduling their courses can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.

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
EDUC 205	1.0	INFO 101	3.0	EDUC 305	1.0	EDUC 322	3.0
EDUC 223	3.0	LING 101	3.0	EDUC 308	3.0	HIST 201, 202, or 203	4.0
EDUC 365	3.0	NFS 100 & NFS 101	3.0	ENVS 260	3.0		
ENGL 200	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	EDPO 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
	3		**3**		**12**		**12**

Fourth Year

Fall	Credits	Winter	Credits	Spring	Credits
EDUC 409	9.0	EDUC 410	9.0	EDUC 405	1.0
ENGL 204	3.0	ENGL 335	3.0	ENGL 205	3.0
				ENGL 206	3.0
				ENGL 325	3.0
				MUSC 130	3.0
				Free Elective	3.0
	12		**12**		**16**

Total Credits 182-184

Education Faculty

Jennifer Adams, EdD *(Harvard University)*. Associate Professor. Comparative and international education; Poverty and education; Child welfare; Educational policy.

Ayana Allen, PhD *(Texas A&M University)*. Associate Professor. Urban education; Identity construction in school contexts; Urban school transformation.

Kristen Betts, EdD *(George Washington University)*. Clinical Professor. Higher education administration and governance, online blended education, instructional design and educational technology, program assessment and evaluation.

Eric Brewe, PhD *(Arizona State University)*. Associate Professor. Physics Education Research, introductory course reform, network analysis in learning, neuromechanisms of learning.

Stephanie Smith Budhai, PhD *(Drexel University)*. Associate Clinical Professor. Teacher and higher education, culturally responsive teaching, equity and social justice, online learning, community engagement and service-learning, family involvement and partnerships, and learning technologies.

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Aroutis N. Foster, PhD *(Michigan State University) Associate Dean for Academic Affairs and Graduate Studies*. Professor. Educational psychology and educational technology, especially the following: Motivation; Technological Pedagogical Content Knowledge (TPACK); Immersive Interactive Digital Environments (simulation, games, virtual realities.

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Sheila Vaidya, PhD *(Temple University)*. Professor. Educational psychology, school psychology, research design.

Christina Vorndran, PhD *(Louisiana State University) Program Director, Applied Behavior Analysis and Special Education*. Clinical Professor. Designing effective and efficient community-based interventions, Severe behavior disorders, Functional behavior assessment

Christopher G. Wright, PhD *(Tufts University)*. Assistant Professor. Engineering and science education, Urban education, elementary teacher education.

Emeritus Faculty

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Fredricka K. Reisman, PhD *(Syracuse University) School of Education, Founder, Drexel School of Education*. Professor Emerita. Director, Freddie Reisman Center for Translational Research in Creativity and Motivation, Creator and Former Director-Creativity and Innovation Programs, Co-Director-Drexel/Torrance Center for Creativity and Innovation, Drexel University Named Recognition- Freddie Reisman Faculty Scholarly and Creative Activity Awards

Teacher Education: General Science

Major: Teacher Education
Degree Awarded: Bachelor of Science (BS)
Calendar Type: Quarter
Minimum Required Credits: 181.5
Co-op Options: One Co-op (Four years)
Classification of Instructional Programs (CIP) code: 13.1205
Standard Occupational Classification (SOC) code: 25-2031

About the Concentration

Certification is for grades 7-12

This certification option within the BS in Teacher Education (p. 45) is a well-rounded program incorporating biology, chemistry, mathematics, and physics. Candidates may work with their academic advisor to satisfy teacher certification requirements for multiple areas, if desired.

The program requires that candidates have a B average (3.0 GPA) in content courses needed for teacher certification in addition to the grade of B or better in each EDEX, EDLT, EDUC, and MTED courses throughout their time in the program. These requirements must be satisfied in order for Drexel to recommend the candidates for teacher certification upon graduation and/or be considered to have completed the program.

Candidates pursuing the appropriate majors in the College of Arts and Sciences may also complete the requirements for certification within their area of study through our DragonsTeach certification pathway. For more information, contact the program coordinator for the School of Education at 215-895-6770.

Additional Information

For more information about the program, visit the School of Education (http://www.drexel.edu/soe/) website.

Degree Requirements

General Education Requirements

CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development [*]	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
English (ENGL) course between 200-329		3.0
HIST 283	Technology and Identity	4.0
HIST 285	Technology in Historical Perspective	4.0
HIST 289	History of Science: Enlightenment to Modernity	4.0
MATH 121	Calculus I	4.0
MATH 122	Calculus II	4.0
MATH 123	Calculus III	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
Free Electives		6.0
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
CHEM 103	General Chemistry III	4.5
ENVS 284	Physiological and Population Ecology	3.0
ENVS 286	Community and Ecosystem Ecology	3.0
GEO 101	Physical Geology	4.0
GEO 102	History of the Earth	4.0
GEO 207	Introduction to Oceanography	3.0
PHEV 145	Weather I: Climate and Global Change	4.0
PHYS 101	Fundamentals of Physics I	4.0
PHYS 102	Fundamentals of Physics II	4.0
PHYS 131	Survey of the Universe	3.0
Pedagogy Requirements		
EDEX 142	Special Education Foundations: Referral and Assessment	3.0
EDEX 344	Inclusive Practices	3.0
EDEX 368 [WI]	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
EDPO 312	Educational Policy, Law & Advocacy	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 315	Secondary 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 365	Foundations in Instructing English Language Learners	3.0
EDUC 405	Senior Pedagogy Seminar	1.0
Student Teaching Experiences		
EDUC 409 [WI]	Student Teaching Seminar I	9.0
EDUC 410 [WI]	Student Teaching	9.0
Total Credits		**181.5**

*   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.

Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the Writing Intensive Course List (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/writing-intensive-courses/) at the University Writing Program (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/). (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/drexel-writing-center/) Students scheduling their courses can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.

Sample Plan of Study

4 year, 1 co-op

First Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
BIO 107	3.0	BIO 109	3.0	EDEX 142	3.0	VACATION	
BIO 108	1.0	BIO 110	1.0	EDUC 108	1.0		
EDUC 101	3.0	CIVC 101	1.0	EDUC 123	3.0		
EDUC 106	1.0	EDUC 107	1.0	ENGL 103 or 113	3.0		
ENGL 101 or 111	3.0	EDUC 113	3.0	GEO 101	4.0		
MATH 121	4.0	ENGL 102 or 112	3.0	MATH 123	4.0		
UNIV T101	1.0	MATH 122	4.0				
	16		**16**		**18**		**0**

Second Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
CHEM 101	3.5	CHEM 102	4.5	CHEM 103	4.5	EDLT 325	3.0
COOP 101[*]	1.0	EDUC 216	3.0	EDEX 368	3.0	EDUC 322	3.0
EDEX 344	3.0	ENVS 286[**]	3.0	EDUC 305	1.0	PHIL 251	3.0
EDUC 205	1.0	GEO 102	4.0	EDUC 308	3.0	PHYS 131	3.0
EDUC 223	3.0	HIST 283	4.0	PSY 101	3.0		
EDUC 365	3.0						
ENVS 284	3.0						
	17.5		**18.5**		**14.5**		**12**

Third Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
COOP EXPERIENCE		COOP EXPERIENCE		EDLT 326	3.0	EDPO 312	3.0
EDUC 315	3.0			EDUC 316	3.0	EDUC 324	3.0
				PHYS 101	4.0	HIST 285	4.0
				PSY 320	3.0	PHYS 102	4.0
	3		**0**		**13**		**14**

Fourth Year

Fall	Credits	Winter	Credits	Spring	Credits
EDUC 409	9.0	EDUC 410	9.0	EDUC 405	1.0
Free elective	3.0	Free elective	3.0	GEO 207	3.0
				HIST 289	4.0
				PHEV 145	4.0
				ENGL 200 - ENGL 329	3.0
	12		**12**		**15**

Total Credits 181.5

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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 must take ENVS 286 no later than Third Year, Winter Term. Course is offered every other year.

Education Faculty

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Teacher Education: Mathematics

Major: Teacher Education
Degree Awarded: Bachelor of Science (BS)
Calendar Type: Quarter
Minimum Required Credits:185.0
Co-op Options: One Co-op (Four years)
Classification of Instructional Programs (CIP) code: 13.1205
Standard Occupational Classification (SOC) code: 25-2031

About the Concentration

Certification is for grades 7-12

This certification option within the BS in Teacher Education (p. 45) emphasizes coursework in areas of mathematics such as calculus, linear algebra, differential equations, probability and statistics, techniques of mathematical proof, and discrete mathematics. Candidates may work with their academic advisor to satisfy teacher certification requirements for multiple areas, if desired.

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Candidates pursuing the appropriate majors in the College of Arts and Sciences may also complete the requirements for certification within their area of study through our DragonsTeach certification pathway. For more information, contact the program coordinator for the School of Education at 215-895-6770.

Additional Information

For more information about the program, visit the School of Education (http://www.drexel.edu/soe/) website.

Degree 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	Inclusive Practices	3.0
EDEX 368 [WI]	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
EDPO 312	Educational Policy, Law & Advocacy	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 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 [WI]	Student Teaching Seminar I	9.0
EDUC 410 [WI]	Student Teaching	9.0
Total Credits		**185.0**

*   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

Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore

year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the Writing Intensive Course List (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/writing-intensive-courses/) at the University Writing Program (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/). (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/drexel-writing-center/) Students scheduling their courses can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.

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 T101	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	3.0	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	EDPO 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
	3		**0**		**13**		**13**

Fourth Year

Fall	Credits	Winter	Credits	Spring	Credits
EDUC 409	9.0	EDUC 410	9.0	EDUC 405	1.0
MATH 331	4.0	MATH 311	4.0	ENVS 260	3.0
				MATH 312	4.0
				PSY 320	3.0
				ENGL 200 - ENGL 395	3.0
	13		**13**		**14**

Total Credits 185

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Education Faculty

Jennifer Adams, EdD *(Harvard University)*. Associate Professor. Comparative and international education; Poverty and education; Child welfare; Educational policy.

Ayana Allen, PhD *(Texas A&M University)*. Associate Professor. Urban education; Identity construction in school contexts; Urban school transformation.

Kristen Betts, EdD *(George Washington University)*. Clinical Professor. Higher education administration and governance, online blended education, instructional design and educational technology, program assessment and evaluation.

Eric Brewe, PhD *(Arizona State University)*. Associate Professor. Physics Education Research, introductory course reform, network analysis in learning, neuromechanisms of learning.

Stephanie Smith Budhai, PhD *(Drexel University)*. Associate Clinical Professor. Teacher and higher education, culturally responsive teaching, equity and social justice, online learning, community engagement and service-learning, family involvement and partnerships, and learning technologies.

José Luis Chávez, EdD *(University of Southern California)*. Clinical Professor. Higher education leadership and administration.

Rebecca Clothey, PhD *(University of Pittsburgh) Associate Department Head*. Associate Professor. Comparative and international education, education of ethnic and linguistic minorities, sociology of education.

James Connell, PhD *(Louisiana State University) Founding Clinical Core Director and Research Fellow, A.J. Drexel Autism Institute*. Associate Professor. Identifying the variables that influence adult behavior change in community settings; autism intervention; widespread dissemination of evidence-based interventions in school and community settings.

Kareem Edouard, PhD *(Stanford University)*. Assistant Professor. Educational technology; internet-based STEM learning; equity and inclusion in STEM education

Salvatore V. Falletta, EdD *(North Carolina State University)*. Clinical Professor. Human Resource intelligence (i.e., HR research and analytics practices); HRD assessment, measurement, and evaluation models and taxonomies; organizational diagnostic models; web-based employee and organizational survey methods, and computational modeling.

Aroutis N. Foster, PhD *(Michigan State University) Associate Dean for Academic Affairs and Graduate Studies*. Professor. Educational psychology and educational technology, especially the following: Motivation; Technological Pedagogical Content Knowledge (TPACK); Immersive Interactive Digital Environments (simulation, games, virtual realities.

Rajashi Ghosh, PhD *(University of Louisville, Kentucky) Department Chair for Policy, Organization & Leadership*. Associate Professor. Mentoring and leader development, workplace Incivility, workplace learning and development.

John M. Gould, PhD *(University of Pittsburgh) Harrisburg EdD Educational Leadership & Change Program*. Clinical Professor. Change leadership, curriculum re-design, the impact of technology on learning.

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H. Bernard Hall, PhD *(Temple University)*. Assistant Professor. Hip-hop Pedagogy, English Education, Urban Teacher Education.

Penny Hammrich, PhD *(University of Minnesota) Dean*. Distinguished University Professor. Urban education; science education; genetics; gender equity; science knowledge for conceptual teaching; sport science.

Paul Harrington, PhD *(University of Massachusetts, Boston) Director, Center for Labor Markets and Policy*. Professor. Teen and young adult job access; economic outlook, college labor market; workforce development, planning, and development; vocational rehabilitation and job market transition.

Michael J. Haslip, PhD *(Old Dominion University)*. Assistant Professor. Early childhood education, social and emotional learning, child guidance strategies, effects of public pre-school attendance.

Deanna Hill, JD, PhD *(University of Pittsburgh)*. Associate Clinical Professor. Higher education, international education, education law, education policy

Erin Horvat, PhD *(University of California, Los Angeles) Senior Vice Provost for Faculty Affairs.* Professor. Urban education, access and equity, high school dropout, parent involvement/family involvement, community engagement in research.

Jennifer Katz-Buonincontro, PhD *(University of Oregon) Associate Dean of Research*. Associate Professor. Educational administration, leadership development, survey & instrument design.

Larry Keiser, PhD *(Drexel University)*. Assistant Clinical Professor. Education and corporate/business leaders' creativity and entrepreneurial mindsets; creative school/work environments; neuroscience of creativity; everyday creativity for teachers and educators.

Kristy Kelly, PhD *(University of Wisconsin, Madison)*. Associate Clinical Professor. Sociology of gender and development; anthropology of policy; comparative and international education; qualitative research methods; Vietnam and Southeast Asia.

Cameron Kiosoglous, PhD *(Virginia Tech University) Program Director*. Assistant Clinical Professor. Coached on the USRowing National Team staff since 2002, including the 2004, 2008, 2012, and 2016 Olympic Games; coaching development; measuring coaching quality; self-insight and reflective practices; coaching leadership; conference presenter; published author.

Valerie Klein, PhD *(Amherst College)*. Associate Clinical Professor. Mathematics learning and teaching; teacher's use of formative assessment in mathematics; creating opportunities for rich problem solving in the classroom; examining teachers growth and change; qualitative research methods.

Peggy Kong, PhD *(Harvard University)*. Associate Clinical Professor. Comparative and international education, equity in education, family and community, Chinese education and society, sociology of education

Michael G. Kozak, Ed.D. *(Rowan University)*. Assistant Clinical Professor. Leadership, STEAM, online and blended learning environments, systems thinking, experiential learning, K-12 education, and facilitating change

Amanda Lannie, PhD *(Syracuse University)*. Assistant Clinical Professor. Applied behavior analysis and special education; School-based consultation; system-wide interventions as a mechanism for delivery supports to all students; Designing effective and efficient interventions for students with emotional/behavioral disorders.

Vera Lee, EdD *(University of Pennsylvania) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Practitioner Research in online courses to explore inservice/preservice teachers' emerging understandings about issues of diversity; the development of information/digital literacies of urban youth; English language learners.

Bruce Levine, JD *(New York University)*. Associate Clinical Professor. Educational policy, school law, public-private partnerships, intersection of business and education.

Kristine Lewis-Grant, PhD *(Temple University)*. Clinical Professor. Experiences of students of African descent at predominantly white colleges and universities, college access and college student development, youth civic engagement in urban school reform, qualitative research and evaluation.

William Lynch, PhD *(University of Maryland)*. Professor. Curriculum and educational leadership, educational technology, distance learning policy development, higher and adult education.

Constance Lyttle, PhD, JD *(University of Pittsburgh, Duquesne University)*. Clinical Professor. Legal rights of gifted and talented children and children with disabilities; inclusive education of exceptional children; special education mediation; special education IEP/IFSP facilitation; resolution session facilitation

Joy Phillips, PhD *(The University of Texas at Austin)*. Associate Clinical Professor. Visionary leadership in theory and practice, school reform as innovative problem-setting, thinking qualitatively about school reform. thinking about school reform by drawing, Educational Leadership Program Assessment.

Kathleen Provinzano, PhD *(Marywood University)*. Assistant Professor. Educational administration.

Harriette Rasmussen, EdD *(Fielding Graduate University)*. Assistant Clinical Professor. Educational leadership and change.

Lori Severino, EdD *(Neumann University)*. Assistant Professor. Special education, differentiated instruction, reading, Wilson language, multi-sensory instruction, reading comprehension, assessment, adolescent literacy.

Jason Silverman, PhD *(Vanderbilt University)*. Professor. Teaching and learning of advanced mathematical ideas (algebra and calculus); improving teachers' ability to orchestrate and sustain inquiry-based and discussion-based instruction; technology in mathematics education.

Janet Sloand, EdD *(Duquesne University) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Special Education Leadership, Trauma-informed care, Parent engagement in special education service delivery.

Toni A. Sondergeld, PhD *(University of Toledo)*. Associate Professor. Cognitive and affective assessment development; program/grant evaluation; high stakes testing measurement; STEM education; urban education

Bridget Sweeney Blakely, PhD *(Temple University)*. Assistant Clinical Professor. Consultation; Positive Behavior Interventions and Supports (PBIS); Response to Intervention (Rtl); Systems-level change; performance feedback

Mary Jean Tecce DeCarlo, EdD *(University of Pennsylvania)*. Associate Clinical Professor. Early literacy development, learning differences, knowledge construction, urban education.

Sarah P. Ulrich, EdD *(Saint Joseph's University) Associate Dean of Teacher Education and Undergraduate Affairs*. Clinical Professor. Cross-cultural, language and academic development, school reform, teacher preparation, teacher retention, teacher residencies in urban contexts.

Sheila Vaidya, PhD *(Temple University)*. Professor. Educational psychology, school psychology, research design.

Christina Vorndran, PhD *(Louisiana State University) Program Director, Applied Behavior Analysis and Special Education*. Clinical Professor. Designing effective and efficient community-based interventions, Severe behavior disorders, Functional behavior assessment

Christopher G. Wright, PhD *(Tufts University)*. Assistant Professor. Engineering and science education, Urban education, elementary teacher education.

Emeritus Faculty

Mary Jo Grdina, PhD *(Case Western Reserve University)*. Clinical Professor. Undergraduate studies, science education, curriculum design.

Joyce Pittman, PhD *(Iowa State University of Science and Technology)*. Clinical Professor. Curriculum and instruction K-16; teaching English as a foreign language (TEFL); instructional design business education and administration; industrial and career technology; oral and written communication; research methodology; instructional and assistive technology assessment; online learning pedagogy

Fredricka K. Reisman, PhD *(Syracuse University) School of Education, Founder, Drexel School of Education*. Professor Emerita. Director, Freddie Reisman Center for Translational Research in Creativity and Motivation, Creator and Former Director-Creativity and Innovation Programs, Co-Director-Drexel/Torrance Center for Creativity and Innovation, Drexel University Named Recognition- Freddie Reisman Faculty Scholarly and Creative Activity Awards

Teacher Education: Physics

Major: Teacher Education
Degree Awarded: Bachelor of Science (BS)
Calendar Type: Quarter
Minimum Required Credits: 186.0
Co-op Options: One Co-op (Four years)
Classification of Instructional Programs (CIP) code: 13.1205
Standard Occupational Classification (SOC) code: 25-2031

About the Concentration

Certification is for grades 7-12

This certification option within the BS in Teacher Education (p. 45) emphasizes coursework in physics and atmospheric science, including topics such as classical mechanics, electromagnetic fields, quantum mechanics, physics of high fidelity, and survey of the universe. Candidates may work with their academic advisor to satisfy teacher certification requirements for multiple areas, if desired.

The program requires that candidates have a B average (3.0 GPA) in content courses needed for teacher certification in addition to the grade of B or better in each EDEX, EDLT, EDUC, and MTED courses throughout their time in the program. These requirements must be satisfied in order for Drexel to recommend the candidates for teacher certification upon graduation and/or be considered to have completed the program.

Candidates pursuing the appropriate majors in the College of Arts and Sciences may also complete the requirements for certification within their area of study through our DragonsTeach certification pathway. For more information, contact the program coordinator for the School of Education at 215-895-6770.

Additional Information

For more information about the program, visit the School of Education (http://drexel.edu/soe/) website.

Degree Requirements

General Education Requirements

CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development [*]	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
English elective course between 200-329		3.0
HIST 289	History of Science: Enlightenment to Modernity	4.0
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
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
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
PHEV 145	Weather I: Climate and Global Change	4.0
PHYS 113	Contemporary Physics I	5.0
PHYS 114	Contemporary Physics II	5.0
PHYS 115	Contemporary Physics III	5.0
PHYS 131	Survey of the Universe	3.0
PHYS 217	Thermodynamics	4.0
PHYS 311	Classical Mechanics I	4.0
PHYS 321	Electromagnetic Fields I	4.0
PHYS 326	Quantum Mechanics I	4.0
Pedagogy Requirements		
EDEX 142	Special Education Foundations: Referral and Assessment	3.0
EDEX 344	Inclusive Practices	3.0
EDEX 368 [WI]	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
EDPO 312	Educational Policy, Law & Advocacy	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 315	Secondary 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 365	Foundations in Instructing English Language Learners	3.0
EDUC 405	Senior Pedagogy Seminar	1.0
Free Electives		**6.0**
Student Teaching Experiences		
EDUC 409 [WI]	Student Teaching Seminar I	9.0
EDUC 410 [WI]	Student Teaching	9.0
Total Credits		**186.0**

*   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.

Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore

year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the Writing Intensive Course List (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/writing-intensive-courses/) at the University Writing Program (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/). (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/drexel-writing-center/) Students scheduling their courses can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.

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	EDEX 142	3.0	VACATION	
EDUC 106	1.0	EDUC 107	1.0	EDUC 108	1.0		
ENGL 101 or 111	3.0	EDUC 113	3.0	EDUC 123	3.0		
MATH 121	4.0	ENGL 102 or 112	3.0	ENGL 103 or 113	3.0		
PHYS 113	5.0	MATH 122	4.0	MATH 200	4.0		
UNIV T101	1.0	PHYS 114	5.0	PHYS 115	5.0		
	17		**17**		**19**		**0**

Second Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
CHEM 101	3.5	CHEM 102	4.5	BIO 107	3.0	BIO 109	3.0
COOP 101[*]	1.0	EDUC 216	3.0	BIO 108	1.0	BIO 110	1.0
EDEX 344	3.0	HIST 289	4.0	EDEX 368	3.0	EDLT 325	3.0
EDUC 205	1.0	PHYS 311	4.0	EDUC 305	1.0	EDUC 315	3.0
EDUC 223	3.0			EDUC 308	3.0	EDUC 322	3.0
EDUC 365	3.0			PSY 101	3.0	ENVS 260	3.0
PHYS 217	4.0						
	18.5		**15.5**		**14**		**16**

Third Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
COOP EXPERIENCE		COOP EXPERIENCE		EDLT 326	3.0	EDPO 312	3.0
PHYS 321 or 326	4.0			EDUC 316	3.0	EDUC 324	3.0
				MATH 201	4.0	ENGL 200 - ENGL 329	3.0
				PSY 320	3.0	MATH 210	4.0
	4		**0**		**13**		**13**

Fourth Year

Fall	Credits	Winter	Credits	Spring	Credits
EDUC 409	9.0	EDUC 410	9.0	EDUC 405	1.0
PHYS 321 or 326	4.0	Free Elective	3.0	PHEV 145	4.0
				PHIL 251	3.0
				PHYS 131	3.0
				Free Elective	3.0
	13		**12**		**14**

Total Credits 186

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Ayana Allen, PhD *(Texas A&M University)*. Associate Professor. Urban education; Identity construction in school contexts; Urban school transformation.

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Stephanie Smith Budhai, PhD *(Drexel University)*. Associate Clinical Professor. Teacher and higher education, culturally responsive teaching, equity and social justice, online learning, community engagement and service-learning, family involvement and partnerships, and learning technologies.

José Luis Chávez, EdD *(University of Southern California)*. Clinical Professor. Higher education leadership and administration.

Rebecca Clothey, PhD *(University of Pittsburgh) Associate Department Head*. Associate Professor. Comparative and international education, education of ethnic and linguistic minorities, sociology of education.

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Paul Harrington, PhD *(University of Massachusetts, Boston) Director, Center for Labor Markets and Policy*. Professor. Teen and young adult job access; economic outlook, college labor market; workforce development, planning, and development; vocational rehabilitation and job market transition.

Michael J. Haslip, PhD *(Old Dominion University)*. Assistant Professor. Early childhood education, social and emotional learning, child guidance strategies, effects of public pre-school attendance.

Deanna Hill, JD, PhD *(University of Pittsburgh)*. Associate Clinical Professor. Higher education, international education, education law, education policy

Erin Horvat, PhD *(University of California, Los Angeles) Senior Vice Provost for Faculty Affairs.* Professor. Urban education, access and equity, high school dropout, parent involvement/family involvement, community engagement in research.

Jennifer Katz-Buonincontro, PhD *(University of Oregon) Associate Dean of Research*. Associate Professor. Educational administration, leadership development, survey & instrument design.

Larry Keiser, PhD *(Drexel University)*. Assistant Clinical Professor. Education and corporate/business leaders' creativity and entrepreneurial mindsets; creative school/work environments; neuroscience of creativity; everyday creativity for teachers and educators.

Kristy Kelly, PhD *(University of Wisconsin, Madison)*. Associate Clinical Professor. Sociology of gender and development; anthropology of policy; comparative and international education; qualitative research methods; Vietnam and Southeast Asia.

Cameron Kiosoglous, PhD *(Virginia Tech University) Program Director*. Assistant Clinical Professor. Coached on the USRowing National Team staff since 2002, including the 2004, 2008, 2012, and 2016 Olympic Games; coaching development; measuring coaching quality; self-insight and reflective practices; coaching leadership; conference presenter; published author.

Valerie Klein, PhD *(Amherst College)*. Associate Clinical Professor. Mathematics learning and teaching; teacher's use of formative assessment in mathematics; creating opportunities for rich problem solving in the classroom; examining teachers growth and change; qualitative research methods.

Peggy Kong, PhD *(Harvard University)*. Associate Clinical Professor. Comparative and international education, equity in education, family and community, Chinese education and society, sociology of education

Michael G. Kozak, Ed.D. *(Rowan University)*. Assistant Clinical Professor. Leadership, STEAM, online and blended learning environments, systems thinking, experiential learning, K-12 education, and facilitating change

Amanda Lannie, PhD *(Syracuse University)*. Assistant Clinical Professor. Applied behavior analysis and special education; School-based consultation; system-wide interventions as a mechanism for delivery supports to all students; Designing effective and efficient interventions for students with emotional/behavioral disorders.

Vera Lee, EdD *(University of Pennsylvania) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Practitioner Research in online courses to explore inservice/preservice teachers' emerging understandings about issues of diversity; the development of information/digital literacies of urban youth; English language learners.

Bruce Levine, JD *(New York University)*. Associate Clinical Professor. Educational policy, school law, public-private partnerships, intersection of business and education.

Kristine Lewis-Grant, PhD *(Temple University)*. Clinical Professor. Experiences of students of African descent at predominantly white colleges and universities, college access and college student development, youth civic engagement in urban school reform, qualitative research and evaluation.

William Lynch, PhD *(University of Maryland)*. Professor. Curriculum and educational leadership, educational technology, distance learning policy development, higher and adult education.

Constance Lyttle, PhD, JD *(University of Pittsburgh, Duquesne University)*. Clinical Professor. Legal rights of gifted and talented children and children with disabilities; inclusive education of exceptional children; special education mediation; special education IEP/IFSP facilitation; resolution session facilitation

Joy Phillips, PhD *(The University of Texas at Austin)*. Associate Clinical Professor. Visionary leadership in theory and practice, school reform as innovative problem-setting, thinking qualitatively about school reform. thinking about school reform by drawing, Educational Leadership Program Assessment.

Kathleen Provinzano, PhD *(Marywood University)*. Assistant Professor. Educational administration.

Harriette Rasmussen, EdD *(Fielding Graduate University)*. Assistant Clinical Professor. Educational leadership and change.

Lori Severino, EdD *(Neumann University)*. Assistant Professor. Special education, differentiated instruction, reading, Wilson language, multi-sensory instruction, reading comprehension, assessment, adolescent literacy.

Jason Silverman, PhD *(Vanderbilt University)*. Professor. Teaching and learning of advanced mathematical ideas (algebra and calculus); improving teachers' ability to orchestrate and sustain inquiry-based and discussion-based instruction; technology in mathematics education.

Janet Sloand, EdD *(Duquesne University) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Special Education Leadership, Trauma-informed care, Parent engagement in special education service delivery.

Toni A. Sondergeld, PhD *(University of Toledo)*. Associate Professor. Cognitive and affective assessment development; program/grant evaluation; high stakes testing measurement; STEM education; urban education

Bridget Sweeney Blakely, PhD *(Temple University)*. Assistant Clinical Professor. Consultation; Positive Behavior Interventions and Supports (PBIS); Response to Intervention (RtI); Systems-level change; performance feedback

Mary Jean Tecce DeCarlo, EdD *(University of Pennsylvania)*. Associate Clinical Professor. Early literacy development, learning differences, knowledge construction, urban education.

Sarah P. Ulrich, EdD *(Saint Joseph's University) Associate Dean of Teacher Education and Undergraduate Affairs*. Clinical Professor. Cross-cultural, language and academic development, school reform, teacher preparation, teacher retention, teacher residencies in urban contexts.

Sheila Vaidya, PhD *(Temple University)*. Professor. Educational psychology, school psychology, research design.

Christina Vorndran, PhD *(Louisiana State University) Program Director, Applied Behavior Analysis and Special Education*. Clinical Professor. Designing effective and efficient community-based interventions, Severe behavior disorders, Functional behavior assessment

Christopher G. Wright, PhD *(Tufts University)*. Assistant Professor. Engineering and science education, Urban education, elementary teacher education.

Emeritus Faculty

Mary Jo Grdina, PhD *(Case Western Reserve University)*. Clinical Professor. Undergraduate studies, science education, curriculum design.

Joyce Pittman, PhD *(Iowa State University of Science and Technology)*. Clinical Professor. Curriculum and instruction K-16; teaching English as a foreign language (TEFL); instructional design business education and administration; industrial and career technology; oral and written communication; research methodology; instructional and assistive technology assessment; online learning pedagogy

Fredricka K. Reisman, PhD *(Syracuse University) School of Education, Founder, Drexel School of Education*. Professor Emerita. Director, Freddie Reisman Center for Translational Research in Creativity and Motivation, Creator and Former Director-Creativity and Innovation Programs, Co-Director-Drexel/Torrance Center for Creativity and Innovation, Drexel University Named Recognition- Freddie Reisman Faculty Scholarly and Creative Activity Awards

Teacher Education: Social Studies

Major: Teacher Education
Degree Awarded: Bachelor of Science (BS)
Calendar Type: Quarter
Minimum Required Credits: 187.0
Co-op Options: One Co-op (Four years)
Classification of Instructional Programs (CIP) code: 13.1205
Standard Occupational Classification (SOC) code: 25-2031

About the Concentration

Certification is for grades 7-12

This certification option within the BS in Teacher Education (p. 45) is designed to prepare candidates to teach social studies using appropriate pedagogy strategies. Topics include history, geography, civics, economics, and psychology. Candidates may work with their academic advisor to satisfy teacher certification requirements for multiple areas, if desired.

The program requires that candidates have a B average (3.0 GPA) in content courses needed for teacher certification in addition to the grade of B or better in each EDEX, EDLT, EDUC, and MTED courses throughout their time in the program. These requirements must be satisfied in order for Drexel to recommend the candidates for teacher certification upon graduation and/or be considered to have completed the program.

Candidates pursuing the appropriate majors in the College of Arts and Sciences may also complete the requirements for certification within their area of study through our DragonsTeach certification pathway. For more information, contact the program coordinator for the School of Education at 215-895-6770.

Additional Information

For more information about the program, visit the School of Education (https://drexel.edu/soe/) website.

Degree Requirements

General Education Requirements

ANTH 101	Introduction to Cultural Diversity	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	Inclusive Practices	3.0
EDEX 368 [WI]	Literacy and Content Skill Development PK-12	3.0
EDLT 325	Design for Learning with Digital Media	3.0
EDPO 312	Educational Policy, Law & Advocacy	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 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
Free elective		3.0
Student Teaching Experience		
EDUC 409 [WI]	Student Teaching Seminar I	9.0
EDUC 410 [WI]	Student Teaching	9.0
Total Credits		**187.0**

*   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.

Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the Writing Intensive Course List (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/writing-intensive-courses/) at the University Writing Program (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/). (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/drexel-writing-center/) Students scheduling their courses can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.

Sample Plan of Study

First Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
EDUC 101	3.0	ANTH 101	3.0	EDEX 142	3.0	VACATION	
EDUC 106	1.0	CIVC 101	1.0	EDUC 108	1.0		
ENGL 101 or 111	3.0	EDUC 107	1.0	EDUC 123	3.0		
HIST 161	4.0	EDUC 113	3.0	ENGL 103 or 113	3.0		
MATH 171	3.0	ENGL 102 or 112	3.0	MATH 173	3.0		
PSY 101	3.0	HIST 162 or 163	4.0	Free elective	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	3.0	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	EDPO 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
	3		**0**		**12**		**14**

Fourth Year

Fall	Credits	Winter	Credits	Spring	Credits
EDUC 409	9.0	ECON 201	4.0	ECON 202	4.0
PSCI 220	4.0	EDUC 410	9.0	EDUC 405	1.0
				HIST 212	4.0
				PSCI 240	4.0
	13		**13**		**13**

Total Credits 187

* 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.

Education Faculty

Jennifer Adams, EdD *(Harvard University)*. Associate Professor. Comparative and international education; Poverty and education; Child welfare; Educational policy.

Ayana Allen, PhD *(Texas A&M University)*. Associate Professor. Urban education; Identity construction in school contexts; Urban school transformation.

Kristen Betts, EdD *(George Washington University)*. Clinical Professor. Higher education administration and governance, online blended education, instructional design and educational technology, program assessment and evaluation.

Eric Brewe, PhD *(Arizona State University)*. Associate Professor. Physics Education Research, introductory course reform, network analysis in learning, neuromechanisms of learning.

Stephanie Smith Budhai, PhD *(Drexel University)*. Associate Clinical Professor. Teacher and higher education, culturally responsive teaching, equity and social justice, online learning, community engagement and service-learning, family involvement and partnerships, and learning technologies.

José Luis Chávez, EdD *(University of Southern California)*. Clinical Professor. Higher education leadership and administration.

Rebecca Clothey, PhD *(University of Pittsburgh) Associate Department Head*. Associate Professor. Comparative and international education, education of ethnic and linguistic minorities, sociology of education.

James Connell, PhD *(Louisiana State University) Founding Clinical Core Director and Research Fellow, A.J. Drexel Autism Institute*. Associate Professor. Identifying the variables that influence adult behavior change in community settings; autism intervention; widespread dissemination of evidence-based interventions in school and community settings.

Kareem Edouard, PhD *(Stanford University)*. Assistant Professor. Educational technology; internet-based STEM learning; equity and inclusion in STEM education

Salvatore V. Falletta, EdD *(North Carolina State University)*. Clinical Professor. Human Resource intelligence (i.e., HR research and analytics practices); HRD assessment, measurement, and evaluation models and taxonomies; organizational diagnostic models; web-based employee and organizational survey methods, and computational modeling.

Aroutis N. Foster, PhD *(Michigan State University) Associate Dean for Academic Affairs and Graduate Studies*. Professor. Educational psychology and educational technology, especially the following: Motivation; Technological Pedagogical Content Knowledge (TPACK); Immersive Interactive Digital Environments (simulation, games, virtual realities.

Rajashi Ghosh, PhD *(University of Louisville, Kentucky) Department Chair for Policy, Organization & Leadership*. Associate Professor. Mentoring and leader development, workplace Incivility, workplace learning and development.

John M. Gould, PhD *(University of Pittsburgh) Harrisburg EdD Educational Leadership & Change Program*. Clinical Professor. Change leadership, curriculum re-design, the impact of technology on learning.

Dominic F. Gullo, PhD *(Indiana University)*. Professor. Studying the relative and long-range effects of early schooling experiences in prekindergarten and kindergarten on children's achievement and social adaptation to school routine.

H. Bernard Hall, PhD *(Temple University)*. Assistant Professor. Hip-hop Pedagogy, English Education, Urban Teacher Education.

Penny Hammrich, PhD *(University of Minnesota) Dean*. Distinguished University Professor. Urban education; science education; genetics; gender equity; science knowledge for conceptual teaching; sport science.

Paul Harrington, PhD *(University of Massachusetts, Boston) Director, Center for Labor Markets and Policy*. Professor. Teen and young adult job access; economic outlook, college labor market; workforce development, planning, and development; vocational rehabilitation and job market transition.

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Fredricka K. Reisman, PhD *(Syracuse University) School of Education, Founder, Drexel School of Education*. Professor Emerita. Director, Freddie Reisman Center for Translational Research in Creativity and Motivation, Creator and Former Director-Creativity and Innovation Programs, Co-Director-Drexel/Torrance Center for Creativity and Innovation, Drexel University Named Recognition- Freddie Reisman Faculty Scholarly and Creative Activity Awards

Elementary Education PK4 BS / Applied Behavior Analysis MS

Major: Elementary Education, PK-4 and Applied Behavioral Analysis
Degree Awarded: Bachelor of Science (BS) and Master of Science (MS)
Calendar Type: Quarter
Minimum Required Credits: 226.5
Co-op Options: One Co-op (Five years)
BS Classification of Instructional Programs (CIP) code: 13.1202
BS Standard Occupational Classification (SOC) code: 25-2031
MS Classification of Instructional Programs (CIP) code: 42.2814
MS Standard Occupational Classification (SOC) code: 19-3031

About the Program

The BS/MS in Teacher Education with Elementary Education and MS in Applied Behavior Analysis 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 with Pennsylvania initial state teacher certification and continue for a fifth graduate year to complete the MS in Applied Behavior Analysis.

The BS/MS in Teacher Education and Applied Behavior Analysis track prepares students academically and practically for careers in PK–12 teaching or other educational settings, including capabilities to:

- Demonstrate professional ethics and independent and creative academic best practices that exhibit outstanding leadership, organizational, cross cultural, inter-personal and advocacy skills including the ability to communicate effectively with internal and external groups.
- Understand the changing role of teachers in increasingly diverse societies
- Demonstrate a strong academic background in all subject areas that meet PDE requirements including literacy, language and STEM areas
- Demonstrate the ability to create and maintain a positive and democratic classroom climate for students
- Demonstrate a thorough understanding of child development in their ability to develop and implement learning opportunities that are unique to every child
- Develop creative academic leadership skills with a global perspective on current educational issues, knowledge of best pedagogical practices, tools to effectively integrate technology in curriculum, assessment and instruction, and a strong academic background in all subject areas that meet PDE content requirements.
- Develop competencies to become reflective practitioners who are lifelong learners, who base their practice on theory, research, and developmentally appropriate pedagogy by analyzing, implementing, and evaluating existing and new instructional strategies and practices in a variety of educational institutions/organizations.

Admission Requirements

Same as BS in Elementary Education, BSMS application must be submitted during Sophomore year before 120 credits have been completed with cumulative 3.0 GPA to gain acceptance into BS/MS program. Continuation as a BS/MS student in Applied Behavior Analysis program requires maintaining minimum term and cumulative 3.0 GPA.

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	
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	Inclusive Practices	3.0
EDEX 368 [WI]	Literacy and Content Skill Development PK-12	3.0
EDLT 325	Design for Learning with Digital Media	3.0
EDPO 312	Educational Policy, Law & Advocacy	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 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 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 [WI]	Student Teaching Seminar I	9.0
EDUC 410 [WI]	Student Teaching	9.0
MS in Applied Behavior Analysis Core		
ABA 630	Fundamental Elements of Behavior Change	4.5
ABA 631	Measurement and Experimental Design	4.5
ABA 632	Behavioral Assessment and Functional Analysis	4.5
ABA 633	Behavioral Interventions	4.5
ABA 634	Consultation, Systems Change and Supervision	4.5
ABA 635	Ethical Considerations and Professional Conduct	4.5
ABA 636	Applications of Fundamental Elements of Behavior Analysis	4.5
MS in ABA Capstone Sequence		
ABA 780	Capstone in ABA I	3.0
ABA 781	Capstone in ABA II	3.0
Concentration Options (select one of the following):		**9.0**
Social Emotional and Behavior Wellness		
Select 3 of the following:		
EDEX 580	Social Emotional Wellness and Evidence-Based Preventative School Practices	
EDEX 581	Understanding Social Emotional Disorders	
EDEX 582	Evidence-Based School Interventions and Trauma Informed Education/Care	
EDEX 583	Collaboration and Community Based Practices to Promote Social Emotion Wellness	
Autism Spectrum Disorders		
Select 3 of the following:		
EDEX 555	Teaching Students with Autism Spectrum Disorder	
EDEX 556	Characteristics & Methods: Autism	
EDEX 558	Characteristics & Methods: High Functioning Autism	
EDEX 560	Communication & Language Interventions: Autism Spectrum Disorders	
EDEX 562	Behavior & Sensory Support: Autism Spectrum Disorders	
Advanced Topics in ABA		
ABA 640	An Analysis of Verbal Behavior	
ABA 641	Therapeutic Approaches Using Principles of Behavior Analysis	
ABA 642	Seminar in Applied Behavior Analysis	
Total Credits		**226.5**

*   COOP 101, CIVC 101 and UNIV T101 are not required for Education transfer students. Instead, these 3.0 credits are replaced with free electives. 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.

Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the Writing Intensive Course List (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/writing-intensive-courses/) at the University Writing Program (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/). (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/drexel-writing-center/) Students scheduling their courses can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.

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 101	3.0	BIO 100 or 161	3.0	EDEX 142	3.0	VACATION	
EDUC 106	1.0	CIVC 101*	1.0	EDUC 108	1.0		
EDUC 120	3.0	COM 111	3.0	ENGL 103 or 113	3.0		
ENGL 101 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
CHEM 111	4.0	BIO 101 or 161	3.0	EDUC 236	3.0	EDPO 312	3.0
EDEX 344	3.0	COOP 101*	1.0	EDUC 326	3.0	EDUC 210	3.0
EDUC 205	1.0	EDEX 368	3.0	EDUC 365	3.0	EDUC 306	3.0
EDUC 308	3.0	EDUC 216	3.0	NFS 100	2.0	EDUC 335	3.0
PSY 330	3.0	EDUC 314	3.0	NFS 101	1.0	HIST 275	3.0
		EDUC 316	3.0	PSY 320	3.0		
	14		**16**		**15**		**15**

Third Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
COOP EXPERIENCE		COOP EXPERIENCE		ECON 201	4.0	EDLT 325	3.0
MTED 417	3.0	EDUC 336	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
				English (Literature) Elective: ENGL 200 - ENGL 360	3.0	MTED 418	3.0
				(GR) Concentration Course	3.0	(GR) Concentration Course	3.0
	3		**3**		**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 converts to Graduate status	
EDUC 409	9.0	SOC 335	3.0	(UG) Free Electives	10.0	ABA 631	4.5
EDUC 411	3.0	(GR) Concentration Course	3.0	ABA 630	4.5	ABA 633	4.5
	13		**15**		**17.5**		**9**

Fifth Year

Fall	Credits	Winter	Credits	Spring	Credits
ABA 632	4.5	ABA 636	4.5	ABA 634	4.5
ABA 780	3.0	ABA 781	3.0	ABA 635	4.5
	7.5		**7.5**		**9**

Total Credits 226.5

*   Students must receive Department permission to pursue the NCOP option. Students will work directly with their advisor to establish a unique plan of study.

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

Education Faculty

Jennifer Adams, EdD *(Harvard University)*. Associate Professor. Comparative and international education; Poverty and education; Child welfare; Educational policy.

Ayana Allen, PhD *(Texas A&M University)*. Associate Professor. Urban education; Identity construction in school contexts; Urban school transformation.

Kristen Betts, EdD *(George Washington University)*. Clinical Professor. Higher education administration and governance, online blended education, instructional design and educational technology, program assessment and evaluation.

Eric Brewe, PhD *(Arizona State University)*. Associate Professor. Physics Education Research, introductory course reform, network analysis in learning, neuromechanisms of learning.

Stephanie Smith Budhai, PhD *(Drexel University)*. Associate Clinical Professor. Teacher and higher education, culturally responsive teaching, equity and social justice, online learning, community engagement and service-learning, family involvement and partnerships, and learning technologies.

José Luis Chávez, EdD *(University of Southern California)*. Clinical Professor. Higher education leadership and administration.

Rebecca Clothey, PhD *(University of Pittsburgh) Associate Department Head*. Associate Professor. Comparative and international education, education of ethnic and linguistic minorities, sociology of education.

James Connell, PhD *(Louisiana State University) Founding Clinical Core Director and Research Fellow, A.J. Drexel Autism Institute*. Associate Professor. Identifying the variables that influence adult behavior change in community settings; autism intervention; widespread dissemination of evidence-based interventions in school and community settings.

Kareem Edouard, PhD *(Stanford University)*. Assistant Professor. Educational technology; internet-based STEM learning; equity and inclusion in STEM education

Salvatore V. Falletta, EdD *(North Carolina State University)*. Clinical Professor. Human Resource intelligence (i.e., HR research and analytics practices); HRD assessment, measurement, and evaluation models and taxonomies; organizational diagnostic models; web-based employee and organizational survey methods, and computational modeling.

Aroutis N. Foster, PhD *(Michigan State University) Associate Dean for Academic Affairs and Graduate Studies*. Professor. Educational psychology and educational technology, especially the following: Motivation; Technological Pedagogical Content Knowledge (TPACK); Immersive Interactive Digital Environments (simulation, games, virtual realities.

Rajashi Ghosh, PhD *(University of Louisville, Kentucky) Department Chair for Policy, Organization & Leadership*. Associate Professor. Mentoring and leader development, workplace Incivility, workplace learning and development.

John M. Gould, PhD *(University of Pittsburgh) Harrisburg EdD Educational Leadership & Change Program*. Clinical Professor. Change leadership, curriculum re-design, the impact of technology on learning.

Dominic F. Gullo, PhD *(Indiana University)*. Professor. Studying the relative and long-range effects of early schooling experiences in prekindergarten and kindergarten on children's achievement and social adaptation to school routine.

H. Bernard Hall, PhD *(Temple University)*. Assistant Professor. Hip-hop Pedagogy, English Education, Urban Teacher Education.

Penny Hammrich, PhD *(University of Minnesota) Dean*. Distinguished University Professor. Urban education; science education; genetics; gender equity; science knowledge for conceptual teaching; sport science.

Paul Harrington, PhD *(University of Massachusetts, Boston) Director, Center for Labor Markets and Policy*. Professor. Teen and young adult job access; economic outlook, college labor market; workforce development, planning, and development; vocational rehabilitation and job market transition.

Michael J. Haslip, PhD *(Old Dominion University)*. Assistant Professor. Early childhood education, social and emotional learning, child guidance strategies, effects of public pre-school attendance.

Deanna Hill, JD, PhD *(University of Pittsburgh)*. Associate Clinical Professor. Higher education, international education, education law, education policy

Erin Horvat, PhD *(University of California, Los Angeles) Senior Vice Provost for Faculty Affairs*. Professor. Urban education, access and equity, high school dropout, parent involvement/family involvement, community engagement in research.

Jennifer Katz-Buonincontro, PhD *(University of Oregon) Associate Dean of Research*. Associate Professor. Educational administration, leadership development, survey & instrument design.

Larry Keiser, PhD *(Drexel University)*. Assistant Clinical Professor. Education and corporate/business leaders' creativity and entrepreneurial mindsets; creative school/work environments; neuroscience of creativity; everyday creativity for teachers and educators.

Kristy Kelly, PhD *(University of Wisconsin, Madison)*. Associate Clinical Professor. Sociology of gender and development; anthropology of policy; comparative and international education; qualitative research methods; Vietnam and Southeast Asia.

Cameron Kiosoglous, PhD *(Virginia Tech University) Program Director*. Assistant Clinical Professor. Coached on the USRowing National Team staff since 2002, including the 2004, 2008, 2012, and 2016 Olympic Games; coaching development; measuring coaching quality; self-insight and reflective practices; coaching leadership; conference presenter; published author.

Valerie Klein, PhD *(Amherst College)*. Associate Clinical Professor. Mathematics learning and teaching; teacher's use of formative assessment in mathematics; creating opportunities for rich problem solving in the classroom; examining teachers growth and change; qualitative research methods.

Peggy Kong, PhD *(Harvard University)*. Associate Clinical Professor. Comparative and international education, equity in education, family and community, Chinese education and society, sociology of education

Michael G. Kozak, Ed.D. *(Rowan University)*. Assistant Clinical Professor. Leadership, STEAM, online and blended learning environments, systems thinking, experiential learning, K-12 education, and facilitating change

Amanda Lannie, PhD *(Syracuse University)*. Assistant Clinical Professor. Applied behavior analysis and special education; School-based consultation; system-wide interventions as a mechanism for delivery supports to all students; Designing effective and efficient interventions for students with emotional/behavioral disorders.

Vera Lee, EdD *(University of Pennsylvania) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Practitioner Research in online courses to explore inservice/preservice teachers' emerging understandings about issues of diversity; the development of information/digital literacies of urban youth; English language learners.

Bruce Levine, JD *(New York University)*. Associate Clinical Professor. Educational policy, school law, public-private partnerships, intersection of business and education.

Kristine Lewis-Grant, PhD *(Temple University)*. Clinical Professor. Experiences of students of African descent at predominantly white colleges and universities, college access and college student development, youth civic engagement in urban school reform, qualitative research and evaluation.

William Lynch, PhD *(University of Maryland)*. Professor. Curriculum and educational leadership, educational technology, distance learning policy development, higher and adult education.

Constance Lyttle, PhD, JD *(University of Pittsburgh, Duquesne University)*. Clinical Professor. Legal rights of gifted and talented children and children with disabilities; inclusive education of exceptional children; special education mediation; special education IEP/IFSP facilitation; resolution session facilitation

Joy Phillips, PhD *(The University of Texas at Austin)*. Associate Clinical Professor. Visionary leadership in theory and practice, school reform as innovative problem-setting, thinking qualitatively about school reform. thinking about school reform by drawing, Educational Leadership Program Assessment.

Kathleen Provinzano, PhD *(Marywood University)*. Assistant Professor. Educational administration.

Harriette Rasmussen, EdD *(Fielding Graduate University)*. Assistant Clinical Professor. Educational leadership and change.

Lori Severino, EdD *(Neumann University)*. Assistant Professor. Special education, differentiated instruction, reading, Wilson language, multi-sensory instruction, reading comprehension, assessment, adolescent literacy.

Jason Silverman, PhD *(Vanderbilt University)*. Professor. Teaching and learning of advanced mathematical ideas (algebra and calculus); improving teachers' ability to orchestrate and sustain inquiry-based and discussion-based instruction; technology in mathematics education.

Janet Sloand, EdD *(Duquesne University) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Special Education Leadership, Trauma-informed care, Parent engagement in special education service delivery.

Toni A. Sondergeld, PhD *(University of Toledo)*. Associate Professor. Cognitive and affective assessment development; program/grant evaluation; high stakes testing measurement; STEM education; urban education

Bridget Sweeney Blakely, PhD *(Temple University)*. Assistant Clinical Professor. Consultation; Positive Behavior Interventions and Supports (PBIS); Response to Intervention (RtI); Systems-level change; performance feedback

Mary Jean Tecce DeCarlo, EdD *(University of Pennsylvania)*. Associate Clinical Professor. Early literacy development, learning differences, knowledge construction, urban education.

Sarah P. Ulrich, EdD *(Saint Joseph's University) Associate Dean of Teacher Education and Undergraduate Affairs*. Clinical Professor. Cross-cultural, language and academic development, school reform, teacher preparation, teacher retention, teacher residencies in urban contexts.

Sheila Vaidya, PhD *(Temple University)*. Professor. Educational psychology, school psychology, research design.

Christina Vorndran, PhD *(Louisiana State University) Program Director, Applied Behavior Analysis and Special Education*. Clinical Professor. Designing effective and efficient community-based interventions, Severe behavior disorders, Functional behavior assessment

Christopher G. Wright, PhD *(Tufts University)*. Assistant Professor. Engineering and science education, Urban education, elementary teacher education.

Emeritus Faculty

Mary Jo Grdina, PhD *(Case Western Reserve University)*. Clinical Professor. Undergraduate studies, science education, curriculum design.

Joyce Pittman, PhD *(Iowa State University of Science and Technology)*. Clinical Professor. Curriculum and instruction K-16; teaching English as a foreign language (TEFL); instructional design business education and administration; industrial and career technology; oral and written communication; research methodology; instructional and assistive technology assessment; online learning pedagogy

Fredricka K. Reisman, PhD *(Syracuse University) School of Education, Founder, Drexel School of Education*. Professor Emerita. Director, Freddie Reisman Center for Translational Research in Creativity and Motivation, Creator and Former Director-Creativity and Innovation Programs, Co-Director-Drexel/Torrance Center for Creativity and Innovation, Drexel University Named Recognition- Freddie Reisman Faculty Scholarly and Creative Activity Awards

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

Major: Elementary Education, PK-4 Grade and Creativity & Innovation
Degree Awarded: Bachelor of Science (BS) and Master of Science (MS)
Calendar Type: Quarter
Minimum Required Credits: 225.0
Co-op Options: One Co-op (Five years)
BS Classification of Instructional Programs (CIP) code: 13.1202
BS Standard Occupational Classification (SOC) code: 25-2031
MS Classification of Instructional Programs (CIP) code: 13.9999
MS Standard Occupational Classification (SOC) code: 11-9199

About the Program

Drexel University School of Education's Teacher Education programs have always been on the leading edge of the use of new pedagogies to improve student learning outcomes, new models of student teaching and conducting field experience placements, and ways of integrating technology in the teaching and learning. Coupling the Bachelor of Science in Elementary Education (Grades PK-4) degree with the School of Education's Master of Science in Creativity & Innovation to create an accelerated BS/MS degree is just another in a long list of innovations that helps ensure that Drexel's programs remains the leading edge leader in producing outstanding teachers.

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.

Twenty-first century students deserve 21st century teachers and education leaders, and this accelerated BS/MS program prepares the pre-service with the teaching and creativity mindsets to excel in that world.

Creativity research makes clear that teachers who understand creativity—what it is and what it is not—as well as their own creative strength areas, are better able to recognize creativity in their students and capitalize on the knowledge to help advance their students academically. The coursework in the Creativity & Innovation component of the BS/MS degree specifically blends the cognitive theories and neuroscience of creativity toward assisting the pre-service teacher's understanding of creativity, the hands-on tools and techniques of actively developing their students' creativity mindsets through creating school and classroom environments that allow creativity and innovation to flourish, and the ability to build collaboration with colleagues and school leadership to implement and adapt those tools and techniques for the benefit of all within the school.

The coursework experience is very hands-on and so powerfully interesting! The future is all about the Creativity & Innovation's program outcomes, i.e., the abilities and creativity mindset for: readily adapting to change, recognizing and identifying the real issue behind the issue, quickly generating plausible and creative solutions to identified issues, using learned creative problem-solving methods to employ methodical analysis of a menu of creative solutions, providing a translation of the latest research in creativity and innovation so as to apply to academic settings, and your serving as a leader to your future students and colleagues for fostering creative and innovative environments to learn.

Admission Requirements

BS Candidate will complete the BS/MS application and have of 3.0 GPA or higher at the time of admittance to the BS/MS program when they have achieved between 90.0 and 120.0 credits. The BS/MS candidate must maintain an overall GPA of 3.0 or above as well as each term.

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	
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	Inclusive Practices	3.0
EDEX 368 [WI]	Literacy and Content Skill Development PK-12	3.0
EDLT 325	Design for Learning with Digital Media	3.0
EDPO 312	Educational Policy, Law & Advocacy	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 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 [WI]	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
Students have the option to select from one of the following capstone tracks:		
EDUP 780	Practitioner Capstone Course I	3.0
or EDUT 780	Thesis Capstone Course I	
EDUP 781	Practitioner Capstone Course II	3.0-4.5
or EDUT 781	Thesis Capstone Course II	
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 660	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 537	Technologies for Performance Support	
EDLT 512	Using and Integrating Learning Technologies	
or EDLT 532	Designing Virtual Communities for Staff Development - Non-Field Experience	
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**

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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-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the Writing Intensive Course List (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/writing-intensive-courses/) at the University Writing Program (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/). (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/drexel-writing-center/) Students scheduling their courses can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.

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 101	3.0	BIO 100 or 161	3.0	EDEX 142	3.0	VACATION	
EDUC 106	1.0	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	EDPO 312	3.0
EDEX 344	3.0	COOP 101**	1.0	EDUC 326	3.0	EDUC 210	3.0
EDUC 205	1.0	EDEX 368	3.0	EDUC 336	3.0	EDUC 306	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 Concentration 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 EDUP 780 or EDUT 780	3.0 EDUP 781 or EDUT 781	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

* Students must receive Department permission to pursue the NCOP option. Students will work directly with their advisor to establish a unique plan of study.

** COOP 101, CIVC 101 and UNIV T101 are not required for Education transfer students. Instead, these 3.0 credits are replaced with free electives.

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.

Education Faculty

Jennifer Adams, EdD *(Harvard University)*. Associate Professor. Comparative and international education; Poverty and education; Child welfare; Educational policy.

Ayana Allen, PhD *(Texas A&M University)*. Associate Professor. Urban education; Identity construction in school contexts; Urban school transformation.

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Kristine Lewis-Grant, PhD *(Temple University)*. Clinical Professor. Experiences of students of African descent at predominantly white colleges and universities, college access and college student development, youth civic engagement in urban school reform, qualitative research and evaluation.

William Lynch, PhD *(University of Maryland)*. Professor. Curriculum and educational leadership, educational technology, distance learning policy development, higher and adult education.

Constance Lyttle, PhD, JD *(University of Pittsburgh, Duquesne University)*. Clinical Professor. Legal rights of gifted and talented children and children with disabilities; inclusive education of exceptional children; special education mediation; special education IEP/IFSP facilitation; resolution session facilitation

Joy Phillips, PhD *(The University of Texas at Austin)*. Associate Clinical Professor. Visionary leadership in theory and practice, school reform as innovative problem-setting, thinking qualitatively about school reform. thinking about school reform by drawing, Educational Leadership Program Assessment.

Kathleen Provinzano, PhD *(Marywood University)*. Assistant Professor. Educational administration.

Harriette Rasmussen, EdD *(Fielding Graduate University)*. Assistant Clinical Professor. Educational leadership and change.

Lori Severino, EdD *(Neumann University)*. Assistant Professor. Special education, differentiated instruction, reading, Wilson language, multi-sensory instruction, reading comprehension, assessment, adolescent literacy.

Jason Silverman, PhD *(Vanderbilt University)*. Professor. Teaching and learning of advanced mathematical ideas (algebra and calculus); improving teachers' ability to orchestrate and sustain inquiry-based and discussion-based instruction; technology in mathematics education.

Janet Sloand, EdD *(Duquesne University) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Special Education Leadership, Trauma-informed care, Parent engagement in special education service delivery.

Toni A. Sondergeld, PhD *(University of Toledo)*. Associate Professor. Cognitive and affective assessment development; program/grant evaluation; high stakes testing measurement; STEM education; urban education

Bridget Sweeney Blakely, PhD *(Temple University)*. Assistant Clinical Professor. Consultation; Positive Behavior Interventions and Supports (PBIS); Response to Intervention (Rtl); Systems-level change; performance feedback

Mary Jean Tecce DeCarlo, EdD *(University of Pennsylvania)*. Associate Clinical Professor. Early literacy development, learning differences, knowledge construction, urban education.

Sarah P. Ulrich, EdD *(Saint Joseph's University) Associate Dean of Teacher Education and Undergraduate Affairs*. Clinical Professor. Cross-cultural, language and academic development, school reform, teacher preparation, teacher retention, teacher residencies in urban contexts.

Sheila Vaidya, PhD *(Temple University)*. Professor. Educational psychology, school psychology, research design.

Christina Vorndran, PhD *(Louisiana State University) Program Director, Applied Behavior Analysis and Special Education*. Clinical Professor. Designing effective and efficient community-based interventions, Severe behavior disorders, Functional behavior assessment

Christopher G. Wright, PhD *(Tufts University)*. Assistant Professor. Engineering and science education, Urban education, elementary teacher education.

Emeritus Faculty

Mary Jo Grdina, PhD *(Case Western Reserve University)*. Clinical Professor. Undergraduate studies, science education, curriculum design.

Joyce Pittman, PhD *(Iowa State University of Science and Technology)*. Clinical Professor. Curriculum and instruction K-16; teaching English as a foreign language (TEFL); instructional design business education and administration; industrial and career technology; oral and written communication; research methodology; instructional and assistive technology assessment; online learning pedagogy

Fredricka K. Reisman, PhD *(Syracuse University) School of Education, Founder, Drexel School of Education*. Professor Emerita. Director, Freddie Reisman Center for Translational Research in Creativity and Motivation, Creator and Former Director-Creativity and Innovation Programs, Co-Director-Drexel/Torrance Center for Creativity and Innovation, Drexel University Named Recognition- Freddie Reisman Faculty Scholarly and Creative Activity Awards

Elementary Education PK4 BS / Special Education MS

Major: Elementary Education, PK-4 and Special Education
Degree Awarded: Bachelor of Science (BS) and Master of Science (MS)
Calendar Type: Quarter
Minimum Required Credits: 228.0
Co-op Options: One Co-op (Five years)
BS Classification of Instructional Programs (CIP) code: 13.1202
BS Standard Occupational Classification (SOC) code: 25-2031
MS Classification of Instructional Programs (CIP) code: 13.1001
MS Standard Occupational Classification (SOC) code: 25-2051; 25-2052; 25-2053; 25-2054; 25-2059

About the Program

The BS/MS in Teacher Education with Elementary Education and MS in Special 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 with Pennsylvania initial state teacher certification and continue for a fifth graduate year to complete the MS in Special Education which would allow them to also obtain special education certification.

The BS/MS in Teacher Education and Special Education track prepares students academically and practically for careers in PK–12 teaching or other educational settings, including capabilities to:

- Demonstrate professional ethics and independent and creative academic best practices that exhibit outstanding leadership, organizational, cross cultural, inter-personal and advocacy skills including the ability to communicate effectively with internal and external groups.
- Understand the changing role of teachers in increasingly diverse societies
- Demonstrate a strong academic background in all subject areas that meet PDE requirements including literacy, language and STEM areas
- Demonstrate the ability to create and maintain a positive and democratic classroom climate for students

- Demonstrate a thorough understanding of child development in their ability to develop and implement learning opportunities that are unique to every child
- Develop creative academic leadership skills with a global perspective on current educational issues, knowledge of best pedagogical practices, tools to effectively integrate technology in curriculum, assessment and instruction, and a strong academic background in all subject areas that meet PDE content requirements.
- Develop competencies to become reflective practitioners who are lifelong learners, who base their practice on theory, research, and developmentally appropriate pedagogy by analyzing, implementing, and evaluating existing and new instructional strategies and practices in a variety of educational institutions/organizations.

Admission Requirements

Same as BS in Elementary Education, BSMS application must be submitted during Sophomore year before 120 credits have been completed with cumulative 3.0 GPA to gain acceptance into BS/MS program. Continuation as a BS/MS student in Special Education program requires maintaining minimum term and cumulative 3.0 GPA.

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	
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	Inclusive Practices	3.0
EDEX 368 [WI]	Literacy and Content Skill Development PK-12	3.0
EDLT 325	Design for Learning with Digital Media	3.0
EDPO 312	Educational Policy, Law & Advocacy	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 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 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 [WI]	Student Teaching Seminar I	9.0
EDUC 410 [WI]	Student Teaching	9.0
MS in Special Education		
Core Courses		
EDEX 536	Special Education Law and Process	3.0
EDEX 543	Emotional and Behavioral Support of Individuals with Disabilities	3.0
EDEX 549	Teaching Individuals with High Incident Disabilities	3.0
EDEX 550	Teaching Individuals with Low Incident Disabilities	3.0
EDEX 552	Integrating Technology for Learning & Achievement	3.0
EDEX 555	Teaching Students with Autism Spectrum Disorder	3.0
EDEX 575	Teaching STEAM in an Inclusive Environment PK-12	3.0
EDEX 578	Special Education Practicum PK-12	3.0
EDEX 588	Implementing Academic Interventions in Inclusive Educational Environments	3.0
Concentration Options		
Students obtaining an initial certification must complete the following concentration:		
Initial Certification Concentration		**24.0**
EDEX 514	Special Education Student Teaching Seminar	
EDEX 542	Fundamentals of Special Education	
EDEX 544	Inclusive Practices	
EDEX 568	Literacy and Content Skill Development PK-12	
EDUC 515	Adolescent Learners in Secondary Schools	
EDUC 521	Typical and Atypical Development in Early Childhood Education	
EDUC 522	Evaluation of Instruction	
Students not obtaining an initial certification must complete one of the following Capstone options		
EDU 780	Capstone Research	3.0
Students have the option to select from one of the Capstone tracks:		6.0-7.5
Practitioner		
EDUP 780	Practitioner Capstone Course I	
EDUP 781	Practitioner Capstone Course II	
Thesis		
EDUT 780	Thesis Capstone Course I	
EDUT 781	Thesis Capstone Course II	
Students not obtaining an initial certification must also complete one of the following concentrations:		
Concentration Options (Choose 1)		
Social Emotional Behavior Wellness		**12.0**
EDEX 580	Social Emotional Wellness and Evidence-Based Preventative School Practices	
EDEX 581	Understanding Social Emotional Disorders	
EDEX 582	Evidence-Based School Interventions and Trauma Informed Education/Care	
EDEX 583	Collaboration and Community Based Practices to Promote Social Emotion Wellness	
Autism Spectrum Disorders		**12.0**

EDEX 556	Characteristics & Methods: Autism	
EDEX 558	Characteristics & Methods: High Functioning Autism	
EDEX 560	Communication & Language Interventions: Autism Spectrum Disorders	
EDEX 562	Behavior & Sensory Support: Autism Spectrum Disorders	
Collaborative Special Education Law and Process		**12.0**
EDEX 600	Family, School and Community Engagement in Special Education	
EDEX 601	Special Education Advocacy	
EDEX 602	Special Education Dispute Resolution and Skills Training	
EDEX 710	School Law & Policy in Special Education	
Dyslexia Specialist Certificate [**]		**12.0**
EDLS 620	Applied Methods in Multisensory Reading Instruction	
EDLS 621	Multisensory Reading Instruction	
EDLS 622	Basic Word Study I	
EDLS 623	Basic Word Study II	
EDLS 624	Multisensory Practicum I	
EDLS 625	Multisensory Practicum II	
EDLS 626	Multisensory Practicum III	
Special Education Leadership		**16.0**
EDEX 710	School Law & Policy in Special Education	
EDEX 712	Instructional & Curriculum Leadership in Special Education	
EDEX 714	Development, Supervision, & Support: Special Education Leadership	
EDEX 716	Organization & Administration of Special Education	
EDEX 721	Supervisor of Special Education Internship: Special Education Leadership	
EDEX 722	Supervisor of Special Education Internship: Instructional Leadership	
EDEX 723	Supervisor of Special Education Internship: Collaboration & Personnel	
EDEX 724	Supervisor of Special Education Internship: Finance & Management	
Applied Behavior Analysis [***]		**31.5**
ABA 630	Fundamental Elements of Behavior Change	
ABA 631	Measurement and Experimental Design	
ABA 632	Behavioral Assessment and Functional Analysis	
ABA 633	Behavioral Interventions	
ABA 634	Consultation, Systems Change and Supervision	
ABA 635	Ethical Considerations and Professional Conduct	
ABA 636	Applications of Fundamental Elements of Behavior Analysis	

*   COOP 101, CIVC 101 and UNIV T101 are not required for Education transfer students. Instead, these 3.0 credits are replaced with free electives.

**   The Dyslexia Specialist Certificate program courses fulfill certain requirements (but not all) for the Wilson Language Level I certification.

***   The Applied Behavior Analysis Concentration fulfills the coursework requirements for BCBA certification. Additional requirements are needed.

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.

Program of Study for students not obtaining an initial certification. Candidates pursing Special Education Leadership Concentration will enroll in an additional 1.0 credit internship courses in Fourth Year, Spring Term (EDEX 721) and Summer Term (EDEX 722) and Fifth Year, Fall Term (EDEX 723) and Spring Term (EDEX 724).

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	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	1.0		
MATH 171	3.0	EDUC 121	3.0	MUSC 130	3.0		
UNIV T101	1.0	ENGL 102 or 112	1.0	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	EDPO 312	3.0
EDEX 344	3.0	COOP 101**	1.0	EDUC 326	3.0	EDUC 210	3.0
EDUC 205	1.0	EDEX 368	3.0	EDUC 365	3.0	EDUC 306	3.0
EDUC 308	3.0	EDUC 216	3.0	NFS 100	2.0	EDUC 335	3.0
PSY 330	3.0	EDUC 314	3.0	NFS 101	1.0	HIST 275	3.0
		EDUC 316	3.0	PSY 320	3.0		
	14		**16**		**15**		**15**

Third Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
COOP EXPERIENCE		COOP EXPERIENCE		ECON 201	4.0	EDLT 325	3.0
MTED 417	3.0	EDUC 336	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
				English (Literature) Elective: ENGL 200 - ENGL 360	3.0	MTED 418	3.0
				EDEX 552	3.0	EDEX 536	3.0
	3		**3**		**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	EDEX 550	3.0
EDUC 411	3.0			EDEX 549	3.0	EDU 780	3.0
						(GR) Concentration Courses	6.0
	13		**12**		**16**		**12**

Fifth Year

Fall	Credits	Winter	Credits	Spring	Credits
EDEX 578	3.0	EDEX 543	3.0	EDEX 575	3.0
EDUP 780 or EDUT 780	3.0	EDEX 555	3.0	EDEX 588	3.0
(GR) Concentration Course	3.0	EDUP 781 or EDUT 781	3.0	(GR) Concentration Course	3.0
	9		**9**		**9**

Total Credits 228

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Vera Lee, EdD *(University of Pennsylvania) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Practitioner Research in online courses to explore inservice/preservice teachers' emerging understandings about issues of diversity; the development of information/digital literacies of urban youth; English language learners.

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Kristine Lewis-Grant, PhD *(Temple University)*. Clinical Professor. Experiences of students of African descent at predominantly white colleges and universities, college access and college student development, youth civic engagement in urban school reform, qualitative research and evaluation.

William Lynch, PhD *(University of Maryland)*. Professor. Curriculum and educational leadership, educational technology, distance learning policy development, higher and adult education.

Constance Lyttle, PhD, JD *(University of Pittsburgh, Duquesne University)*. Clinical Professor. Legal rights of gifted and talented children and children with disabilities; inclusive education of exceptional children; special education mediation; special education IEP/IFSP facilitation; resolution session facilitation

Joy Phillips, PhD *(The University of Texas at Austin)*. Associate Clinical Professor. Visionary leadership in theory and practice, school reform as innovative problem-setting, thinking qualitatively about school reform. thinking about school reform by drawing, Educational Leadership Program Assessment.

Kathleen Provinzano, PhD *(Marywood University)*. Assistant Professor. Educational administration.

Harriette Rasmussen, EdD *(Fielding Graduate University)*. Assistant Clinical Professor. Educational leadership and change.

Lori Severino, EdD *(Neumann University)*. Assistant Professor. Special education, differentiated instruction, reading, Wilson language, multi-sensory instruction, reading comprehension, assessment, adolescent literacy.

Jason Silverman, PhD *(Vanderbilt University)*. Professor. Teaching and learning of advanced mathematical ideas (algebra and calculus); improving teachers' ability to orchestrate and sustain inquiry-based and discussion-based instruction; technology in mathematics education.

Janet Sloand, EdD *(Duquesne University) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Special Education Leadership, Trauma-informed care, Parent engagement in special education service delivery.

Toni A. Sondergeld, PhD *(University of Toledo)*. Associate Professor. Cognitive and affective assessment development; program/grant evaluation; high stakes testing measurement; STEM education; urban education

Bridget Sweeney Blakely, PhD *(Temple University)*. Assistant Clinical Professor. Consultation; Positive Behavior Interventions and Supports (PBIS); Response to Intervention (Rtl); Systems-level change; performance feedback

Mary Jean Tecce DeCarlo, EdD *(University of Pennsylvania)*. Associate Clinical Professor. Early literacy development, learning differences, knowledge construction, urban education.

Sarah P. Ulrich, EdD *(Saint Joseph's University) Associate Dean of Teacher Education and Undergraduate Affairs*. Clinical Professor. Cross-cultural, language and academic development, school reform, teacher preparation, teacher retention, teacher residencies in urban contexts.

Sheila Vaidya, PhD *(Temple University)*. Professor. Educational psychology, school psychology, research design.

Christina Vorndran, PhD *(Louisiana State University) Program Director, Applied Behavior Analysis and Special Education*. Clinical Professor. Designing effective and efficient community-based interventions, Severe behavior disorders, Functional behavior assessment

Christopher G. Wright, PhD *(Tufts University)*. Assistant Professor. Engineering and science education, Urban education, elementary teacher education.

Emeritus Faculty

Mary Jo Grdina, PhD *(Case Western Reserve University)*. Clinical Professor. Undergraduate studies, science education, curriculum design.

Joyce Pittman, PhD *(Iowa State University of Science and Technology)*. Clinical Professor. Curriculum and instruction K-16; teaching English as a foreign language (TEFL); instructional design business education and administration; industrial and career technology; oral and written communication; research methodology; instructional and assistive technology assessment; online learning pedagogy

Fredricka K. Reisman, PhD *(Syracuse University) School of Education, Founder, Drexel School of Education*. Professor Emerita. Director, Freddie Reisman Center for Translational Research in Creativity and Motivation, Creator and Former Director-Creativity and Innovation Programs, Co-Director-Drexel/Torrance Center for Creativity and Innovation, Drexel University Named Recognition- Freddie Reisman Faculty Scholarly and Creative Activity Awards

Elementary Education PK4 BS / Teaching, Learning & Curriculum MS

Major: Elementary Education, PK-4; Teaching, Learning and Curriculum
Degree Awarded: Bachelor of Science (BS) and Master of Science (MS)
Calendar Type: Quarter
Minimum Required Credits: 225.0
Co-op Options: One Co-op
BS Classification of Instructional Programs (CIP) code: 13.1202
BS Standard Occupational Classification (SOC) code: 25-2031
MS Classification of Instructional Programs (CIP) code: 13.1399
MS Standard Occupational Classification (SOC) code: 11-9039

About the Program

The BS/MS in Elementary Education (PK-4) and 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 (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 Education and Teaching, Learning and Curriculum (Advanced Track) prepares students academically and practically for careers in PK–12 teaching or other educational settings, including capabilities to:

- Demonstrate professional ethics and independent and creative academic best practices that exhibit outstanding leadership, organizational, cross cultural, inter-personal and advocacy skills including the ability to communicate effectively with internal and external groups.
- Understand the changing role of teachers in increasingly diverse societies
- Demonstrate a strong academic background in all subject areas that meet PDE requirements including literacy, language and STEM areas
- Demonstrate the ability to create and maintain a positive and democratic classroom climate for students
- Demonstrate a thorough understanding of child development in their ability to develop and implement learning opportunities that are unique to every child
- Develop creative academic leadership skills with a global perspective on current educational issues, knowledge of best pedagogical practices, tools to effectively integrate technology in curriculum, assessment and instruction, and a strong academic background in all subject areas that meet PDE content requirements.
- Develop competencies to become reflective practitioners who are lifelong learners, who base their practice on theory, research, and developmentally appropriate pedagogy by analyzing, implementing, and evaluating existing and new instructional strategies and practices in a variety of educational institutions/organizations.
- Demonstrate advanced teaching knowledge and skills well beyond that required for initial Pennsylvania certification
- Develop advanced skills to function in a variety of roles as instructors, instructional leaders or researchers in local, state, national and international organizations, foundations, associations, corporations and private educational institutions.
- Have in-depth knowledge of both public and private (non-profit and for-profit) institutions as well as small and large institutions.

Admission Requirements

Admission requirements are the same as the BS in Elementary Education. The BS/MS application must be submitted during sophomore year before 120.0 credits have been completed with a cumulative 3.0 GPA to gain acceptance into BS/MS program. Continuation as a BS/MS student in Teaching, Learning and Curriculum (Advanced Track) requires maintaining a minimum term and cumulative 3.0 GPA.

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	
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 (MS in TLC Core)	3.0
EDEX 344	Inclusive Practices	3.0
EDEX 368 [WI]	Literacy and Content Skill Development PK-12	3.0
EDLT 325	Design for Learning with Digital Media	3.0
EDPO 312	Educational Policy, Law & Advocacy	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 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 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 [WI]	Student Teaching Seminar I	9.0
EDUC 410 [WI]	Student Teaching	9.0
MS in TLC Core		
EDAM 714	Instructional and Curriculum Leadership (ake EDLS 550 if pursuing Reading Specialist Concentration)	3.0
or EDLS 550	Theories of Reading and Writing	
EDLT 532	Designing Virtual Communities for Staff Development - Non-Field Experience	3.0
EDUC 524	Current Research in Curriculum & Instruction (Take EDLS 575 if pursing Reading Specialist Concentration)	3.0
or EDLS 575	Responding to Children's and Young Adult Literature	
EDUC 530	Advanced Techniques in Instruction & Assessment	3.0

EDUC 609	Language & Culture in Education (Take EDLS 555 if pursing Reading Specialist Concentration)	3.0
or EDLS 555	Understanding Literacy through Sociocultural Perspectives	
Policy, Law & Organization Courses		**6.0**
Select two courses in Education Policy, Law & Organization EDPO or EDAM (500-799). Reading Specialist Concentration students enroll in EDLS 570 and EDLS 650.		
EDAM 705	School Law and Politics	
EDCR 518	Evidence-Based Evaluation	
EDLS 570	Literacy and Evaluation	
EDLS 650	Designing a Literacy Program	
EDPO 620	Education Policy: Concepts, Issues, and Applications	
MS in TLC Capstone Sequence		
EDU 780	Capstone Research	3.0
Student selects and enrolls in appropriate course work following one of the following capstone tracks: Practitioner or Thesis		
EDUP 780	Practitioner Capstone Course I	3.0
or EDUT 780	Thesis Capstone Course I	
EDUP 781	Practitioner Capstone Course II	3.0-4.5
or EDUT 781	Thesis Capstone Course II	
Professional or Concentration Electives		**15.0**
Candidates may select any combination of the following for 15.0 credits: ABA, CRTV, EDAM, EDEX, EDGI, EDLS, EDLT, EDPO, EDUC, EHRD, ELL, ENTP, ESTM, MTED, or SCL (500-799 level), or candidates select a formal concentration. (See formal concentration options below)		
Total Credits		**225.0-226.5**

*   COOP 101, CIVC 101 and UNIV T101 are not required for Education transfer students. Instead, these 3.0 credits are replaced with free electives. 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.

Concentration Option *

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	
EHRD 660	Principles of Adult Learning	
Autism Spectrum Disorders		
EDEX 555	Teaching Students with Autism Spectrum Disorder	
EDEX 556	Characteristics & Methods: Autism	
EDEX 558	Characteristics & Methods: High Functioning Autism	
EDEX 560	Communication & Language Interventions: Autism Spectrum Disorders	
EDEX 562	Behavior & Sensory Support: Autism Spectrum Disorders	
Creativity and Innovation		
CRTV 501	Foundations in Creativity	
CRTV 502	Tools and Techniques in Creativity	
CRTV 503	Creativity in the Workplace	
CRTV 620	Research Methods and Assessment of Creative and Innovative Thinking	
CRTV 630	Global Perspectives on Creativity	
Educational Policy		
EDPO 620	Education Policy: Concepts, Issues, and Applications	
EDPO 624	The Shaping of American Education Policy: Global Forces, Interest Groups, and Politics	
EDPO 628	American Educational Policy and U.S. Competitiveness	
EDPO 632	Ethics in Educational Policy Making	
EDPO 636	Access & Equity in Educational Policy Making	
Global & International Education		
EDGI 503	Global, International & Comparative Education	
EDGI 510	Culture, Society & Education in Comparative Perspective	
EDGI 512	Globalization and Educational Change	
EDGI 514	Education and National Development	
EDGI 518	Analysis of Policy Issues in Global & International Education	
Higher Education		
EDGI 506	Comparative Higher Education Systems	

EDHE 501	Foundations of Higher Education and Governance
EDHE 531	Legal Issues & Ethics in Higher Education
EDHE 662	Critical Issues in Student Affairs
EHRD 660	Principles of Adult Learning

Learning Technologies

EDLT 532	Designing Virtual Communities for Staff Development - Non-Field Experience
EDLT 537	Technologies for Performance Support
EDLT 543	Play & Learning in a Participatory Culture
EDLT 551	Instructional Design Methods
ELL 501	The Purpose and Business of E-Learning

Multisensory Reading Instruction Level 1

EDLS 620	Applied Methods in Multisensory Reading Instruction
EDLS 621	Multisensory Reading Instruction
EDLS 622	Basic Word Study I
EDLS 623	Basic Word Study II
EDLS 624	Multisensory Practicum I
EDLS 625	Multisensory Practicum II
EDLS 626	Multisensory Practicum III
Professional Elective (minimum 3.0 credits) **	

Reading Specialist Certification Concentration

EDLS 560	Reading and Writing in the Content Areas (7-12)
EDLS 565	Constructing Meaning through Reading and Writing
EDLS 620	Applied Methods in Multisensory Reading Instruction
EDLS 622	Basic Word Study I
EDLS 623	Basic Word Study II
EDLS 624	Multisensory Practicum I
EDLS 625	Multisensory Practicum II
EDLS 626	Multisensory Practicum III

Teaching English as a Second Language Certification

EDUC 602	Language Learning & Teaching
EDUC 604	Structure and Sound System of English
EDUC 606	Design and Assessment
EDUC 608	The Intercultural Learner
Professional Elective (minimum 1.5 credits) ***	

Social Emotional Behavioral Wellness

EDEX 580	Social Emotional Wellness and Evidence-Based Preventative School Practices
EDEX 581	Understanding Social Emotional Disorders
EDEX 582	Evidence-Based School Interventions and Trauma Informed Education/Care
EDEX 583	Collaboration and Community Based Practices to Promote Social Emotion Wellness

*   Candidates may opt for a formal concentration or a Customized Concentration which may include course work from other Drexel academic departments in consultation with an academic advisors. Sample customized concentrations might include:

- Educational Administration
- Evaluation & Assessment
- Instructional Design
- Instructional Technology
- Leadership in Educational Settings
- Learning in Game-Based Environments
- Special Education Law and Process
- Special Education Leadership
- Urban Education

**   Complete 3.0 graduate elective credits (500-799) in EDUC, EDEX, EDGI, EDAM, EHRD, EDHE, CRTV, MTED, EDLT, EDLS, ELL, ABA, EDPO, SCL, ENTP or ESTM.

***   Complete 1.5 graduate elective credits (500-799) in EDUC, EDEX, EDGI, EDAM, EHRD, EDHE, CRTV, MTED, EDLT, EDLS, ELL, ABA, EDPO, SCL, ENTP or ESTM.

Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the Writing Intensive Course List (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/writing-intensive-courses/) at the University Writing Program (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/). (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/drexel-writing-center/) Students scheduling their courses can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.

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 stats in the fifth and final year.

First Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
EDUC 101	3.0	BIO 100	3.0	EDEX 142	3.0	VACATION	
EDUC 106	1.0	CIVC 101**	1.0	EDUC 108	1.0		
EDUC 120	3.0	COM 111	3.0	ENGL 103	3.0		
ENGL 101	3.0	EDUC 107	1.0	MATH 173	3.0		
MATH 171	3.0	EDUC 121	3.0	MUSC 130	3.0		
UNIV T101**	1.0	ENGL 102	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	3.0	EDUC 236	3.0	EDPO 312	3.0
EDEX 344	3.0	COOP 101**	1.0	EDUC 326	3.0	EDUC 210	3.0
EDUC 205	1.0	EDEX 368	3.0	EDUC 365	3.0	EDUC 306	3.0
EDUC 308	3.0	EDUC 216	3.0	NFS 100	2.0	EDUC 335	3.0
PSY 330	3.0	EDUC 314	3.0	NFS 101	1.0	HIST 275	3.0
		EDUC 316	3.0	PSY 320	3.0		
	14		**16**		**15**		**15**

Third Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
COOP EXPERIENCE		COOP EXPERIENCE		ECON 201	4.0	EDLT 325	3.0
MTED 417	3.0	EDUC 336	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) ENGL (Literature) elective: ENGL 200-ENGL 360	3.0	MTED 418	3.0
				(GR) MS Professional Elective	3.0	(GR) MS Professional Elective	3.0
	3		**3**		**17**		**18**

Fourth Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
EDUC 405	1.0	EDUC 410	9.0	ENVS 260	3.0	EDAM 705	3.0
EDUC 409	9.0	SOC 335	3.0	(UG) Free Electives	10.0	EDUC 530	3.0
EDUC 411	3.0	EDLT 532	3.0	EDAM 714	3.0	EDUC 524	3.0
(GR) MS Professional Elective	3.0			Student converts to Grad status at the end of the Spring Term***			
	16		**15**		**16**		**9**

Fifth Year

Fall	Credits	Winter	Credits	Spring	Credits
EDU 780	3.0	EDUP 780 or EDUT 780	3.0	EDCR 518 or EDPO 620	3.0

EDUC 609	3.0 (GR) MS Professional Elective	3.0 EDUP 781 or EDUT 781	3.0-4.5
(GR) MS Professional Elective	3.0		
	9	**6**	**6-7.5**

Total Credits 225-226.5

* Students must receive Department permission to pursue the NCOP option. Students will work directly with their advisor to establish a unique plan of study.

** COOP 101, CIVC 101 and UNIV T101 are not required for Education transfer students. Instead, these 3.0 credits are replaced with free electives.

   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

*** Accelerated Degree Level Conversion form (https://drexel.edu/graduatecollege/forms-policies/forms/) must be submitted to the Graduate College in Spring Term.

Education Faculty

Jennifer Adams, EdD *(Harvard University)*. Associate Professor. Comparative and international education; Poverty and education; Child welfare; Educational policy.

Ayana Allen, PhD *(Texas A&M University)*. Associate Professor. Urban education; Identity construction in school contexts; Urban school transformation.

Kristen Betts, EdD *(George Washington University)*. Clinical Professor. Higher education administration and governance, online blended education, instructional design and educational technology, program assessment and evaluation.

Eric Brewe, PhD *(Arizona State University)*. Associate Professor. Physics Education Research, introductory course reform, network analysis in learning, neuromechanisms of learning.

Stephanie Smith Budhai, PhD *(Drexel University)*. Associate Clinical Professor. Teacher and higher education, culturally responsive teaching, equity and social justice, online learning, community engagement and service-learning, family involvement and partnerships, and learning technologies.

José Luis Chávez, EdD *(University of Southern California)*. Clinical Professor. Higher education leadership and administration.

Rebecca Clothey, PhD *(University of Pittsburgh) Associate Department Head*. Associate Professor. Comparative and international education, education of ethnic and linguistic minorities, sociology of education.

James Connell, PhD *(Louisiana State University) Founding Clinical Core Director and Research Fellow, A.J. Drexel Autism Institute*. Associate Professor. Identifying the variables that influence adult behavior change in community settings; autism intervention; widespread dissemination of evidence-based interventions in school and community settings.

Kareem Edouard, PhD *(Stanford University)*. Assistant Professor. Educational technology; internet-based STEM learning; equity and inclusion in STEM education

Salvatore V. Falletta, EdD *(North Carolina State University)*. Clinical Professor. Human Resource intelligence (i.e., HR research and analytics practices); HRD assessment, measurement, and evaluation models and taxonomies; organizational diagnostic models; web-based employee and organizational survey methods, and computational modeling.

Aroutis N. Foster, PhD *(Michigan State University) Associate Dean for Academic Affairs and Graduate Studies*. Professor. Educational psychology and educational technology, especially the following: Motivation; Technological Pedagogical Content Knowledge (TPACK); Immersive Interactive Digital Environments (simulation, games, virtual realities.

Rajashi Ghosh, PhD *(University of Louisville, Kentucky) Department Chair for Policy, Organization & Leadership*. Associate Professor. Mentoring and leader development, workplace Incivility, workplace learning and development.

John M. Gould, PhD *(University of Pittsburgh) Harrisburg EdD Educational Leadership & Change Program*. Clinical Professor. Change leadership, curriculum re-design, the impact of technology on learning.

Dominic F. Gullo, PhD *(Indiana University)*. Professor. Studying the relative and long-range effects of early schooling experiences in prekindergarten and kindergarten on children's achievement and social adaptation to school routine.

H. Bernard Hall, PhD *(Temple University)*. Assistant Professor. Hip-hop Pedagogy, English Education, Urban Teacher Education.

Penny Hammrich, PhD *(University of Minnesota) Dean*. Distinguished University Professor. Urban education; science education; genetics; gender equity; science knowledge for conceptual teaching; sport science.

Paul Harrington, PhD *(University of Massachusetts, Boston) Director, Center for Labor Markets and Policy*. Professor. Teen and young adult job access; economic outlook, college labor market; workforce development, planning, and development; vocational rehabilitation and job market transition.

Michael J. Haslip, PhD *(Old Dominion University)*. Assistant Professor. Early childhood education, social and emotional learning, child guidance strategies, effects of public pre-school attendance.

Deanna Hill, JD, PhD *(University of Pittsburgh)*. Associate Clinical Professor. Higher education, international education, education law, education policy

Erin Horvat, PhD *(University of California, Los Angeles) Senior Vice Provost for Faculty Affairs*. Professor. Urban education, access and equity, high school dropout, parent involvement/family involvement, community engagement in research.

Jennifer Katz-Buonincontro, PhD *(University of Oregon) Associate Dean of Research*. Associate Professor. Educational administration, leadership development, survey & instrument design.

Larry Keiser, PhD *(Drexel University)*. Assistant Clinical Professor. Education and corporate/business leaders' creativity and entrepreneurial mindsets; creative school/work environments; neuroscience of creativity; everyday creativity for teachers and educators.

Kristy Kelly, PhD *(University of Wisconsin, Madison)*. Associate Clinical Professor. Sociology of gender and development; anthropology of policy; comparative and international education; qualitative research methods; Vietnam and Southeast Asia.

Cameron Kiosoglous, PhD *(Virginia Tech University) Program Director*. Assistant Clinical Professor. Coached on the USRowing National Team staff since 2002, including the 2004, 2008, 2012, and 2016 Olympic Games; coaching development; measuring coaching quality; self-insight and reflective practices; coaching leadership; conference presenter; published author.

Valerie Klein, PhD *(Amherst College)*. Associate Clinical Professor. Mathematics learning and teaching; teacher's use of formative assessment in mathematics; creating opportunities for rich problem solving in the classroom; examining teachers growth and change; qualitative research methods.

Peggy Kong, PhD *(Harvard University)*. Associate Clinical Professor. Comparative and international education, equity in education, family and community, Chinese education and society, sociology of education

Michael G. Kozak, Ed.D. *(Rowan University)*. Assistant Clinical Professor. Leadership, STEAM, online and blended learning environments, systems thinking, experiential learning, K-12 education, and facilitating change

Amanda Lannie, PhD *(Syracuse University)*. Assistant Clinical Professor. Applied behavior analysis and special education; School-based consultation; system-wide interventions as a mechanism for delivery supports to all students; Designing effective and efficient interventions for students with emotional/behavioral disorders.

Vera Lee, EdD *(University of Pennsylvania) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Practitioner Research in online courses to explore inservice/preservice teachers' emerging understandings about issues of diversity; the development of information/digital literacies of urban youth; English language learners.

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Toni A. Sondergeld, PhD *(University of Toledo)*. Associate Professor. Cognitive and affective assessment development; program/grant evaluation; high stakes testing measurement; STEM education; urban education

Bridget Sweeney Blakely, PhD *(Temple University)*. Assistant Clinical Professor. Consultation; Positive Behavior Interventions and Supports (PBIS); Response to Intervention (Rtl); Systems-level change; performance feedback

Mary Jean Tecce DeCarlo, EdD *(University of Pennsylvania)*. Associate Clinical Professor. Early literacy development, learning differences, knowledge construction, urban education.

Sarah P. Ulrich, EdD *(Saint Joseph's University) Associate Dean of Teacher Education and Undergraduate Affairs*. Clinical Professor. Cross-cultural, language and academic development, school reform, teacher preparation, teacher retention, teacher residencies in urban contexts.

Sheila Vaidya, PhD *(Temple University)*. Professor. Educational psychology, school psychology, research design.

Christina Vorndran, PhD *(Louisiana State University) Program Director, Applied Behavior Analysis and Special Education*. Clinical Professor. Designing effective and efficient community-based interventions, Severe behavior disorders, Functional behavior assessment

Christopher G. Wright, PhD *(Tufts University)*. Assistant Professor. Engineering and science education, Urban education, elementary teacher education.

Emeritus Faculty

Mary Jo Grdina, PhD *(Case Western Reserve University)*. Clinical Professor. Undergraduate studies, science education, curriculum design.

Joyce Pittman, PhD *(Iowa State University of Science and Technology)*. Clinical Professor. Curriculum and instruction K-16; teaching English as a foreign language (TEFL); instructional design business education and administration; industrial and career technology; oral and written communication; research methodology; instructional and assistive technology assessment; online learning pedagogy

Fredricka K. Reisman, PhD *(Syracuse University) School of Education, Founder, Drexel School of Education*. Professor Emerita. Director, Freddie Reisman Center for Translational Research in Creativity and Motivation, Creator and Former Director-Creativity and Innovation Programs, Co-Director-Drexel/Torrance Center for Creativity and Innovation, Drexel University Named Recognition- Freddie Reisman Faculty Scholarly and Creative Activity Awards

Elementary Education, Middle Level (Math/English) BS / Global and International Education MS

Major: Elementary Education, Middle Level (Math/English) and Global and International Education
Degree Awarded: Bachelor of Science (BS) and Master of Science (MS)
Calendar Type: Quarter
Minimum Required Credits: 225.0
Co-op Options: One Co-op (Five years)
BS Classification of Instructional Programs (CIP) code: 13.1202
BS Standard Occupational Classification (SOC) code: 25-2022
MS Classification of Instructional Programs (CIP) code: 13.1319
MS Standard Occupational Classification (SOC) code: 25-2062

About the Program

The BS/MS in Middle Level Math and English Education (4-8) and MS in Global and International Education offers a flexible, innovative curriculum with a unique emphasis on creative problem solving, the application of the latest learning technologies, the integration of global perspectives, and development of intercultural competencies. The joint-program provides students with an in-depth, applied knowledge of the role of education in solving global problems as well as fostering an understanding of diverse cultures and globalization.

This accelerated degree program allows candidates to pursue a BS in Education (Middle Level 4-8 Mathematics and English) with Pennsylvania initial state teacher certification and continue for a fifth graduate year to complete the MS in Global and International Education.

For more information please visit the School of Education website (https://drexel.edu/soe/academics/undergraduate/Degrees/BS-MS-in-Education-Five-Year-Program/).

Admission Requirements

BS/MS application must be submitted during Sophomore year before 120 undergraduate credits have been completed with cumulative 3.0 GPA to gain acceptance into BS/MS program. Continuation as a BS/MS student in Global and International Education requires maintaining minimum term and cumulative 3.0 GPA.

Degree Requirements

General Education/Content Requirements

ARTH 101	History of Art I	3.0
BIO 161	General Biology I	3.0
BIO 162	General Biology II	3.0
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	
ENGL 304	Young Adult Fiction	3.0
ENVS 260	Environmental Science and Society	3.0
HIST 201	United States History to 1815	4.0
HIST 275	History of Pennsylvania	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	
MATH 205	Survey of Geometry	3.0
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
WRIT 225 [WI]	Creative Writing	3.0
or WRIT 301	Writing Poetry	
Pedagogy Requirements		
EDEX 142	Special Education Foundations: Referral and Assessment	3.0
EDEX 344	Inclusive Practices	3.0
EDEX 368 [WI]	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
EDPO 312	Educational Policy, Law & Advocacy	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 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 306	Assessment of Young Children	3.0
EDUC 308	Creating a Positive Classroom Climate	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 328	Language Arts Processes 4-8	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 365	Foundations in Instructing English Language Learners	3.0
EDUC 405	Senior Pedagogy Seminar	1.0
MTED 363	Middle Years Mathematics Methods (4-8)	1.5
MTED 418	Mathematics Methods and Content	3.0
Student Teaching Experience		
EDUC 409 [WI]	Student Teaching Seminar I	9.0
EDUC 410 [WI]	Student Teaching	9.0
Free Electives		9.0
Master's Requirements		
Core Courses		
EDCR 512	Using and Integrating Learning Technologies	3.0
EDCR 518	Evidence-Based Evaluation	3.0
EDGI 503	Global, International & Comparative Education	3.0
EDGI 510	Culture, Society & Education in Comparative Perspective	3.0
EDGI 520	Political Economy of Education Reform	3.0
EDGI 522	Education for Global Citizenship, Sustainability, and Social Justice	3.0
Primary Concentration Courses		
EDGI 506	Comparative Higher Education Systems	3.0
EDGI 518	Analysis of Policy Issues in Global & International Education	3.0
EDGI 524	Measuring the World: Education and National Development	3.0
Capstone Requirement		
EDU 780	Capstone Research	3.0
Students have the option to select from the Practitioner or Thesis capstone track.		
EDUP 780	Practitioner Capstone Course I	3.0
or EDUT 780	Thesis Capstone Course I	
EDUP 781	Practitioner Capstone Course II	3.0-4.5
or EDUT 781	Thesis Capstone Course II	
Select one of the following Secondary Concentrations: **		**9.0**
Secondary Concentration in Peace and Human Rights Education		
EDGI 534	Conflict Resolution in an International Context	
EDGI 550	Educating for Peace, Social Justice, and Human Rights	
EDGI 552	Gender, Education, and International Organizations	
Secondary Concentration in Higher Education Leadership		
EDHE 501	Foundations of Higher Education and Governance	
EDHE 521	Student Development Theory and Application	
EDHE 531	Legal Issues & Ethics in Higher Education	
Secondary Concentration in E-Learning Administration		
EDLT 554	Learning with Social Media and Mobiles	
ELL 501	The Purpose and Business of E-Learning	
ELL 504	Learning Technologies & Disabilities	
Secondary Concentration in Education Policy		
Required:		
EDPO 620	Education Policy: Concepts, Issues, and Applications	
Select two of the following courses:		
EDPO 624	The Shaping of American Education Policy: Global Forces, Interest Groups, and Politics	
EDPO 628	American Educational Policy and U.S. Competitiveness	
EDPO 632	Ethics in Educational Policy Making	
EDPO 636	Access & Equity in Educational Policy Making	
Secondary Concentration in Educational Learning Technologies		
EDLT 532	Designing Virtual Communities for Staff Development - Non-Field Experience	
EDLT 537	Technologies for Performance Support	
EDLT 561	Design-Based Research Methods	

Sample Electives [***]

Students can select courses as additional electives from within the School of Education or a course (with School of Education approval) from another Drexel University program, such as international business administration, foreign languages, women's and gender studies, or science/technology/society.

The following courses are strongly suggested offerings from the GIE program:

EDGI 560	Colloquium in Global Education
EDGI 600	Study Abroad Experience
EDGI 604	Quantitative Literacy: Interpreting and reporting data for educational policy and research
EDGI T580	Special topics in EDGI

Total Credits   225.0-226.5

*   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.

**   As an alternative secondary concentration, students may create a customized area of study from other Drexel University departments/ programs such as International Business Administration, Foreign Languages, Women's and Gender Studies, or Science/Technology/Society.

***   Students may choose any 500-level or higher course from the following subject codes as an elective as long as it does not require field experience or have any program restrictions: CRTV, EDAM, EDCR, EDGI, EDHE, EDLT, EDPO, EDUC, ELL, EHRD, ENTP, INTB, NPM, PBHL, PENG, SCL.

Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the Writing Intensive Course List (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/writing-intensive-courses/) at the University Writing Program (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/). (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/drexel-writing-center/) Students scheduling their courses can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.

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
BIO 161	3.0	CIVC 101	1.0	EDEX 142	3.0	VACATION	
EDUC 101	3.0	COM 111	3.0	EDUC 108	1.0		
EDUC 106	1.0	EDUC 107	1.0	ENGL 103 or 113	3.0		
EDUC 123	3.0	ENGL 102 or 112	3.0	ENVS 260	3.0		
ENGL 101 or 111	3.0	MATH 172	3.0	LING 101	3.0		
MATH 171	3.0	MUSC 130	3.0	MATH 107 or 173	3.0		
UNIV T101	1.0						
	17		**14**		**16**		**0**

Second Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
BIO 162	3.0	EDPO 312	3.0	EDEX 368	3.0	CHEM 111	4.0
COOP 101 [**]	1.0	EDUC 306	1.0	EDUC 216	3.0	EDLT 325	3.0
EDEX 344	3.0	EDUC 365	3.0	EDUC 308	3.0	EDUC 305	1.0
EDUC 205	1.0	PHYS 151	3.0	MATH 205	3.0	PSY 320	3.0
EDUC 223	3.0	WRIT 225 or 301	3.0	MTED 418	3.0	SOC 335	3.0
HIST 275	3.0						
PSY 101	3.0						
	17		**15**		**15**		**14**

Third Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
COOP EXPERIENCE		COOP EXPERIENCE		EDLT 326	3.0	ECON 201	4.0
EDUC 361	1.5	EDUC 360	1.5	EDUC 316	3.0	EDUC 324	3.0
MTED 363	1.5	EDUC 362	1.5	EDUC 326	3.0	EDUC 328	3.0
				EDUC 355	3.0	ENGL 304	3.0
				EDCR 518	3.0	PSY 330	3.0
	3		**3**		**15**		**16**

Fourth Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
EDUC 409	9.0	EDUC 410	9.0	ARTH 101	3.0	Student converts to Graduate status	
(UG) Free elective	3.0	(UG) Free elective	3.0	EDUC 405	1.0	EDGI 518	3.0
EDGI 503	3.0	EDGI 510	3.0	HIST 201	4.0	(GR) Secondary Concentration	3.0
				NFS 100	2.0		
				NFS 101	1.0		
				(UG) Free elective	3.0		
				EDGI 520	3.0		
				EDGI 522	3.0		
	15		**15**		**20**		**6**

Fifth Year

Fall	Credits	Winter	Credits	Spring	Credits
EDCR 512	3.0	EDGI 524	3.0	EDUP 781 or EDUT 781	3.0-4.5
EDGI 506	3.0	EDUP 780 or EDUT 780	3.0	(GR) Secondary Concentration	3.0
EDU 780	3.0	(GR) Secondary Concentration	3.0		
	9		**9**		**6-7.5**

Total Credits 225-226.5

*   Students must receive Department permission to pursue the NCOP option. Students will work directly with their advisor to establish a unique plan of study.

**   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.

Education Faculty

Jennifer Adams, EdD *(Harvard University)*. Associate Professor. Comparative and international education; Poverty and education; Child welfare; Educational policy.

Ayana Allen, PhD *(Texas A&M University)*. Associate Professor. Urban education; Identity construction in school contexts; Urban school transformation.

Kristen Betts, EdD *(George Washington University)*. Clinical Professor. Higher education administration and governance, online blended education, instructional design and educational technology, program assessment and evaluation.

Eric Brewe, PhD *(Arizona State University)*. Associate Professor. Physics Education Research, introductory course reform, network analysis in learning, neuromechanisms of learning.

Stephanie Smith Budhai, PhD *(Drexel University)*. Associate Clinical Professor. Teacher and higher education, culturally responsive teaching, equity and social justice, online learning, community engagement and service-learning, family involvement and partnerships, and learning technologies.

José Luis Chávez, EdD *(University of Southern California)*. Clinical Professor. Higher education leadership and administration.

Rebecca Clothey, PhD *(University of Pittsburgh) Associate Department Head*. Associate Professor. Comparative and international education, education of ethnic and linguistic minorities, sociology of education.

James Connell, PhD *(Louisiana State University) Founding Clinical Core Director and Research Fellow, A.J. Drexel Autism Institute*. Associate Professor. Identifying the variables that influence adult behavior change in community settings; autism intervention; widespread dissemination of evidence-based interventions in school and community settings.

Kareem Edouard, PhD *(Stanford University)*. Assistant Professor. Educational technology; internet-based STEM learning; equity and inclusion in STEM education

Salvatore V. Falletta, EdD *(North Carolina State University)*. Clinical Professor. Human Resource intelligence (i.e., HR research and analytics practices); HRD assessment, measurement, and evaluation models and taxonomies; organizational diagnostic models; web-based employee and organizational survey methods, and computational modeling.

Aroutis N. Foster, PhD *(Michigan State University) Associate Dean for Academic Affairs and Graduate Studies*. Professor. Educational psychology and educational technology, especially the following: Motivation; Technological Pedagogical Content Knowledge (TPACK); Immersive Interactive Digital Environments (simulation, games, virtual realities.

Rajashi Ghosh, PhD *(University of Louisville, Kentucky) Department Chair for Policy, Organization & Leadership*. Associate Professor. Mentoring and leader development, workplace Incivility, workplace learning and development.

John M. Gould, PhD *(University of Pittsburgh) Harrisburg EdD Educational Leadership & Change Program*. Clinical Professor. Change leadership, curriculum re-design, the impact of technology on learning.

Dominic F. Gullo, PhD *(Indiana University)*. Professor. Studying the relative and long-range effects of early schooling experiences in prekindergarten and kindergarten on children's achievement and social adaptation to school routine.

H. Bernard Hall, PhD *(Temple University)*. Assistant Professor. Hip-hop Pedagogy, English Education, Urban Teacher Education.

Penny Hammrich, PhD *(University of Minnesota) Dean*. Distinguished University Professor. Urban education; science education; genetics; gender equity; science knowledge for conceptual teaching; sport science.

Paul Harrington, PhD *(University of Massachusetts, Boston) Director, Center for Labor Markets and Policy*. Professor. Teen and young adult job access; economic outlook, college labor market; workforce development, planning, and development; vocational rehabilitation and job market transition.

Michael J. Haslip, PhD *(Old Dominion University)*. Assistant Professor. Early childhood education, social and emotional learning, child guidance strategies, effects of public pre-school attendance.

Deanna Hill, JD, PhD *(University of Pittsburgh)*. Associate Clinical Professor. Higher education, international education, education law, education policy

Erin Horvat, PhD *(University of California, Los Angeles) Senior Vice Provost for Faculty Affairs*. Professor. Urban education, access and equity, high school dropout, parent involvement/family involvement, community engagement in research.

Jennifer Katz-Buonincontro, PhD *(University of Oregon) Associate Dean of Research*. Associate Professor. Educational administration, leadership development, survey & instrument design.

Larry Keiser, PhD *(Drexel University)*. Assistant Clinical Professor. Education and corporate/business leaders' creativity and entrepreneurial mindsets; creative school/work environments; neuroscience of creativity; everyday creativity for teachers and educators.

Kristy Kelly, PhD *(University of Wisconsin, Madison)*. Associate Clinical Professor. Sociology of gender and development; anthropology of policy; comparative and international education; qualitative research methods; Vietnam and Southeast Asia.

Cameron Kiosoglous, PhD *(Virginia Tech University) Program Director*. Assistant Clinical Professor. Coached on the USRowing National Team staff since 2002, including the 2004, 2008, 2012, and 2016 Olympic Games; coaching development; measuring coaching quality; self-insight and reflective practices; coaching leadership; conference presenter; published author.

Valerie Klein, PhD *(Amherst College)*. Associate Clinical Professor. Mathematics learning and teaching; teacher's use of formative assessment in mathematics; creating opportunities for rich problem solving in the classroom; examining teachers growth and change; qualitative research methods.

Peggy Kong, PhD *(Harvard University)*. Associate Clinical Professor. Comparative and international education, equity in education, family and community, Chinese education and society, sociology of education

Michael G. Kozak, Ed.D. *(Rowan University)*. Assistant Clinical Professor. Leadership, STEAM, online and blended learning environments, systems thinking, experiential learning, K-12 education, and facilitating change

Amanda Lannie, PhD *(Syracuse University)*. Assistant Clinical Professor. Applied behavior analysis and special education; School-based consultation; system-wide interventions as a mechanism for delivery supports to all students; Designing effective and efficient interventions for students with emotional/behavioral disorders.

Vera Lee, EdD *(University of Pennsylvania) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Practitioner Research in online courses to explore inservice/preservice teachers' emerging understandings about issues of diversity; the development of information/digital literacies of urban youth; English language learners.

Bruce Levine, JD *(New York University)*. Associate Clinical Professor. Educational policy, school law, public-private partnerships, intersection of business and education.

Kristine Lewis-Grant, PhD *(Temple University)*. Clinical Professor. Experiences of students of African descent at predominantly white colleges and universities, college access and college student development, youth civic engagement in urban school reform, qualitative research and evaluation.

William Lynch, PhD *(University of Maryland)*. Professor. Curriculum and educational leadership, educational technology, distance learning policy development, higher and adult education.

Constance Lyttle, PhD, JD *(University of Pittsburgh, Duquesne University)*. Clinical Professor. Legal rights of gifted and talented children and children with disabilities; inclusive education of exceptional children; special education mediation; special education IEP/IFSP facilitation; resolution session facilitation

Joy Phillips, PhD *(The University of Texas at Austin)*. Associate Clinical Professor. Visionary leadership in theory and practice, school reform as innovative problem-setting, thinking qualitatively about school reform. thinking about school reform by drawing, Educational Leadership Program Assessment.

Kathleen Provinzano, PhD *(Marywood University)*. Assistant Professor. Educational administration.

Harriette Rasmussen, EdD *(Fielding Graduate University)*. Assistant Clinical Professor. Educational leadership and change.

Lori Severino, EdD *(Neumann University)*. Assistant Professor. Special education, differentiated instruction, reading, Wilson language, multi-sensory instruction, reading comprehension, assessment, adolescent literacy.

Jason Silverman, PhD *(Vanderbilt University)*. Professor. Teaching and learning of advanced mathematical ideas (algebra and calculus); improving teachers' ability to orchestrate and sustain inquiry-based and discussion-based instruction; technology in mathematics education.

Janet Sloand, EdD *(Duquesne University) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Special Education Leadership, Trauma-informed care, Parent engagement in special education service delivery.

Toni A. Sondergeld, PhD *(University of Toledo)*. Associate Professor. Cognitive and affective assessment development; program/grant evaluation; high stakes testing measurement; STEM education; urban education

Bridget Sweeney Blakely, PhD *(Temple University)*. Assistant Clinical Professor. Consultation; Positive Behavior Interventions and Supports (PBIS); Response to Intervention (Rtl); Systems-level change; performance feedback

Mary Jean Tecce DeCarlo, EdD *(University of Pennsylvania)*. Associate Clinical Professor. Early literacy development, learning differences, knowledge construction, urban education.

Sarah P. Ulrich, EdD *(Saint Joseph's University) Associate Dean of Teacher Education and Undergraduate Affairs*. Clinical Professor. Cross-cultural, language and academic development, school reform, teacher preparation, teacher retention, teacher residencies in urban contexts.

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Mary Jo Grdina, PhD *(Case Western Reserve University)*. Clinical Professor. Undergraduate studies, science education, curriculum design.

Joyce Pittman, PhD *(Iowa State University of Science and Technology)*. Clinical Professor. Curriculum and instruction K-16; teaching English as a foreign language (TEFL); instructional design business education and administration; industrial and career technology; oral and written communication; research methodology; instructional and assistive technology assessment; online learning pedagogy

Fredricka K. Reisman, PhD *(Syracuse University) School of Education, Founder, Drexel School of Education*. Professor Emerita. Director, Freddie Reisman Center for Translational Research in Creativity and Motivation, Creator and Former Director-Creativity and Innovation Programs, Co-Director-Drexel/Torrance Center for Creativity and Innovation, Drexel University Named Recognition- Freddie Reisman Faculty Scholarly and Creative Activity Awards

Elementary Education, Middle Level (Science/English) BS / Global and International Education MS

Major: Elementary Education, Middle Level (Science/English) and Global and International Education

Degree Awarded: Bachelor of Science (BS) and Master of Science (MS)
Calendar Type: Quarter
Minimum Required Credits: 225.0
Co-op Options: One Co-op (Five years)
BS Classification of Instructional Programs (CIP) code: 13.1202
BS Standard Occupational Classification (SOC) code: 25-2022
MS Classification of Instructional Programs (CIP) code: 13.1319
MS Standard Occupational Classification (SOC) code: 25-2062

About the Program

The BS/MS in Middle Level Science and English Education (4-8) and MS in Global and International Education offers a flexible, innovative curriculum with a unique emphasis on creative problem solving, the application of the latest learning technologies, the integration of global perspectives, and development of intercultural competencies. The joint-program provides students with an in-depth, applied knowledge of the role of education in solving global problems as well as fostering an understanding of diverse cultures and globalization.

This accelerated degree program allows candidates to pursue a BS in Education (Middle Level 4-8 Science and English) with Pennsylvania initial state teacher certification and continue for a fifth graduate year to complete the MS in Global and International Education.

For more information please visit the School of Education website (https://drexel.edu/soe/academics/undergraduate/Degrees/BS-MS-in-Education-Five-Year-Program/).

Admission Requirements

BS/MS application must be submitted during Sophomore year before 120 undergraduate credits have been completed with cumulative 3.0 GPA to gain acceptance into BS/MS program. Continuation as a BS/MS student in Global and International Education requires maintaining minimum term and cumulative 3.0 GPA.

Degree Requirements

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BIO 161	General Biology I	3.0
BIO 162	General Biology II	3.0
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	
ENGL 304	Young Adult Fiction	3.0
ENVS 260	Environmental Science and Society	3.0
Select one of the following		4.0
HIST 201	United States History to 1815	
or HIST 202	United States History, 1815-1900	
or HIST 203	United States History since 1900	
HIST 275	History of Pennsylvania	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 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
WRIT 225 [WI]	Creative Writing	3.0
or WRIT 301	Writing Poetry	
Free electives		9.0
Pedagogy Requirements		
EDEX 142	Special Education Foundations: Referral and Assessment	3.0
EDEX 344	Inclusive Practices	3.0
EDEX 368 [WI]	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
EDPO 312	Educational Policy, Law & Advocacy	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 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 306	Assessment of Young Children	3.0
EDUC 308	Creating a Positive Classroom Climate	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 328	Language Arts Processes 4-8	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 365	Foundations in Instructing English Language Learners	3.0
EDUC 405	Senior Pedagogy Seminar	1.0
ESTM 342	Teaching Engineering Concepts to Children	3.0
MTED 363	Middle Years Mathematics Methods (4-8)	1.5
MTED 418	Mathematics Methods and Content	3.0
Student Teaching Experience		
EDUC 409 [WI]	Student Teaching Seminar I	9.0
EDUC 410 [WI]	Student Teaching	9.0
Master's Requirements		
Core Courses		
EDCR 512	Using and Integrating Learning Technologies	3.0
EDCR 518	Evidence-Based Evaluation	3.0
EDGI 503	Global, International & Comparative Education	3.0
EDGI 510	Culture, Society & Education in Comparative Perspective	3.0
EDGI 520	Political Economy of Education Reform	3.0
EDGI 522	Education for Global Citizenship, Sustainability, and Social Justice	3.0
Primary Concentration Courses		
EDGI 506	Comparative Higher Education Systems	3.0
EDGI 518	Analysis of Policy Issues in Global & International Education	3.0
EDGI 524	Measuring the World: Education and National Development	3.0
Capstone Requirement		
EDU 780	Capstone Research	3.0
Students have the option to select from the Practitioner or Thesis capstone track.		
EDUP 780	Practitioner Capstone Course I	3.0
or EDUT 780	Thesis Capstone Course I	
EDUP 781	Practitioner Capstone Course II	3.0-4.5
or EDUT 781	Thesis Capstone Course II	
Select one of the following Secondary Concentrations: ****		**9.0**
Secondary Concentration in Peace and Human Rights Education		
EDGI 534	Conflict Resolution in an International Context	
EDGI 550	Educating for Peace, Social Justice, and Human Rights	

EDGI 552	Gender, Education, and International Organizations	
Secondary Concentration in Higher Education Leadership		
EDHE 501	Foundations of Higher Education and Governance	
EDHE 521	Student Development Theory and Application	
EDHE 531	Legal Issues & Ethics in Higher Education	
Secondary Concentration in E-Learning Administration		
EDLT 554	Learning with Social Media and Mobiles	
ELL 501	The Purpose and Business of E-Learning	
ELL 504	Learning Technologies & Disabilities	
Secondary Concentration in Education Policy		
Required:		
EDPO 620	Education Policy: Concepts, Issues, and Applications	
Select two of the following courses:		
EDPO 624	The Shaping of American Education Policy: Global Forces, Interest Groups, and Politics	
EDPO 628	American Educational Policy and U.S. Competitiveness	
EDPO 632	Ethics in Educational Policy Making	
EDPO 636	Access & Equity in Educational Policy Making	
Secondary Concentration in Educational Learning Technologies		
EDLT 532	Designing Virtual Communities for Staff Development - Non-Field Experience	
EDLT 537	Technologies for Performance Support	
EDLT 561	Design-Based Research Methods	
Sample Electives ***		
Students can select courses as additional electives from within the School of Education or a course (with School of Education approval) from another Drexel University program, such as international business administration, foreign languages, women's and gender studies, or science/technology/society.		
The following courses are strongly suggested offerings from the GIE program:		
EDGI 560	Colloquium in Global Education	
EDGI 600	Study Abroad Experience	
EDGI 604	Quantitative Literacy: Interpreting and reporting data for educational policy and research	
EDGI T580	Special topics in EDGI	
Total Credits		**225.0-226.5**

*   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.

**   As an alternative secondary concentration, students may create a customized area of study from other Drexel University departments/ programs such as International Business Administration, Foreign Languages, Women's and Gender Studies, or Science/Technology/Society.

***   Students may choose any 500-level or higher course from the following subject codes as an elective as long as it does not require field experience or have any program restrictions: CRTV, EDAM, EDCR, EDGI, EDHE, EDLT, EDPO, EDUC, ELL, EHRD, ENTP, INTB, NPM, PBHL, PENG, SCL.

Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the Writing Intensive Course List (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/writing-intensive-courses/) at the University Writing Program (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/). (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/drexel-writing-center/) Students scheduling their courses can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.

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
BIO 161	3.0	CIVC 101	1.0	EDEX 142	3.0	VACATION	
EDUC 101	3.0	COM 111	3.0	EDUC 108	1.0		
EDUC 106	1.0	EDUC 107	1.0	ENGL 103 or 113	3.0		
EDUC 123	3.0	ENGL 102 or 112	3.0	ENVS 260	3.0		
ENGL 101 or 111	3.0	MATH 172	3.0	LING 101	3.0		
MATH 171	3.0	MUSC 130	3.0	MATH 173 or 107	3.0		
UNIV T101	1.0						
	17		**14**		**16**		**0**

Second Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
BIO 162	3.0	EDPO 312	3.0	EDEX 368	3.0	CHEM 111	4.0
COOP 101*	1.0	EDUC 306	3.0	EDUC 216	3.0	EDLT 325	3.0
EDEX 344	3.0	EDUC 365	3.0	EDUC 308	3.0	EDUC 305	1.0
EDUC 205	1.0	PHYS 151	3.0	MTED 418	3.0	PSY 320	3.0
EDUC 223	3.0	(UG) Free elective	3.0			SOC 335	3.0
HIST 275	3.0						
PSY 101	3.0						
	17		**15**		**12**		**14**

Third Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
COOP EXPERIENCE		COOP EXPERIENCE		EDLT 326	3.0	ECON 201	4.0
EDUC 361	1.5	EDUC 360	1.5	EDUC 316	3.0	EDUC 324	3.0
MTED 363	1.5	EDUC 362	1.5	EDUC 326	3.0	EDUC 328	3.0
				EDUC 355	3.0	ENGL 304	3.0
				(UG) Free elective	3.0	PSY 330	3.0
				EDCR 518	3.0		
	3		**3**		**18**		**16**

Fourth Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
EDUC 409	9.0	EDUC 410	9.0	ARTH 101	3.0	Student converts to Graduate status	
(UG) Free elective	3.0	WRIT 225 or 301	3.0	EDUC 405	1.0	EDGI 518	3.0
EDGI 503	3.0	EDGI 510	3.0	ESTM 342	3.0	(GR) Secondary Concentration	3.0
				HIST 201, 202, or 203	4.0		
				NFS 100	2.0		
				NFS 101	1.0		
				EDGI 520	3.0		
				EDGI 522	3.0		
	15		**15**		**20**		**6**

Fifth Year

Fall	Credits	Winter	Credits	Spring	Credits
EDCR 512	3.0	EDGI 524	3.0	EDUP 781 or EDUT 781	3.0-4.5
EDGI 506	3.0	EDUP 780 or EDUT 780	3.0	(GR) Secondary Concentration	3.0
EDU 780	3.0	(GR) Secondary Concentration	3.0		
	9		**9**		**6-7.5**

Total Credits 225-226.5

*   Students must receive Department permission to pursue the NCOP option. Students will work directly with their advisor to establish a unique plan of study.

**   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.

Education Faculty

Jennifer Adams, EdD *(Harvard University)*. Associate Professor. Comparative and international education; Poverty and education; Child welfare; Educational policy.

Ayana Allen, PhD *(Texas A&M University)*. Associate Professor. Urban education; Identity construction in school contexts; Urban school transformation.

Kristen Betts, EdD *(George Washington University)*. Clinical Professor. Higher education administration and governance, online blended education, instructional design and educational technology, program assessment and evaluation.

Eric Brewe, PhD *(Arizona State University)*. Associate Professor. Physics Education Research, introductory course reform, network analysis in learning, neuromechanisms of learning.

Stephanie Smith Budhai, PhD *(Drexel University)*. Associate Clinical Professor. Teacher and higher education, culturally responsive teaching, equity and social justice, online learning, community engagement and service-learning, family involvement and partnerships, and learning technologies.

José Luis Chávez, EdD *(University of Southern California)*. Clinical Professor. Higher education leadership and administration.

Rebecca Clothey, PhD *(University of Pittsburgh) Associate Department Head*. Associate Professor. Comparative and international education, education of ethnic and linguistic minorities, sociology of education.

James Connell, PhD *(Louisiana State University) Founding Clinical Core Director and Research Fellow, A.J. Drexel Autism Institute*. Associate Professor. Identifying the variables that influence adult behavior change in community settings; autism intervention; widespread dissemination of evidence-based interventions in school and community settings.

Kareem Edouard, PhD *(Stanford University)*. Assistant Professor. Educational technology; internet-based STEM learning; equity and inclusion in STEM education

Salvatore V. Falletta, EdD *(North Carolina State University)*. Clinical Professor. Human Resource intelligence (i.e., HR research and analytics practices); HRD assessment, measurement, and evaluation models and taxonomies; organizational diagnostic models; web-based employee and organizational survey methods, and computational modeling.

Aroutis N. Foster, PhD *(Michigan State University) Associate Dean for Academic Affairs and Graduate Studies*. Professor. Educational psychology and educational technology, especially the following: Motivation; Technological Pedagogical Content Knowledge (TPACK); Immersive Interactive Digital Environments (simulation, games, virtual realities.

Rajashi Ghosh, PhD *(University of Louisville, Kentucky) Department Chair for Policy, Organization & Leadership*. Associate Professor. Mentoring and leader development, workplace Incivility, workplace learning and development.

John M. Gould, PhD *(University of Pittsburgh) Harrisburg EdD Educational Leadership & Change Program*. Clinical Professor. Change leadership, curriculum re-design, the impact of technology on learning.

Dominic F. Gullo, PhD *(Indiana University)*. Professor. Studying the relative and long-range effects of early schooling experiences in prekindergarten and kindergarten on children's achievement and social adaptation to school routine.

H. Bernard Hall, PhD *(Temple University)*. Assistant Professor. Hip-hop Pedagogy, English Education, Urban Teacher Education.

Penny Hammrich, PhD *(University of Minnesota) Dean*. Distinguished University Professor. Urban education; science education; genetics; gender equity; science knowledge for conceptual teaching; sport science.

Paul Harrington, PhD *(University of Massachusetts, Boston) Director, Center for Labor Markets and Policy*. Professor. Teen and young adult job access; economic outlook, college labor market; workforce development, planning, and development; vocational rehabilitation and job market transition.

Michael J. Haslip, PhD *(Old Dominion University)*. Assistant Professor. Early childhood education, social and emotional learning, child guidance strategies, effects of public pre-school attendance.

Deanna Hill, JD, PhD *(University of Pittsburgh)*. Associate Clinical Professor. Higher education, international education, education law, education policy

Erin Horvat, PhD *(University of California, Los Angeles) Senior Vice Provost for Faculty Affairs*. Professor. Urban education, access and equity, high school dropout, parent involvement/family involvement, community engagement in research.

Jennifer Katz-Buonincontro, PhD *(University of Oregon) Associate Dean of Research*. Associate Professor. Educational administration, leadership development, survey & instrument design.

Larry Keiser, PhD *(Drexel University)*. Assistant Clinical Professor. Education and corporate/business leaders' creativity and entrepreneurial mindsets; creative school/work environments; neuroscience of creativity; everyday creativity for teachers and educators.

Kristy Kelly, PhD *(University of Wisconsin, Madison)*. Associate Clinical Professor. Sociology of gender and development; anthropology of policy; comparative and international education; qualitative research methods; Vietnam and Southeast Asia.

Cameron Kiosoglous, PhD *(Virginia Tech University) Program Director*. Assistant Clinical Professor. Coached on the USRowing National Team staff since 2002, including the 2004, 2008, 2012, and 2016 Olympic Games; coaching development; measuring coaching quality; self-insight and reflective practices; coaching leadership; conference presenter; published author.

Valerie Klein, PhD *(Amherst College)*. Associate Clinical Professor. Mathematics learning and teaching; teacher's use of formative assessment in mathematics; creating opportunities for rich problem solving in the classroom; examining teachers growth and change; qualitative research methods.

Peggy Kong, PhD *(Harvard University)*. Associate Clinical Professor. Comparative and international education, equity in education, family and community, Chinese education and society, sociology of education

Michael G. Kozak, Ed.D. *(Rowan University)*. Assistant Clinical Professor. Leadership, STEAM, online and blended learning environments, systems thinking, experiential learning, K-12 education, and facilitating change

Amanda Lannie, PhD *(Syracuse University)*. Assistant Clinical Professor. Applied behavior analysis and special education; School-based consultation; system-wide interventions as a mechanism for delivery supports to all students; Designing effective and efficient interventions for students with emotional/behavioral disorders.

Vera Lee, EdD *(University of Pennsylvania) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Practitioner Research in online courses to explore inservice/preservice teachers' emerging understandings about issues of diversity; the development of information/digital literacies of urban youth; English language learners.

Bruce Levine, JD *(New York University)*. Associate Clinical Professor. Educational policy, school law, public-private partnerships, intersection of business and education.

Kristine Lewis-Grant, PhD *(Temple University)*. Clinical Professor. Experiences of students of African descent at predominantly white colleges and universities, college access and college student development, youth civic engagement in urban school reform, qualitative research and evaluation.

William Lynch, PhD *(University of Maryland)*. Professor. Curriculum and educational leadership, educational technology, distance learning policy development, higher and adult education.

Constance Lyttle, PhD, JD *(University of Pittsburgh, Duquesne University)*. Clinical Professor. Legal rights of gifted and talented children and children with disabilities; inclusive education of exceptional children; special education mediation; special education IEP/IFSP facilitation; resolution session facilitation

Joy Phillips, PhD *(The University of Texas at Austin)*. Associate Clinical Professor. Visionary leadership in theory and practice, school reform as innovative problem-setting, thinking qualitatively about school reform. thinking about school reform by drawing, Educational Leadership Program Assessment.

Kathleen Provinzano, PhD *(Marywood University)*. Assistant Professor. Educational administration.

Harriette Rasmussen, EdD *(Fielding Graduate University)*. Assistant Clinical Professor. Educational leadership and change.

Lori Severino, EdD *(Neumann University)*. Assistant Professor. Special education, differentiated instruction, reading, Wilson language, multi-sensory instruction, reading comprehension, assessment, adolescent literacy.

Jason Silverman, PhD *(Vanderbilt University)*. Professor. Teaching and learning of advanced mathematical ideas (algebra and calculus); improving teachers' ability to orchestrate and sustain inquiry-based and discussion-based instruction; technology in mathematics education.

Janet Sloand, EdD *(Duquesne University) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Special Education Leadership, Trauma-informed care, Parent engagement in special education service delivery.

Toni A. Sondergeld, PhD *(University of Toledo)*. Associate Professor. Cognitive and affective assessment development; program/grant evaluation; high stakes testing measurement; STEM education; urban education

Bridget Sweeney Blakely, PhD *(Temple University)*. Assistant Clinical Professor. Consultation; Positive Behavior Interventions and Supports (PBIS); Response to Intervention (Rtl); Systems-level change; performance feedback

Mary Jean Tecce DeCarlo, EdD *(University of Pennsylvania)*. Associate Clinical Professor. Early literacy development, learning differences, knowledge construction, urban education.

Sarah P. Ulrich, EdD *(Saint Joseph's University) Associate Dean of Teacher Education and Undergraduate Affairs*. Clinical Professor. Cross-cultural, language and academic development, school reform, teacher preparation, teacher retention, teacher residencies in urban contexts.

Sheila Vaidya, PhD *(Temple University)*. Professor. Educational psychology, school psychology, research design.

Christina Vorndran, PhD *(Louisiana State University) Program Director, Applied Behavior Analysis and Special Education*. Clinical Professor. Designing effective and efficient community-based interventions, Severe behavior disorders, Functional behavior assessment

Christopher G. Wright, PhD *(Tufts University)*. Assistant Professor. Engineering and science education, Urban education, elementary teacher education.

Emeritus Faculty

Mary Jo Grdina, PhD *(Case Western Reserve University)*. Clinical Professor. Undergraduate studies, science education, curriculum design.

Joyce Pittman, PhD *(Iowa State University of Science and Technology)*. Clinical Professor. Curriculum and instruction K-16; teaching English as a foreign language (TEFL); instructional design business education and administration; industrial and career technology; oral and written communication; research methodology; instructional and assistive technology assessment; online learning pedagogy

Fredricka K. Reisman, PhD *(Syracuse University) School of Education, Founder, Drexel School of Education*. Professor Emerita. Director, Freddie Reisman Center for Translational Research in Creativity and Motivation, Creator and Former Director-Creativity and Innovation Programs, Co-Director-Drexel/Torrance Center for Creativity and Innovation, Drexel University Named Recognition- Freddie Reisman Faculty Scholarly and Creative Activity Awards

Elementary Education, Middle Level (Math/English) BS / Teaching, Learning and Curriculum MS

Major: Elementary Education, Middle Level (Math/English) and Teaching, Learning and Curriculum
Degree Awarded: Bachelor of Science (BS) and Master of Science (MS)
Calendar Type: Quarter
Minimum Required Credits: 225.0
Co-op Options: One Co-op (Five years)
BS Classification of Instructional Programs (CIP) code: 13-1202
BS Standard Occupational Classification (SOC) code: 25-2022
MS Classification of Instructional Programs (CIP) code: 13-1399
MS Standard Occupational Classification (SOC) code: 11-9039

About the Program

The BS/MS in Middle Level Education (4-8) 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 (Middle Level 4-8 Mathematics and English) 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 Middle Level Mathematics and English Teacher Education and Teaching Learning and Curriculum Advanced track prepares students academically and practically for careers in PK–12 teaching or other educational settings, including capabilities to:

- Demonstrate professional ethics and independent and creative academic best practices that exhibit outstanding leadership, organizational, cross cultural, inter-personal and advocacy skills including the ability to communicate effectively with internal and external groups.
- Understand the changing role of teachers in increasingly diverse societies
- Demonstrate a strong academic background in all subject areas that meet PDE requirements including literacy, language and STEM areas
- Demonstrate the ability to create and maintain a positive and democratic classroom climate for students
- Demonstrate a thorough understanding of child development in their ability to develop and implement learning opportunities that are unique to every child
- Develop creative academic leadership skills with a global perspective on current educational issues, knowledge of best pedagogical practices, tools to effectively integrate technology in curriculum, assessment and instruction, and a strong academic background in all subject areas that meet PDE content requirements.
- Develop competencies to become reflective practitioners who are lifelong learners, who base their practice on theory, research, and developmentally appropriate pedagogy by analyzing, implementing, and evaluating existing and new instructional strategies and practices in a variety of educational institutions/organizations.
- Demonstrate advanced teaching knowledge and skills well beyond that required for initial Pennsylvania certification
- Develop advanced skills to function in a variety of roles as instructors, instructional leaders or researchers in local, state, national and international organizations, foundations, associations, corporations and private educational institutions.
- Have in-depth knowledge of both public and private (non-profit and for-profit) institutions as well as small and large institutions.

Admission Requirements

Same as BS in Elementary Education, BSMS application must be submitted during Sophomore year before 120 credits have been completed with cumulative 3.0 GPA to gain acceptance into BS/MS program. Continuation as a BS/MS student in Teaching Learning and Curriculum (Advanced Track) requires maintaining minimum term and cumulative 3.0 GPA.

Degree Requirements

General Education/Content Requirements

ARTH 101	History of Art I	3.0
BIO 161	General Biology I	3.0
BIO 162	General Biology II	3.0
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	
ENGL 304	Young Adult Fiction	3.0
ENVS 260	Environmental Science and Society	3.0
HIST 201	United States History to 1815	4.0
HIST 275	History of Pennsylvania	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	
MATH 205	Survey of Geometry	3.0
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
WRIT 225 [WI]	Creative Writing	3.0
or WRIT 301	Writing Poetry	
Pedagogy Requirements		
EDEX 142	Special Education Foundations: Referral and Assessment	3.0
EDEX 344	Inclusive Practices	3.0
EDEX 368 [WI]	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
EDPO 312	Educational Policy, Law & Advocacy	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 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 306	Assessment of Young Children	3.0
EDUC 308	Creating a Positive Classroom Climate	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 328	Language Arts Processes 4-8	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 365	Foundations in Instructing English Language Learners	3.0
EDUC 405	Senior Pedagogy Seminar	1.0
MTED 363	Middle Years Mathematics Methods (4-8)	1.5
MTED 418	Mathematics Methods and Content	3.0
Student Teaching Experience		
EDUC 409 [WI]	Student Teaching Seminar I	9.0
EDUC 410 [WI]	Student Teaching	9.0
Free Electives		9.0
MS in TLC Core		
EDAM 714	Instructional and Curriculum Leadership (Take EDLS 550 if pursuing Reading Specialist Concentration)	3.0
or EDLS 550	Theories of Reading and Writing	
EDLT 532	Designing Virtual Communities for Staff Development - Non-Field Experience	3.0
EDUC 524	Current Research in Curriculum & Instruction (Take EDLS 575 if pursuing Reading Specialist Concentration)	3.0
or EDLS 575	Responding to Children's and Young Adult Literature	
EDUC 530	Advanced Techniques in Instruction & Assessment	3.0
EDUC 609	Language & Culture in Education (Take EDLS 555 if pursuing Reading Specialist Concentration)	3.0
or EDLS 555	Understanding Literacy through Sociocultural Perspectives	
Policy, Law & Organization Courses (Choose 2)		**6.0**
Select two courses in Education Policy, Law & Organization EDPO or EDAM (500-799). Reading Specialist Concentration students enroll in EDLS 570 and EDLS 650.		
EDAM 705	School Law and Politics	
EDCR 518	Evidence-Based Evaluation	
EDLS 570	Literacy and Evaluation	
EDLS 650	Designing a Literacy Program	
EDPO 620	Education Policy: Concepts, Issues, and Applications	
MS in TLC Capstone Sequence		
EDU 780	Capstone Research	3.0
Student selects and enrolls in appropriate course work following one of the following capstone tracks: Practitioner or Thesis		
EDUP 780	Practitioner Capstone Course I	3.0
or EDUT 780	Thesis Capstone Course I	
EDUP 781	Practitioner Capstone Course II	3.0-4.5
or EDUT 781	Thesis Capstone Course II	
MS Professional Elective or Concentration [**]		**15.0**
Candidates may select any combination of the following for 15.0 credits: ABA, CRTV, EDAM, EDEX, EDGI, EDLS, EDLT, EDPO, EDUC, EHRD, ELL, ENTP, ESTM, MTED, or SCL (500-799 level), or candidates select a formal concentration. (See formal concentration options below)		
Autism Spectrum Disorders		
EDEX 555	Teaching Students with Autism Spectrum Disorder	
EDEX 556	Characteristics & Methods: Autism	
EDEX 558	Characteristics & Methods: High Functioning Autism	
EDEX 560	Communication & Language Interventions: Autism Spectrum Disorders	
EDEX 562	Behavior & Sensory Support: Autism Spectrum Disorders	
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	
EHRD 660	Principles of Adult Learning	
Creativity and Innovation		
CRTV 501	Foundations in Creativity	
CRTV 502	Tools and Techniques in Creativity	
CRTV 503	Creativity in the Workplace	
CRTV 620	Research Methods and Assessment of Creative and Innovative Thinking	
CRTV 630	Global Perspectives on Creativity	
Educational Policy		
EDPO 620	Education Policy: Concepts, Issues, and Applications	

EDPO 624	The Shaping of American Education Policy: Global Forces, Interest Groups, and Politics
EDPO 628	American Educational Policy and U.S. Competitiveness
EDPO 632	Ethics in Educational Policy Making
EDPO 636	Access & Equity in Educational Policy Making
Global & International Education	
EDGI 503	Global, International & Comparative Education
EDGI 510	Culture, Society & Education in Comparative Perspective
EDGI 512	Globalization and Educational Change
EDGI 514	Education and National Development
EDGI 518	Analysis of Policy Issues in Global & International Education
Higher Education	
EDGI 506	Comparative Higher Education Systems
EDHE 501	Foundations of Higher Education and Governance
EDHE 531	Legal Issues & Ethics in Higher Education
EDHE 662	Critical Issues in Student Affairs
EHRD 660	Principles of Adult Learning
Learning Technologies	
EDLT 532	Designing Virtual Communities for Staff Development - Non-Field Experience
EDLT 537	Technologies for Performance Support
EDLT 543	Play & Learning in a Participatory Culture
EDLT 551	Instructional Design Methods
ELL 501	The Purpose and Business of E-Learning
Multisensory Reading Instruction Level 1	
EDLS 620	Applied Methods in Multisensory Reading Instruction
EDLS 621	Multisensory Reading Instruction
EDLS 622	Basic Word Study I
EDLS 623	Basic Word Study II
EDLS 624	Multisensory Practicum I
EDLS 625	Multisensory Practicum II
EDLS 626	Multisensory Practicum III
Professional Elective (minimum 3.0 credits) [***]	
Reading Specialist Certification	
EDLS 560	Reading and Writing in the Content Areas (7-12)
EDLS 565	Constructing Meaning through Reading and Writing
EDLS 620	Applied Methods in Multisensory Reading Instruction
EDLS 622	Basic Word Study I
EDLS 623	Basic Word Study II
EDLS 624	Multisensory Practicum I
EDLS 625	Multisensory Practicum II
EDLS 626	Multisensory Practicum III
Teaching English as a Second Language Certification	
EDUC 602	Language Learning & Teaching
EDUC 604	Structure and Sound System of English
EDUC 606	Design and Assessment
EDUC 608	The Intercultural Learner
Professional Elective (minimum 1.5 credits) [†]	
Social Emotional Behavioral Wellness	
EDEX 580	Social Emotional Wellness and Evidence-Based Preventative School Practices
EDEX 581	Understanding Social Emotional Disorders
EDEX 582	Evidence-Based School Interventions and Trauma Informed Education/Care
EDEX 583	Collaboration and Community Based Practices to Promote Social Emotion Wellness

Total Credits   **225.0-226.5**

*   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.

**   Candidates may opt for a formal concentration or a Customized Concentration which may include coursework from other Drexel academic departments in consultation with an academic advisor. Sample customized concentrations might include:

- Educational Administration
- Evaluation & Assessment

- Instructional Design
- Instructional Technology
- Leadership in Educational Settings
- Learning in Game-Based Environments
- Special Education Law and Process
- Special Education Leadership
- Urban Education

***   Complete 3.0 graduate elective credits (500-799) in EDUC, EDEX, EDGI, EDAM, EHRD, EDHE, CRTV, MTED, EDLT, EDLS, ELL, ABA, EDPO, SCL, ENTP or ESTM.

†   Complete 1.5 graduate elective credits (500-799) in EDUC, EDEX, EDGI, EDAM, EHRD, EDHE, CRTV, MTED, EDLT, EDLS, ELL, ABA, EDPO, SCL, ENTP or ESTM.

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
BIO 161	3.0	CIVC 101	1.0	EDEX 142	3.0	VACATION	
EDUC 101	3.0	COM 111	3.0	EDUC 108	1.0		
EDUC 106	1.0	EDUC 107	1.0	ENGL 103 or 113	3.0		
EDUC 123	3.0	ENGL 102 or 112	3.0	ENVS 260	3.0		
ENGL 101 or 111	3.0	MATH 172	3.0	LING 101	3.0		
MATH 171	3.0	MUSC 130	3.0	MATH 107 or 173	3.0		
UNIV T101	1.0						
	17		**14**		**16**		**0**

Second Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
BIO 162	3.0	EDPO 312	3.0	EDEX 368	3.0	CHEM 111	4.0
COOP 101**	1.0	EDUC 306	3.0	EDUC 216	3.0	EDLT 325	3.0
EDEX 344	3.0	EDUC 365	3.0	EDUC 308	3.0	EDUC 305	1.0
EDUC 205	1.0	PHYS 151	3.0	MATH 205	3.0	PSY 320	3.0
EDUC 223	3.0	WRIT 225 or 301	3.0	MTED 418	3.0	SOC 335	3.0
HIST 275	3.0						
PSY 101	3.0						
	17		**15**		**15**		**14**

Third Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
COOP EXPERIENCE		COOP EXPERIENCE		EDLT 326	3.0	ECON 201	4.0
EDUC 361	1.5	EDUC 360	1.5	EDUC 316	3.0	EDUC 324	3.0
MTED 363	1.5	EDUC 362	1.5	EDUC 326	3.0	EDUC 328	3.0
				EDUC 355	3.0	ENGL 304	3.0
				EDAM 714	3.0	PSY 330	3.0
				(GR) MS Elective	3.0	(GR) MS Elective	3.0
	3		**3**		**18**		**19**

Fourth Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
EDUC 409	9.0	EDUC 410	9.0	ARTH 101	3.0	Student classified as Graduate Student	
(UG) Free Elective	3.0	(UG) Free Elective	3.0	EDUC 405	1.0	EDAM 705	3.0
				HIST 201	4.0	EDUC 530	3.0
				NFS 100	2.0	(GR) MS Elective	3.0
				NFS 101	1.0		
				(UG) Free Elective	3.0		
				EDUC 524	3.0		
	12		**12**		**17**		**9**

Fifth Year

Fall	Credits	Winter	Credits	Spring	Credits
EDUC 609	3.0	EDLT 532	3.0	EDUP 781	3.0-4.5
EDPO 620 or EDCR 518	3.0	EDUP 780	3.0	(GR) MS Elective	3.0
(GR) MS Elective	3.0	(GR) MS Elective	3.0		
	9		**9**		**6-7.5**

Total Credits 225-226.5

*   Students must receive Department permission to pursue the NCOP option. Students will work directly with their advisor to establish a unique plan of study.

**   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.

Education Faculty

Jennifer Adams, EdD *(Harvard University)*. Associate Professor. Comparative and international education; Poverty and education; Child welfare; Educational policy.

Ayana Allen, PhD *(Texas A&M University)*. Associate Professor. Urban education; Identity construction in school contexts; Urban school transformation.

Kristen Betts, EdD *(George Washington University)*. Clinical Professor. Higher education administration and governance, online blended education, instructional design and educational technology, program assessment and evaluation.

Eric Brewe, PhD *(Arizona State University)*. Associate Professor. Physics Education Research, introductory course reform, network analysis in learning, neuromechanisms of learning.

Stephanie Smith Budhai, PhD *(Drexel University)*. Associate Clinical Professor. Teacher and higher education, culturally responsive teaching, equity and social justice, online learning, community engagement and service-learning, family involvement and partnerships, and learning technologies.

José Luis Chávez, EdD *(University of Southern California)*. Clinical Professor. Higher education leadership and administration.

Rebecca Clothey, PhD *(University of Pittsburgh) Associate Department Head*. Associate Professor. Comparative and international education, education of ethnic and linguistic minorities, sociology of education.

James Connell, PhD *(Louisiana State University) Founding Clinical Core Director and Research Fellow, A.J. Drexel Autism Institute*. Associate Professor. Identifying the variables that influence adult behavior change in community settings; autism intervention; widespread dissemination of evidence-based interventions in school and community settings.

Kareem Edouard, PhD *(Stanford University)*. Assistant Professor. Educational technology; internet-based STEM learning; equity and inclusion in STEM education

Salvatore V. Falletta, EdD *(North Carolina State University)*. Clinical Professor. Human Resource intelligence (i.e., HR research and analytics practices); HRD assessment, measurement, and evaluation models and taxonomies; organizational diagnostic models; web-based employee and organizational survey methods, and computational modeling.

Aroutis N. Foster, PhD *(Michigan State University) Associate Dean for Academic Affairs and Graduate Studies*. Professor. Educational psychology and educational technology, especially the following: Motivation; Technological Pedagogical Content Knowledge (TPACK); Immersive Interactive Digital Environments (simulation, games, virtual realities.

Rajashi Ghosh, PhD *(University of Louisville, Kentucky) Department Chair for Policy, Organization & Leadership*. Associate Professor. Mentoring and leader development, workplace Incivility, workplace learning and development.

John M. Gould, PhD *(University of Pittsburgh) Harrisburg EdD Educational Leadership & Change Program*. Clinical Professor. Change leadership, curriculum re-design, the impact of technology on learning.

Dominic F. Gullo, PhD *(Indiana University)*. Professor. Studying the relative and long-range effects of early schooling experiences in prekindergarten and kindergarten on children's achievement and social adaptation to school routine.

H. Bernard Hall, PhD *(Temple University)*. Assistant Professor. Hip-hop Pedagogy, English Education, Urban Teacher Education.

Penny Hammrich, PhD *(University of Minnesota) Dean*. Distinguished University Professor. Urban education; science education; genetics; gender equity; science knowledge for conceptual teaching; sport science.

Paul Harrington, PhD *(University of Massachusetts, Boston) Director, Center for Labor Markets and Policy*. Professor. Teen and young adult job access; economic outlook, college labor market; workforce development, planning, and development; vocational rehabilitation and job market transition.

Michael J. Haslip, PhD *(Old Dominion University)*. Assistant Professor. Early childhood education, social and emotional learning, child guidance strategies, effects of public pre-school attendance.

Deanna Hill, JD, PhD *(University of Pittsburgh)*. Associate Clinical Professor. Higher education, international education, education law, education policy

Erin Horvat, PhD *(University of California, Los Angeles) Senior Vice Provost for Faculty Affairs*. Professor. Urban education, access and equity, high school dropout, parent involvement/family involvement, community engagement in research.

Jennifer Katz-Buonincontro, PhD *(University of Oregon) Associate Dean of Research*. Associate Professor. Educational administration, leadership development, survey & instrument design.

Larry Keiser, PhD *(Drexel University)*. Assistant Clinical Professor. Education and corporate/business leaders' creativity and entrepreneurial mindsets; creative school/work environments; neuroscience of creativity; everyday creativity for teachers and educators.

Kristy Kelly, PhD *(University of Wisconsin, Madison)*. Associate Clinical Professor. Sociology of gender and development; anthropology of policy; comparative and international education; qualitative research methods; Vietnam and Southeast Asia.

Cameron Kiosoglous, PhD *(Virginia Tech University) Program Director*. Assistant Clinical Professor. Coached on the USRowing National Team staff since 2002, including the 2004, 2008, 2012, and 2016 Olympic Games; coaching development; measuring coaching quality; self-insight and reflective practices; coaching leadership; conference presenter; published author.

Valerie Klein, PhD *(Amherst College)*. Associate Clinical Professor. Mathematics learning and teaching; teacher's use of formative assessment in mathematics; creating opportunities for rich problem solving in the classroom; examining teachers growth and change; qualitative research methods.

Peggy Kong, PhD *(Harvard University)*. Associate Clinical Professor. Comparative and international education, equity in education, family and community, Chinese education and society, sociology of education

Michael G. Kozak, Ed.D. *(Rowan University)*. Assistant Clinical Professor. Leadership, STEAM, online and blended learning environments, systems thinking, experiential learning, K-12 education, and facilitating change

Amanda Lannie, PhD *(Syracuse University)*. Assistant Clinical Professor. Applied behavior analysis and special education; School-based consultation; system-wide interventions as a mechanism for delivery supports to all students; Designing effective and efficient interventions for students with emotional/behavioral disorders.

Vera Lee, EdD *(University of Pennsylvania) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Practitioner Research in online courses to explore inservice/preservice teachers' emerging understandings about issues of diversity; the development of information/digital literacies of urban youth; English language learners.

Bruce Levine, JD *(New York University)*. Associate Clinical Professor. Educational policy, school law, public-private partnerships, intersection of business and education.

Kristine Lewis-Grant, PhD *(Temple University)*. Clinical Professor. Experiences of students of African descent at predominantly white colleges and universities, college access and college student development, youth civic engagement in urban school reform, qualitative research and evaluation.

William Lynch, PhD *(University of Maryland)*. Professor. Curriculum and educational leadership, educational technology, distance learning policy development, higher and adult education.

Constance Lyttle, PhD, JD *(University of Pittsburgh, Duquesne University)*. Clinical Professor. Legal rights of gifted and talented children and children with disabilities; inclusive education of exceptional children; special education mediation; special education IEP/IFSP facilitation; resolution session facilitation

Joy Phillips, PhD *(The University of Texas at Austin)*. Associate Clinical Professor. Visionary leadership in theory and practice, school reform as innovative problem-setting, thinking qualitatively about school reform. thinking about school reform by drawing, Educational Leadership Program Assessment.

Kathleen Provinzano, PhD *(Marywood University)*. Assistant Professor. Educational administration.

Harriette Rasmussen, EdD *(Fielding Graduate University)*. Assistant Clinical Professor. Educational leadership and change.

Lori Severino, EdD *(Neumann University)*. Assistant Professor. Special education, differentiated instruction, reading, Wilson language, multi-sensory instruction, reading comprehension, assessment, adolescent literacy.

Jason Silverman, PhD *(Vanderbilt University)*. Professor. Teaching and learning of advanced mathematical ideas (algebra and calculus); improving teachers' ability to orchestrate and sustain inquiry-based and discussion-based instruction; technology in mathematics education.

Janet Sloand, EdD *(Duquesne University) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Special Education Leadership, Trauma-informed care, Parent engagement in special education service delivery.

Toni A. Sondergeld, PhD *(University of Toledo)*. Associate Professor. Cognitive and affective assessment development; program/grant evaluation; high stakes testing measurement; STEM education; urban education

Bridget Sweeney Blakely, PhD *(Temple University)*. Assistant Clinical Professor. Consultation; Positive Behavior Interventions and Supports (PBIS); Response to Intervention (Rtl); Systems-level change; performance feedback

Mary Jean Tecce DeCarlo, EdD *(University of Pennsylvania)*. Associate Clinical Professor. Early literacy development, learning differences, knowledge construction, urban education.

Sarah P. Ulrich, EdD *(Saint Joseph's University) Associate Dean of Teacher Education and Undergraduate Affairs*. Clinical Professor. Cross-cultural, language and academic development, school reform, teacher preparation, teacher retention, teacher residencies in urban contexts.

Sheila Vaidya, PhD *(Temple University)*. Professor. Educational psychology, school psychology, research design.

Christina Vorndran, PhD *(Louisiana State University) Program Director, Applied Behavior Analysis and Special Education*. Clinical Professor. Designing effective and efficient community-based interventions, Severe behavior disorders, Functional behavior assessment

Christopher G. Wright, PhD *(Tufts University)*. Assistant Professor. Engineering and science education, Urban education, elementary teacher education.

Emeritus Faculty

Mary Jo Grdina, PhD *(Case Western Reserve University)*. Clinical Professor. Undergraduate studies, science education, curriculum design.

Joyce Pittman, PhD *(Iowa State University of Science and Technology)*. Clinical Professor. Curriculum and instruction K-16; teaching English as a foreign language (TEFL); instructional design business education and administration; industrial and career technology; oral and written communication; research methodology; instructional and assistive technology assessment; online learning pedagogy

Fredricka K. Reisman, PhD *(Syracuse University) School of Education, Founder, Drexel School of Education*. Professor Emerita. Director, Freddie Reisman Center for Translational Research in Creativity and Motivation, Creator and Former Director-Creativity and Innovation Programs, Co-Director-Drexel/Torrance Center for Creativity and Innovation, Drexel University Named Recognition- Freddie Reisman Faculty Scholarly and Creative Activity Awards

Elementary Education, Middle Level (Science/English) BS / Teaching, Learning & Curriculum MS

Major: Elementary Education, Middle Level (Science/English) and Teaching, Learning and Curriculum
Degree Awarded: Bachelor of Science (BS) and Master of Science (MS)
Calendar Type: Quarter
Minimum Required Credits: 225.0
Co-op Options: One Co-op (Five years)
BS Classification of Instructional Programs (CIP) code: 13-1202
BS Standard Occupational Classification (SOC) code: 25-2022
MS Classification of Instructional Programs (CIP) code: 13-1399
MS Standard Occupational Classification (SOC) code: 11-9039

About the Program

The BS/MS in Middle Level Education (4-8) 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 (Middle Level 4-8 Science and English) 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 Middle Level Science and English Teacher Education and Teaching Learning and Curriculum Advanced track prepares students academically and practically for careers in PK–12 teaching or other educational settings, including capabilities to:

• Demonstrate professional ethics and independent and creative academic best practices that exhibit outstanding leadership, organizational, cross cultural, inter-personal and advocacy skills including the ability to communicate effectively with internal and external groups.
• Understand the changing role of teachers in increasingly diverse societies
• Demonstrate a strong academic background in all subject areas that meet PDE requirements including literacy, language and STEM areas

- Demonstrate the ability to create and maintain a positive and democratic classroom climate for students
- Demonstrate a thorough understanding of child development in their ability to develop and implement learning opportunities that are unique to every child
- Develop creative academic leadership skills with a global perspective on current educational issues, knowledge of best pedagogical practices, tools to effectively integrate technology in curriculum, assessment and instruction, and a strong academic background in all subject areas that meet PDE content requirements.
- Develop competencies to become reflective practitioners who are lifelong learners, who base their practice on theory, research, and developmentally appropriate pedagogy by analyzing, implementing, and evaluating existing and new instructional strategies and practices in a variety of educational institutions/organizations.
- Demonstrate advanced teaching knowledge and skills well beyond that required for initial Pennsylvania certification
- Develop advanced skills to function in a variety of roles as instructors, instructional leaders or researchers in local, state, national and international organizations, foundations, associations, corporations and private educational institutions.
- Have in-depth knowledge of both public and private (non-profit and for-profit) institutions as well as small and large institutions

Admission Requirements

Same as BS in Elementary Education, BSMS application must be submitted during Sophomore year before 120 credits have been completed with cumulative 3.0 GPA to gain acceptance into BS/MS program. Continuation as a BS/MS student in Teaching Learning and Curriculum (Advanced Track) requires maintaining minimum term and cumulative 3.0 GPA

Degree Requirements

General Education/Content Requirements

ARTH 101	History of Art I	3.0
BIO 161	General Biology I	3.0
BIO 162	General Biology II	3.0
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	
ENGL 304	Young Adult Fiction	3.0
ENVS 260	Environmental Science and Society	3.0
Select one of the following		4.0
HIST 201	United States History to 1815	
or HIST 202	United States History, 1815-1900	
or HIST 203	United States History since 1900	
HIST 275	History of Pennsylvania	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 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
WRIT 225 [WI]	Creative Writing	3.0
or WRIT 301	Writing Poetry	
Free electives		9.0

Pedagogy Requirements

EDEX 142	Special Education Foundations: Referral and Assessment	3.0
EDEX 344	Inclusive Practices	3.0
EDEX 368 [WI]	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
EDPO 312	Educational Policy, Law & Advocacy	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 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 306	Assessment of Young Children	3.0
EDUC 308	Creating a Positive Classroom Climate	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 328	Language Arts Processes 4-8	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 365	Foundations in Instructing English Language Learners	3.0
EDUC 405	Senior Pedagogy Seminar	1.0
ESTM 342	Teaching Engineering Concepts to Children	3.0
MTED 363	Middle Years Mathematics Methods (4-8)	1.5
MTED 418	Mathematics Methods and Content	3.0

Student Teaching Experience

EDUC 409 [WI]	Student Teaching Seminar I	9.0
EDUC 410 [WI]	Student Teaching	9.0

MS in TLC Core

EDAM 714	Instructional and Curriculum Leadership (Take EDLS 550 if pursuing Reading Specialist Concentration)	3.0
or EDLS 550	Theories of Reading and Writing	
EDLT 532	Designing Virtual Communities for Staff Development - Non-Field Experience	3.0
EDUC 524	Current Research in Curriculum & Instruction (Take EDLS 575 if pursing Reading Specialist Concentration)	3.0
or EDLS 575	Responding to Children's and Young Adult Literature	
EDUC 530	Advanced Techniques in Instruction & Assessment	3.0
EDUC 609	Language & Culture in Education (Take EDLS 555 if pursing Reading Specialist Concentration)	3.0
or EDLS 555	Understanding Literacy through Sociocultural Perspectives	

Policy, Law & Organization Courses (Choose 2) | | | **6.0**

Select two courses in Education Policy, Law & Organization EDPO or EDAM (500-799). Reading Specialist Concentration students enroll in EDLS 570 and EDLS 650.

EDAM 705	School Law and Politics	
EDCR 518	Evidence-Based Evaluation	
EDLS 570	Literacy and Evaluation	
EDLS 650	Designing a Literacy Program	
EDPO 620	Education Policy: Concepts, Issues, and Applications	

MS in TLC Capstone Sequence

EDU 780	Capstone Research	3.0

Student selects and enrolls in appropriate course work following one of the following capstone tracks: Practitioner or Thesis

EDUP 780	Practitioner Capstone Course I	3.0
or EDUT 780	Thesis Capstone Course I	
EDUP 781	Practitioner Capstone Course II	3.0-4.5
or EDUT 781	Thesis Capstone Course II	

MS Professional or Concentration Elective [**] | | | **15.0**

Candidates may select any combination of the following for 15.0 credits: ABA, CRTV, EDAM, EDEX, EDGI, EDLS, EDLT, EDPO, EDUC, EHRD, ELL, ENTP, ESTM, MTED, or SCL (500-799 level), or candidates select a formal concentration. (See formal concentration options below)

Autism Spectrum Disorders

EDEX 555	Teaching Students with Autism Spectrum Disorder	

EDEX 556	Characteristics & Methods: Autism
EDEX 558	Characteristics & Methods: High Functioning Autism
EDEX 560	Communication & Language Interventions: Autism Spectrum Disorders
EDEX 562	Behavior & Sensory Support: Autism Spectrum Disorders

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
EHRD 660	Principles of Adult Learning

Creativity and Innovation

CRTV 501	Foundations in Creativity
CRTV 502	Tools and Techniques in Creativity
CRTV 503	Creativity in the Workplace
CRTV 620	Research Methods and Assessment of Creative and Innovative Thinking
CRTV 630	Global Perspectives on Creativity

Educational Policy

EDPO 620	Education Policy: Concepts, Issues, and Applications
EDPO 624	The Shaping of American Education Policy: Global Forces, Interest Groups, and Politics
EDPO 628	American Educational Policy and U.S. Competitiveness
EDPO 632	Ethics in Educational Policy Making
EDPO 636	Access & Equity in Educational Policy Making

Global & International Education

EDGI 503	Global, International & Comparative Education
EDGI 510	Culture, Society & Education in Comparative Perspective
EDGI 512	Globalization and Educational Change
EDGI 514	Education and National Development
EDGI 518	Analysis of Policy Issues in Global & International Education

Higher Education

EDGI 506	Comparative Higher Education Systems
EDHE 501	Foundations of Higher Education and Governance
EDHE 531	Legal Issues & Ethics in Higher Education
EDHE 662	Critical Issues in Student Affairs
EHRD 660	Principles of Adult Learning

Learning Technologies

EDLT 532	Designing Virtual Communities for Staff Development - Non-Field Experience
EDLT 537	Technologies for Performance Support
EDLT 543	Play & Learning in a Participatory Culture
EDLT 551	Instructional Design Methods
ELL 501	The Purpose and Business of E-Learning

Multisensory Reading Instruction Level 1

EDLS 620	Applied Methods in Multisensory Reading Instruction
EDLS 621	Multisensory Reading Instruction
EDLS 622	Basic Word Study I
EDLS 623	Basic Word Study II
EDLS 624	Multisensory Practicum I
EDLS 625	Multisensory Practicum II
EDLS 626	Multisensory Practicum III
Professional Elective (minimum 3.0 credits) ***	

Reading Specialist Certification

EDLS 560	Reading and Writing in the Content Areas (7-12)
EDLS 565	Constructing Meaning through Reading and Writing
EDLS 620	Applied Methods in Multisensory Reading Instruction
EDLS 622	Basic Word Study I
EDLS 623	Basic Word Study II
EDLS 624	Multisensory Practicum I
EDLS 625	Multisensory Practicum II
EDLS 626	Multisensory Practicum III

Teaching English as a Second Language Certification

EDUC 602	Language Learning & Teaching
EDUC 604	Structure and Sound System of English
EDUC 606	Design and Assessment

EDUC 608	The Intercultural Learner
Professional Elective (minimum 1.5 credits) †	
Social Emotional Behavioral Wellness	
EDEX 580	Social Emotional Wellness and Evidence-Based Preventative School Practices
EDEX 581	Understanding Social Emotional Disorders
EDEX 582	Evidence-Based School Interventions and Trauma Informed Education/Care
EDEX 583	Collaboration and Community Based Practices to Promote Social Emotion Wellness
Total Credits	**225.0-226.5**

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**   Candidates may opt for a formal concentration or a **Customized Concentration** which may include course work from other Drexel academic departments in consultation with an academic advisors. Sample customized concentrations might include:
- Educational Administration
- Evaluation & Assessment
- Instructional Design
- Instructional Technology
- Leadership in Educational Settings
- Learning in Game-Based Environments
- Special Education Law and Process
- Special Education Leadership
- Urban Education

***   Complete 3.0 graduate elective credits (500-799) in EDUC, EDEX, EDGI, EDAM, EHRD, EDHE, CRTV, MTED, EDLT, EDLS, ELL, ABA, EDPO, SCL, ENTP or ESTM.

†   Complete 1.5 graduate elective credits (500-799) in EDUC, EDEX, EDGI, EDAM, EHRD, EDHE, CRTV, MTED, EDLT, EDLS, ELL, ABA, EDPO, SCL, ENTP or ESTM.

Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the Writing Intensive Course List (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/writing-intensive-courses/) at the University Writing Program (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/). (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/drexel-writing-center/) Students scheduling their courses can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.

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
BIO 161	3.0	CIVC 101	1.0	EDEX 142	3.0	VACATION	
EDUC 101	3.0	COM 111	3.0	EDUC 108	1.0		
EDUC 106	1.0	EDUC 107	1.0	ENGL 103 or 113	3.0		
EDUC 123	3.0	ENGL 102 or 112	3.0	ENVS 260	3.0		
ENGL 101 or 111	3.0	MATH 172	3.0	LING 101	3.0		
MATH 171	3.0	MUSC 130	3.0	MATH 173 or 107	3.0		
UNIV T101	1.0						
	17		**14**		**16**		**0**

Second Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
BIO 162	3.0	EDPO 312	3.0	EDEX 368	3.0	CHEM 111	4.0
COOP 101**	1.0	EDUC 306	3.0	EDUC 216	3.0	EDLT 325	3.0
EDEX 344	3.0	EDUC 365	3.0	EDUC 308	3.0	EDUC 305	1.0
EDUC 205	1.0	PHYS 151	3.0	MTED 418	3.0	PSY 320	3.0
EDUC 223	3.0	(UG) Free elective	3.0			SOC 335	3.0
HIST 275	3.0						
PSY 101	3.0						
	17		**15**		**12**		**14**

Third Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
COOP EXPERIENCE		COOP EXPERIENCE		EDLT 326	3.0	ECON 201	4.0
EDUC 361	1.5	EDUC 360	1.5	EDUC 316	1.5	EDUC 324	3.0
MTED 363	1.5	EDUC 362	1.5	EDUC 326	1.5	EDUC 328	3.0
				EDUC 355	3.0	ENGL 304	3.0
				(UG) Free elective	3.0	PSY 330	3.0
				EDAM 714	3.0	(GR) MS elective	3.0
	3		**3**		**18**		**19**

Fourth Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
EDUC 409	9.0	EDUC 410	9.0	ARTH 101	3.0	Student classified as Graduate Student	
(UG) Free elective	3.0	WRIT 225 or 301	3.0	EDUC 405	1.0	EDAM 705	3.0
				ESTM 342	3.0	EDUC 524	3.0
				HIST 201, 202, or 203	4.0	(GR) MS Elective	3.0
				NFS 100	2.0		
				NFS 101	1.0		
				(GR) MS Elective	3.0		
	12		**12**		**17**		**9**

Fifth Year

Fall	Credits	Winter	Credits	Spring	Credits
EDU 780	3.0	EDLT 532	3.0	EDPO 620 or EDCR 518	3.0
EDUC 609	3.0	EDUP 780 or EDUT 780	3.0	EDUP 781 or EDUT 781	3.0-4.5
(GR) MS Elective	3.0	(GR) MS Elective	3.0	(GR) MS Elective	3.0
	9		**9**		**9-10.5**

Total Credits 225-226.5

* Students must receive Department permission to pursue the NCOP option. Students will work directly with their advisor to establish a unique plan of study.

** 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.

Education Faculty

Jennifer Adams, EdD *(Harvard University)*. Associate Professor. Comparative and international education; Poverty and education; Child welfare; Educational policy.

Ayana Allen, PhD *(Texas A&M University)*. Associate Professor. Urban education; Identity construction in school contexts; Urban school transformation.

Kristen Betts, EdD *(George Washington University)*. Clinical Professor. Higher education administration and governance, online blended education, instructional design and educational technology, program assessment and evaluation.

Eric Brewe, PhD *(Arizona State University)*. Associate Professor. Physics Education Research, introductory course reform, network analysis in learning, neuromechanisms of learning.

Stephanie Smith Budhai, PhD *(Drexel University)*. Associate Clinical Professor. Teacher and higher education, culturally responsive teaching, equity and social justice, online learning, community engagement and service-learning, family involvement and partnerships, and learning technologies.

José Luis Chávez, EdD *(University of Southern California)*. Clinical Professor. Higher education leadership and administration.

Rebecca Clothey, PhD *(University of Pittsburgh) Associate Department Head*. Associate Professor. Comparative and international education, education of ethnic and linguistic minorities, sociology of education.

James Connell, PhD *(Louisiana State University) Founding Clinical Core Director and Research Fellow, A.J. Drexel Autism Institute*. Associate Professor. Identifying the variables that influence adult behavior change in community settings; autism intervention; widespread dissemination of evidence-based interventions in school and community settings.

Kareem Edouard, PhD *(Stanford University).* Assistant Professor. Educational technology; internet-based STEM learning; equity and inclusion in STEM education

Salvatore V. Falletta, EdD *(North Carolina State University)*. Clinical Professor. Human Resource intelligence (i.e., HR research and analytics practices); HRD assessment, measurement, and evaluation models and taxonomies; organizational diagnostic models; web-based employee and organizational survey methods, and computational modeling.

Aroutis N. Foster, PhD *(Michigan State University) Associate Dean for Academic Affairs and Graduate Studies*. Professor. Educational psychology and educational technology, especially the following: Motivation; Technological Pedagogical Content Knowledge (TPACK); Immersive Interactive Digital Environments (simulation, games, virtual realities.

Rajashi Ghosh, PhD *(University of Louisville, Kentucky) Department Chair for Policy, Organization & Leadership*. Associate Professor. Mentoring and leader development, workplace Incivility, workplace learning and development.

John M. Gould, PhD *(University of Pittsburgh) Harrisburg EdD Educational Leadership & Change Program*. Clinical Professor. Change leadership, curriculum re-design, the impact of technology on learning.

Dominic F. Gullo, PhD *(Indiana University)*. Professor. Studying the relative and long-range effects of early schooling experiences in prekindergarten and kindergarten on children's achievement and social adaptation to school routine.

H. Bernard Hall, PhD *(Temple University)*. Assistant Professor. Hip-hop Pedagogy, English Education, Urban Teacher Education.

Penny Hammrich, PhD *(University of Minnesota) Dean*. Distinguished University Professor. Urban education; science education; genetics; gender equity; science knowledge for conceptual teaching; sport science.

Paul Harrington, PhD *(University of Massachusetts, Boston) Director, Center for Labor Markets and Policy*. Professor. Teen and young adult job access; economic outlook, college labor market; workforce development, planning, and development; vocational rehabilitation and job market transition.

Michael J. Haslip, PhD *(Old Dominion University)*. Assistant Professor. Early childhood education, social and emotional learning, child guidance strategies, effects of public pre-school attendance.

Deanna Hill, JD, PhD *(University of Pittsburgh)*. Associate Clinical Professor. Higher education, international education, education law, education policy

Erin Horvat, PhD *(University of California, Los Angeles) Senior Vice Provost for Faculty Affairs*. Professor. Urban education, access and equity, high school dropout, parent involvement/family involvement, community engagement in research.

Jennifer Katz-Buonincontro, PhD *(University of Oregon) Associate Dean of Research*. Associate Professor. Educational administration, leadership development, survey & instrument design.

Larry Keiser, PhD *(Drexel University)*. Assistant Clinical Professor. Education and corporate/business leaders' creativity and entrepreneurial mindsets; creative school/work environments; neuroscience of creativity; everyday creativity for teachers and educators.

Kristy Kelly, PhD *(University of Wisconsin, Madison)*. Associate Clinical Professor. Sociology of gender and development; anthropology of policy; comparative and international education; qualitative research methods; Vietnam and Southeast Asia.

Cameron Kiosoglous, PhD *(Virginia Tech University) Program Director*. Assistant Clinical Professor. Coached on the USRowing National Team staff since 2002, including the 2004, 2008, 2012, and 2016 Olympic Games; coaching development; measuring coaching quality; self-insight and reflective practices; coaching leadership; conference presenter; published author.

Valerie Klein, PhD *(Amherst College)*. Associate Clinical Professor. Mathematics learning and teaching; teacher's use of formative assessment in mathematics; creating opportunities for rich problem solving in the classroom; examining teachers growth and change; qualitative research methods.

Peggy Kong, PhD *(Harvard University)*. Associate Clinical Professor. Comparative and international education, equity in education, family and community, Chinese education and society, sociology of education

Michael G. Kozak, Ed.D. *(Rowan University)*. Assistant Clinical Professor. Leadership, STEAM, online and blended learning environments, systems thinking, experiential learning, K-12 education, and facilitating change

Amanda Lannie, PhD *(Syracuse University)*. Assistant Clinical Professor. Applied behavior analysis and special education; School-based consultation; system-wide interventions as a mechanism for delivery supports to all students; Designing effective and efficient interventions for students with emotional/behavioral disorders.

Vera Lee, EdD *(University of Pennsylvania) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Practitioner Research in online courses to explore inservice/preservice teachers' emerging understandings about issues of diversity; the development of information/digital literacies of urban youth; English language learners.

Bruce Levine, JD *(New York University)*. Associate Clinical Professor. Educational policy, school law, public-private partnerships, intersection of business and education.

Kristine Lewis-Grant, PhD *(Temple University)*. Clinical Professor. Experiences of students of African descent at predominantly white colleges and universities, college access and college student development, youth civic engagement in urban school reform, qualitative research and evaluation.

William Lynch, PhD *(University of Maryland)*. Professor. Curriculum and educational leadership, educational technology, distance learning policy development, higher and adult education.

Constance Lyttle, PhD, JD *(University of Pittsburgh, Duquesne University)*. Clinical Professor. Legal rights of gifted and talented children and children with disabilities; inclusive education of exceptional children; special education mediation; special education IEP/IFSP facilitation; resolution session facilitation

Joy Phillips, PhD *(The University of Texas at Austin)*. Associate Clinical Professor. Visionary leadership in theory and practice, school reform as innovative problem-setting, thinking qualitatively about school reform. thinking about school reform by drawing, Educational Leadership Program Assessment.

Kathleen Provinzano, PhD *(Marywood University)*. Assistant Professor. Educational administration.

Harriette Rasmussen, EdD *(Fielding Graduate University)*. Assistant Clinical Professor. Educational leadership and change.

Lori Severino, EdD *(Neumann University)*. Assistant Professor. Special education, differentiated instruction, reading, Wilson language, multi-sensory instruction, reading comprehension, assessment, adolescent literacy.

Jason Silverman, PhD *(Vanderbilt University)*. Professor. Teaching and learning of advanced mathematical ideas (algebra and calculus); improving teachers' ability to orchestrate and sustain inquiry-based and discussion-based instruction; technology in mathematics education.

Janet Sloand, EdD *(Duquesne University) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Special Education Leadership, Trauma-informed care, Parent engagement in special education service delivery.

Toni A. Sondergeld, PhD *(University of Toledo)*. Associate Professor. Cognitive and affective assessment development; program/grant evaluation; high stakes testing measurement; STEM education; urban education

Bridget Sweeney Blakely, PhD *(Temple University)*. Assistant Clinical Professor. Consultation; Positive Behavior Interventions and Supports (PBIS); Response to Intervention (Rtl); Systems-level change; performance feedback

Mary Jean Tecce DeCarlo, EdD *(University of Pennsylvania)*. Associate Clinical Professor. Early literacy development, learning differences, knowledge construction, urban education.

Sarah P. Ulrich, EdD *(Saint Joseph's University) Associate Dean of Teacher Education and Undergraduate Affairs*. Clinical Professor. Cross-cultural, language and academic development, school reform, teacher preparation, teacher retention, teacher residencies in urban contexts.

Sheila Vaidya, PhD *(Temple University)*. Professor. Educational psychology, school psychology, research design.

Christina Vorndran, PhD *(Louisiana State University) Program Director, Applied Behavior Analysis and Special Education*. Clinical Professor. Designing effective and efficient community-based interventions, Severe behavior disorders, Functional behavior assessment

Christopher G. Wright, PhD *(Tufts University)*. Assistant Professor. Engineering and science education, Urban education, elementary teacher education.

Emeritus Faculty

Mary Jo Grdina, PhD *(Case Western Reserve University)*. Clinical Professor. Undergraduate studies, science education, curriculum design.

Joyce Pittman, PhD *(Iowa State University of Science and Technology)*. Clinical Professor. Curriculum and instruction K-16; teaching English as a foreign language (TEFL); instructional design business education and administration; industrial and career technology; oral and written communication; research methodology; instructional and assistive technology assessment; online learning pedagogy

Fredricka K. Reisman, PhD *(Syracuse University) School of Education, Founder, Drexel School of Education*. Professor Emerita. Director, Freddie Reisman Center for Translational Research in Creativity and Motivation, Creator and Former Director-Creativity and Innovation Programs, Co-Director-

Drexel/Torrance Center for Creativity and Innovation, Drexel University Named Recognition- Freddie Reisman Faculty Scholarly and Creative Activity Awards

Secondary Education Biology BS / Teaching, Learning and Curriculum (Advanced Track) MS

Major: Teacher Education, Secondary Biology; Teaching, Learning and Curriculum
Degree Awarded: Bachelor of Science (BS) and Master of Science (MS)
Calendar Type: Quarter
Minimum Required Credits: 240.0
Co-op Options: One Co-op
BS Classification of Instructional Programs (CIP) code: 13.1205
BS Standard Occupational Classification (SOC) code: 25-2031
MS Classification of Instructional Programs (CIP) code: 13.1399
MS Standard Occupational Classification (SOC) code: 11-9039

About the Program

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/Biology) 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 Teacher Education and Teaching Learning and Curriculum Advanced track prepares students academically and practically for careers in PK–12 teaching or other educational settings, including capabilities to:

- Demonstrate professional ethics and independent and creative academic best practices that exhibit outstanding leadership, organizational, cross cultural, inter-personal and advocacy skills including the ability to communicate effectively with internal and external groups.
- Understand the changing role of teachers in increasingly diverse societies
- Demonstrate a strong academic background in all subject areas that meet PDE requirements including literacy, language and STEM areas
- Demonstrate the ability to create and maintain a positive and democratic classroom climate for students
- Demonstrate a thorough understanding of child development in their ability to develop and implement learning opportunities that are unique to every child
- Develop creative academic leadership skills with a global perspective on current educational issues, knowledge of best pedagogical practices, tools to effectively integrate technology in curriculum, assessment and instruction, and a strong academic background in all subject areas that meet PDE content requirements.
- Develop competencies to become reflective practitioners who are lifelong learners, who base their practice on theory, research, and developmentally appropriate pedagogy by analyzing, implementing, and evaluating existing and new instructional strategies and practices in a variety of educational institutions/organizations.
- Demonstrate advanced teaching knowledge and skills well beyond that required for initial Pennsylvania certification
- Develop advanced skills to function in a variety of roles as instructors, instructional leaders or researchers in local, state, national and international organizations, foundations, associations, corporations and private educational institutions.
- Have in-depth knowledge of both public and private (non-profit and for-profit) institutions as well as small and large institutions.

Admission Requirements

Same as BS in Elementary Education, BSMS application must be submitted during Sophomore year before 120 credits have been completed with cumulative 3.0 GPA to gain acceptance into BS/MS program. Continuation as a BS/MS student in Teaching Learning and Curriculum (Advanced Track) requires maintaining minimum term and cumulative 3.0 GPA.

Degree Requirements

Degree Requirements

CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development [*]	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	

HIST 289	History of Science: Enlightenment to Modernity	4.0
MATH 121	Calculus I	4.0
MATH 122	Calculus II	4.0
MATH 123	Calculus III	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
Science Requirements		
BIO 131 & BIO 134	Cells and Biomolecules and Cells and Biomolecules Lab	5.0
BIO 132 & BIO 135	Genetics and Evolution and Genetics and Evolution Lab	5.0
BIO 133 & BIO 136	Physiology and Ecology and Anatomy and Ecology Lab	5.0
BIO 201	Human Physiology I	4.0
BIO 214	Principles of Cell Biology	4.0
BIO 215	Techniques in Cell Biology	3.0
BIO 218	Principles of Molecular Biology	4.0
BIO 219 [WI]	Techniques in Molecular Biology	3.0
BIO 228	Evolutionary Biology & Human Health	3.0
BIO 306	Biochemistry Laboratory	2.0
BIO 373	Developmental Biology	3.0
BIO 374	Developmental Biology Lab	2.0
BIO 404	Structure and Function of Biomolecules	4.0
CHEM 101	General Chemistry I	3.5
CHEM 102	General Chemistry II	4.5
CHEM 241	Organic Chemistry I	4.0
CHEM 242	Organic Chemistry II	4.0
CHEM 244	Organic Chemistry Laboratory I	3.0
CHEM 245	Organic Chemistry Laboratory II	3.0
ENVS 230	General Ecology	3.0
ENVS 284	Physiological and Population Ecology	3.0
PHYS 152	Introductory Physics I	4.0
PHYS 153	Introductory Physics II	4.0
Pedagogy Requirements		
EDEX 142	Special Education Foundations: Referral and Assessment	3.0
EDEX 344	Inclusive Practices	3.0
EDEX 368 [WI]	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
EDPO 312	Educational Policy, Law & Advocacy	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 315	Secondary 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 365	Foundations in Instructing English Language Learners	3.0
EDUC 405	Senior Pedagogy Seminar	1.0
Student Teaching Experience		
EDUC 409 [WI]	Student Teaching Seminar I	9.0
EDUC 410 [WI]	Student Teaching	9.0

MS in TLC Core		**15.0**
EDAM 714	Instructional and Curriculum Leadership (Take EDLS 550 if pursuing Reading Specialist Concentration)	
or EDLS 550	Theories of Reading and Writing	
EDLT 532	Designing Virtual Communities for Staff Development - Non-Field Experience	
EDUC 524	Current Research in Curriculum & Instruction (Take EDLS 575 if pursing Reading Specialist Concentration)	
or EDLS 575	Responding to Children's and Young Adult Literature	
EDUC 530	Advanced Techniques in Instruction & Assessment	
EDUC 609	Language & Culture in Education (Take EDLS 555 if pursing Reading Specialist Concentration)	
or EDLS 555	Understanding Literacy through Sociocultural Perspectives	
Policy, Law & Organization Courses (Choose 2)		**6.0**

Select two courses in Education Policy, Law & Organization. Reading Specialist Concentration students enroll in EDLS 570 and EDLS 650.

EDAM 705	School Law and Politics	
EDCR 518	Evidence-Based Evaluation	
EDLS 570	Literacy and Evaluation	
EDLS 650	Designing a Literacy Program	
EDPO 620	Education Policy: Concepts, Issues, and Applications	
MS in TLC Capstone Sequence		
EDU 780	Capstone Research	3.0

Student selects and enrolls in appropriate course work following one of the following capstone tracks: Practitioner or Thesis

EDUP 780	Practitioner Capstone Course I	3.0
or EDUT 780	Thesis Capstone Course I	
EDUP 781	Practitioner Capstone Course II	3.0-4.5
or EDUT 781	Thesis Capstone Course II	
MS Professional or Concentration Elective [**]		**15.0**

Candidates may select any combination of the following for 15.0 credits: EDUC, EDEX, EDGI, EDAM, EHRD, CRTV, MTED, EDLT, EDLS, ELL, ABA, EDPO, SCL, ENTP or ESTM (500-799 level), or candidates select a formal concentration. Formal concentration option include:

Autism Spectrum Disorders	
EDEX 555	Teaching Students with Autism Spectrum Disorder
EDEX 556	Characteristics & Methods: Autism
EDEX 558	Characteristics & Methods: High Functioning Autism
EDEX 560	Communication & Language Interventions: Autism Spectrum Disorders
EDEX 562	Behavior & Sensory Support: Autism Spectrum Disorders
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
EHRD 660	Principles of Adult Learning
Creativity and Innovation	
CRTV 501	Foundations in Creativity
CRTV 502	Tools and Techniques in Creativity
CRTV 503	Creativity in the Workplace
CRTV 620	Research Methods and Assessment of Creative and Innovative Thinking
CRTV 630	Global Perspectives on Creativity
Educational Policy	
EDPO 620	Education Policy: Concepts, Issues, and Applications
EDPO 624	The Shaping of American Education Policy: Global Forces, Interest Groups, and Politics
EDPO 628	American Educational Policy and U.S. Competitiveness
EDPO 632	Ethics in Educational Policy Making
EDPO 636	Access & Equity in Educational Policy Making
Global & international Education	
EDGI 503	Global, International & Comparative Education
EDGI 510	Culture, Society & Education in Comparative Perspective
EDGI 512	Globalization and Educational Change
EDGI 514	Education and National Development
EDGI 518	Analysis of Policy Issues in Global & International Education
Higher Education	
EDGI 506	Comparative Higher Education Systems
EDHE 501	Foundations of Higher Education and Governance
EDHE 531	Legal Issues & Ethics in Higher Education
EDHE 662	Critical Issues in Student Affairs
EHRD 660	Principles of Adult Learning

Learning Technologies	
EDLT 532	Designing Virtual Communities for Staff Development - Non-Field Experience
EDLT 537	Technologies for Performance Support
EDLT 543	Play & Learning in a Participatory Culture
EDLT 551	Instructional Design Methods
ELL 501	The Purpose and Business of E-Learning
Multisensory Reading Instruction Level 1	
EDLS 620	Applied Methods in Multisensory Reading Instruction
EDLS 621	Multisensory Reading Instruction
EDLS 622	Basic Word Study I
EDLS 623	Basic Word Study II
EDLS 624	Multisensory Practicum I
EDLS 625	Multisensory Practicum II
EDLS 626	Multisensory Practicum III
Professional Elective (minimum 3.0 credits) ***	
Reading Specialist Certification	
EDLS 560	Reading and Writing in the Content Areas (7-12)
EDLS 565	Constructing Meaning through Reading and Writing
EDLS 620	Applied Methods in Multisensory Reading Instruction
EDLS 622	Basic Word Study I
EDLS 623	Basic Word Study II
EDLS 624	Multisensory Practicum I
EDLS 625	Multisensory Practicum II
EDLS 626	Multisensory Practicum III
Teaching English as a Second Language Certification	
EDUC 602	Language Learning & Teaching
EDUC 604	Structure and Sound System of English
EDUC 606	Design and Assessment
EDUC 608	The Intercultural Learner
Professional Elective (minimum 1.5 credits) †	
Social Emotional Behavioral Wellness	
EDEX 580	Social Emotional Wellness and Evidence-Based Preventative School Practices
EDEX 581	Understanding Social Emotional Disorders
EDEX 582	Evidence-Based School Interventions and Trauma Informed Education/Care
EDEX 583	Collaboration and Community Based Practices to Promote Social Emotion Wellness
Total Credits	**240.0-241.5**

*   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.

**   Candidates may opt for a formal concentration or a Customized Concentration which may include coursework from other Drexel academic departments in consultation with an academic advisor. Sample customized concentrations might include:
- Educational Administration
- Evaluation & Assessment
- Instructional Design
- Instructional Technology
- Leadership in Educational Settings
- Learning in Game-Based Environments
- Special Education Law and Process
- Special Education Leadership
- Urban Education

***   Complete 3.0 graduate elective credits (500-799) in EDUC, EDEX, EDGI, EDAM, EHRD, EDHE, CRTV, MTED, EDLT, EDLS, ELL, ABA, EDPO, SCL, ENTP or ESTM.

†   Complete 1.5 graduate elective credits (500-799) in EDUC, EDEX, EDGI, EDAM, EHRD, EDHE, CRTV, MTED, EDLT, EDLS, ELL, ABA, EDPO, SCL, ENTP or ESTM.

Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the Writing Intensive Course List (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/writing-intensive-courses/) at the University Writing Program (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/). (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/drexel-writing-center/) Students scheduling their courses can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.

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
BIO 131 & BIO 134	5.0	BIO 132 & BIO 135	5.0	BIO 133 & BIO 136	5.0	VACATION	
EDUC 101	3.0	CIVC 101	1.0	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
BIO 201	4.0	BIO 215	3.0	BIO 214	4.0	BIO 218	4.0
CHEM 101	3.5	CHEM 102	4.5	CHEM 241	4.0	CHEM 242	4.0
COOP 101**	1.0	EDUC 216	3.0	EDEX 368	3.0	EDLT 325	3.0
EDEX 344	3.0	PSY 101	3.0	EDUC 305	1.0	EDUC 322	3.0
EDUC 205	1.0			EDUC 308		PHYS 153	4.0
EDUC 223	3.0			PHYS 152	4.0		
EDUC 365	3.0						
	18.5		**13.5**		**19**		**18**

Third Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
COOP EXPERIENCE		COOP EXPERIENCE		BIO 219	3.0	BIO 228	3.0
EDUC 315	3.0	CHEM 244	3.0	BIO 373	3.0	BIO 306	2.0
				BIO 374	2.0	EDPO 312	3.0
				EDLT 326	3.0	EDUC 324	3.0
				EDUC 316	3.0	ENVS 230	3.0
				EDAM 714	3.0	(GR) MS Elective	3.0
	3		**3**		**17**		**17**

Fourth Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
BIO 404	4.0	EDUC 410	9.0	CHEM 245	3.0	Student classified as Graduate Student	
EDUC 409	9.0	ENVS 284	3.0	EDUC 405	1.0	EDLT 532	3.0
				HIST 289	4.0	EDPO 620	3.0
				PHIL 251	3.0	EDUC 524	3.0
				PSY 320	3.0	EDUC 530	3.0
				(GR) MS Elective	3.0		
	13		**12**		**17**		**12**

Fifth Year

Fall	Credits	Winter	Credits	Spring	Credits
EDAM 705	3.0	EDUP 780 or EDUT 780	3.0	EDUP 781 or EDUT 781	3.0-4.5
EDU 780	3.0	(GR) MS Electives	6.0	(GR) MS Elective	3.0

EDUC 609	3.0		
	9	**9**	**6-7.5**

Total Credits 240-241.5

*   Students must receive Department permission to pursue the NCOP option. Students will work directly with their advisor to establish a unique plan of study.

**   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.

Education Faculty

Jennifer Adams, EdD *(Harvard University)*. Associate Professor. Comparative and international education; Poverty and education; Child welfare; Educational policy.

Ayana Allen, PhD *(Texas A&M University)*. Associate Professor. Urban education; Identity construction in school contexts; Urban school transformation.

Kristen Betts, EdD *(George Washington University)*. Clinical Professor. Higher education administration and governance, online blended education, instructional design and educational technology, program assessment and evaluation.

Eric Brewe, PhD *(Arizona State University)*. Associate Professor. Physics Education Research, introductory course reform, network analysis in learning, neuromechanisms of learning.

Stephanie Smith Budhai, PhD *(Drexel University)*. Associate Clinical Professor. Teacher and higher education, culturally responsive teaching, equity and social justice, online learning, community engagement and service-learning, family involvement and partnerships, and learning technologies.

José Luis Chávez, EdD *(University of Southern California)*. Clinical Professor. Higher education leadership and administration.

Rebecca Clothey, PhD *(University of Pittsburgh) Associate Department Head*. Associate Professor. Comparative and international education, education of ethnic and linguistic minorities, sociology of education.

James Connell, PhD *(Louisiana State University) Founding Clinical Core Director and Research Fellow, A.J. Drexel Autism Institute*. Associate Professor. Identifying the variables that influence adult behavior change in community settings; autism intervention; widespread dissemination of evidence-based interventions in school and community settings.

Kareem Edouard, PhD *(Stanford University)*. Assistant Professor. Educational technology; internet-based STEM learning; equity and inclusion in STEM education

Salvatore V. Falletta, EdD *(North Carolina State University)*. Clinical Professor. Human Resource intelligence (i.e., HR research and analytics practices); HRD assessment, measurement, and evaluation models and taxonomies; organizational diagnostic models; web-based employee and organizational survey methods, and computational modeling.

Aroutis N. Foster, PhD *(Michigan State University) Associate Dean for Academic Affairs and Graduate Studies*. Professor. Educational psychology and educational technology, especially the following: Motivation; Technological Pedagogical Content Knowledge (TPACK); Immersive Interactive Digital Environments (simulation, games, virtual realities.

Rajashi Ghosh, PhD *(University of Louisville, Kentucky) Department Chair for Policy, Organization & Leadership*. Associate Professor. Mentoring and leader development, workplace Incivility, workplace learning and development.

John M. Gould, PhD *(University of Pittsburgh) Harrisburg EdD Educational Leadership & Change Program*. Clinical Professor. Change leadership, curriculum re-design, the impact of technology on learning.

Dominic F. Gullo, PhD *(Indiana University)*. Professor. Studying the relative and long-range effects of early schooling experiences in prekindergarten and kindergarten on children's achievement and social adaptation to school routine.

H. Bernard Hall, PhD *(Temple University)*. Assistant Professor. Hip-hop Pedagogy, English Education, Urban Teacher Education.

Penny Hammrich, PhD *(University of Minnesota) Dean*. Distinguished University Professor. Urban education; science education; genetics; gender equity; science knowledge for conceptual teaching; sport science.

Paul Harrington, PhD *(University of Massachusetts, Boston) Director, Center for Labor Markets and Policy*. Professor. Teen and young adult job access; economic outlook, college labor market; workforce development, planning, and development; vocational rehabilitation and job market transition.

Michael J. Haslip, PhD *(Old Dominion University)*. Assistant Professor. Early childhood education, social and emotional learning, child guidance strategies, effects of public pre-school attendance.

Deanna Hill, JD, PhD *(University of Pittsburgh)*. Associate Clinical Professor. Higher education, international education, education law, education policy

Erin Horvat, PhD *(University of California, Los Angeles) Senior Vice Provost for Faculty Affairs*. Professor. Urban education, access and equity, high school dropout, parent involvement/family involvement, community engagement in research.

Jennifer Katz-Buonincontro, PhD *(University of Oregon) Associate Dean of Research*. Associate Professor. Educational administration, leadership development, survey & instrument design.

Larry Keiser, PhD *(Drexel University)*. Assistant Clinical Professor. Education and corporate/business leaders' creativity and entrepreneurial mindsets; creative school/work environments; neuroscience of creativity; everyday creativity for teachers and educators.

Kristy Kelly, PhD *(University of Wisconsin, Madison)*. Associate Clinical Professor. Sociology of gender and development; anthropology of policy; comparative and international education; qualitative research methods; Vietnam and Southeast Asia.

Cameron Kiosoglous, PhD *(Virginia Tech University) Program Director*. Assistant Clinical Professor. Coached on the USRowing National Team staff since 2002, including the 2004, 2008, 2012, and 2016 Olympic Games; coaching development; measuring coaching quality; self-insight and reflective practices; coaching leadership; conference presenter; published author.

Valerie Klein, PhD *(Amherst College)*. Associate Clinical Professor. Mathematics learning and teaching; teacher's use of formative assessment in mathematics; creating opportunities for rich problem solving in the classroom; examining teachers growth and change; qualitative research methods.

Peggy Kong, PhD *(Harvard University)*. Associate Clinical Professor. Comparative and international education, equity in education, family and community, Chinese education and society, sociology of education

Michael G. Kozak, Ed.D. *(Rowan University)*. Assistant Clinical Professor. Leadership, STEAM, online and blended learning environments, systems thinking, experiential learning, K-12 education, and facilitating change

Amanda Lannie, PhD *(Syracuse University)*. Assistant Clinical Professor. Applied behavior analysis and special education; School-based consultation; system-wide interventions as a mechanism for delivery supports to all students; Designing effective and efficient interventions for students with emotional/behavioral disorders.

Vera Lee, EdD *(University of Pennsylvania) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Practitioner Research in online courses to explore inservice/preservice teachers' emerging understandings about issues of diversity; the development of information/digital literacies of urban youth; English language learners.

Bruce Levine, JD *(New York University)*. Associate Clinical Professor. Educational policy, school law, public-private partnerships, intersection of business and education.

Kristine Lewis-Grant, PhD *(Temple University)*. Clinical Professor. Experiences of students of African descent at predominantly white colleges and universities, college access and college student development, youth civic engagement in urban school reform, qualitative research and evaluation.

William Lynch, PhD *(University of Maryland)*. Professor. Curriculum and educational leadership, educational technology, distance learning policy development, higher and adult education.

Constance Lyttle, PhD, JD *(University of Pittsburgh, Duquesne University)*. Clinical Professor. Legal rights of gifted and talented children and children with disabilities; inclusive education of exceptional children; special education mediation; special education IEP/IFSP facilitation; resolution session facilitation

Joy Phillips, PhD *(The University of Texas at Austin)*. Associate Clinical Professor. Visionary leadership in theory and practice, school reform as innovative problem-setting, thinking qualitatively about school reform. thinking about school reform by drawing, Educational Leadership Program Assessment.

Kathleen Provinzano, PhD *(Marywood University)*. Assistant Professor. Educational administration.

Harriette Rasmussen, EdD *(Fielding Graduate University)*. Assistant Clinical Professor. Educational leadership and change.

Lori Severino, EdD *(Neumann University)*. Assistant Professor. Special education, differentiated instruction, reading, Wilson language, multi-sensory instruction, reading comprehension, assessment, adolescent literacy.

Jason Silverman, PhD *(Vanderbilt University)*. Professor. Teaching and learning of advanced mathematical ideas (algebra and calculus); improving teachers' ability to orchestrate and sustain inquiry-based and discussion-based instruction; technology in mathematics education.

Janet Sloand, EdD *(Duquesne University) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Special Education Leadership, Trauma-informed care, Parent engagement in special education service delivery.

Toni A. Sondergeld, PhD *(University of Toledo)*. Associate Professor. Cognitive and affective assessment development; program/grant evaluation; high stakes testing measurement; STEM education; urban education

Bridget Sweeney Blakely, PhD *(Temple University)*. Assistant Clinical Professor. Consultation; Positive Behavior Interventions and Supports (PBIS); Response to Intervention (Rtl); Systems-level change; performance feedback

Mary Jean Tecce DeCarlo, EdD *(University of Pennsylvania)*. Associate Clinical Professor. Early literacy development, learning differences, knowledge construction, urban education.

Sarah P. Ulrich, EdD *(Saint Joseph's University) Associate Dean of Teacher Education and Undergraduate Affairs*. Clinical Professor. Cross-cultural, language and academic development, school reform, teacher preparation, teacher retention, teacher residencies in urban contexts.

Sheila Vaidya, PhD *(Temple University)*. Professor. Educational psychology, school psychology, research design.

Christina Vorndran, PhD *(Louisiana State University) Program Director, Applied Behavior Analysis and Special Education*. Clinical Professor. Designing effective and efficient community-based interventions, Severe behavior disorders, Functional behavior assessment

Christopher G. Wright, PhD *(Tufts University)*. Assistant Professor. Engineering and science education, Urban education, elementary teacher education.

Emeritus Faculty

Mary Jo Grdina, PhD *(Case Western Reserve University)*. Clinical Professor. Undergraduate studies, science education, curriculum design.

Joyce Pittman, PhD *(Iowa State University of Science and Technology)*. Clinical Professor. Curriculum and instruction K-16; teaching English as a foreign language (TEFL); instructional design business education and administration; industrial and career technology; oral and written communication; research methodology; instructional and assistive technology assessment; online learning pedagogy

Fredricka K. Reisman, PhD *(Syracuse University) School of Education, Founder, Drexel School of Education*. Professor Emerita. Director, Freddie Reisman Center for Translational Research in Creativity and Motivation, Creator and Former Director-Creativity and Innovation Programs, Co-Director-Drexel/Torrance Center for Creativity and Innovation, Drexel University Named Recognition- Freddie Reisman Faculty Scholarly and Creative Activity Awards

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

Major: Teacher Education, English; Teaching, Learning and Curriculum
Degree Awarded: Bachelor of Science (BS) and Master of Science (MS)
Calendar Type: Quarter
Minimum Required Credits: 227.0
Co-op Options: One Co-op
BS Classification of Instructional Programs (CIP) code: 13.1305
BS Standard Occupational Classification (SOC) code: 25-2021
MS Classification of Instructional Programs (CIP) code: 13.1399
MS Standard Occupational Classification (SOC) code: 11-9039

About the Program

The Teacher Education, English BS 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/English) 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 Teacher Education and Teaching, Learning and Curriculum (Advanced Track) prepares students academically and practically for careers in PK–12 teaching or other educational settings, including capabilities to:

- Demonstrate professional ethics and independent and creative academic best practices that exhibit outstanding leadership, organizational, cross-cultural, interpersonal, and advocacy skills, including the ability to communicate effectively with internal and external groups
- Understand the changing role of teachers in increasingly diverse societies
- Demonstrate a strong academic background in all subject areas that meet PDE requirements, including literacy, language, and STEM areas
- Demonstrate the ability to create and maintain a positive and democratic classroom climate for students
- Demonstrate a thorough understanding of child development in their ability to develop and implement learning opportunities that are unique to every child

- Develop creative academic leadership skills with a global perspective on current educational issues, knowledge of best pedagogical practices, tools to effectively integrate technology in curriculum, assessment, and instruction, and a strong academic background in all subject areas that meet PDE content requirements
- Develop competencies to become reflective practitioners who are lifelong learners, who base their practice on theory, research, and developmentally appropriate pedagogy by analyzing, implementing, and evaluating existing and new instructional strategies and practices in a variety of educational institutions/organizations
- Demonstrate advanced teaching knowledge and skills well beyond that required for initial Pennsylvania certification
- Develop advanced skills to function in a variety of roles as instructors, instructional leaders, or researchers in local, state, national and international organizations, foundations, associations, corporations, and private educational institutions
- Have in-depth knowledge of both public and private (non-profit and for-profit) institutions as well as small and large institutions

Admission Requirements

Same as the BS in Teacher Education, the BSMS application must be submitted during sophomore year before 120.0 credits have been completed with a cumulative 3.0 GPA to gain acceptance into the program. Continuation as a BS/MS student in Teaching, Learning and Curriculum (Advanced Track) requires maintaining a minimum term and cumulative 3.0 GPA.

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	Inclusive Practices	3.0
EDEX 368 [WI]	Literacy and Content Skill Development PK-12	3.0
EDLT 325	Design for Learning with Digital Media	3.0
EDPO 312	Educational Policy, Law & Advocacy	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 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 [WI]	Student Teaching Seminar I	9.0
EDUC 410 [WI]	Student Teaching	9.0
Free elective		**3.0**
Master's Requirements		
MS in TLC Core		
EDAM 714	Instructional and Curriculum Leadership (Take EDLS 550 if pursuing Reading Specialist Concentration)	3.0
or EDLS 550	Theories of Reading and Writing	
EDLT 532	Designing Virtual Communities for Staff Development - Non-Field Experience	3.0
EDUC 524	Current Research in Curriculum & Instruction (Take EDLS 575 if pursing Reading Specialist Concentration)	3.0
or EDLS 575	Responding to Children's and Young Adult Literature	
EDUC 530	Advanced Techniques in Instruction & Assessment	3.0
EDUC 609	Language & Culture in Education (Take EDLS 555 if pursing Reading Specialist Concentration)	3.0
or EDLS 555	Understanding Literacy through Sociocultural Perspectives	
Policy, Law & Organization Courses		**6.0**
Select two courses in Education Policy, Law & Organization EDPO or EDAM (500-799). Reading Specialist Concentration students enroll in EDLS 570 and EDLS 650.		
EDAM 705	School Law and Politics	
EDCR 518	Evidence-Based Evaluation	
EDLS 570	Literacy and Evaluation	
EDLS 650	Designing a Literacy Program	
EDPO 620	Education Policy: Concepts, Issues, and Applications	
MS in TLC Capstone Sequence		
EDU 780	Capstone Research	3.0
Student selects and enrolls in appropriate coursework following one of the following capstone tracks: Practitioner or Thesis		
EDUP 780	Practitioner Capstone Course I	3.0
or EDUT 780	Thesis Capstone Course I	
EDUP 781	Practitioner Capstone Course II	3.0-4.5
or EDUT 781	Thesis Capstone Course II	
Professional or Concentration Electives		**15.0**

Candidates may select any combination of the following for 15.0 credits: ABA, CRTV, EDAM, EDEX, EDGI, EDLS, EDLT, EDPO, EDUC, EHRD, ELL, ENTP, ESTM, MTED, or SCL (500-799 level), or candidates select a formal concentration. (See formal concentration options below)

Total Credits   **227.0-230.5**

*   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.

Concentration Option *

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
EHRD 660	Principles of Adult Learning
Autism Spectrum Disorders	
EDEX 555	Teaching Students with Autism Spectrum Disorder
EDEX 556	Characteristics & Methods: Autism
EDEX 558	Characteristics & Methods: High Functioning Autism
EDEX 560	Communication & Language Interventions: Autism Spectrum Disorders
EDEX 562	Behavior & Sensory Support: Autism Spectrum Disorders
Creativity and Innovation	
CRTV 501	Foundations in Creativity
CRTV 502	Tools and Techniques in Creativity
CRTV 503	Creativity in the Workplace
CRTV 620	Research Methods and Assessment of Creative and Innovative Thinking
CRTV 630	Global Perspectives on Creativity
Educational Policy	
EDPO 620	Education Policy: Concepts, Issues, and Applications
EDPO 624	The Shaping of American Education Policy: Global Forces, Interest Groups, and Politics
EDPO 628	American Educational Policy and U.S. Competitiveness
EDPO 632	Ethics in Educational Policy Making
EDPO 636	Access & Equity in Educational Policy Making
Global & International Education	
EDGI 503	Global, International & Comparative Education
EDGI 510	Culture, Society & Education in Comparative Perspective
EDGI 512	Globalization and Educational Change
EDGI 514	Education and National Development
EDGI 518	Analysis of Policy Issues in Global & International Education
Higher Education	
EDGI 506	Comparative Higher Education Systems
EDHE 501	Foundations of Higher Education and Governance
EDHE 531	Legal Issues & Ethics in Higher Education
EDHE 662	Critical Issues in Student Affairs
EHRD 660	Principles of Adult Learning
Learning Technologies	
EDLT 532	Designing Virtual Communities for Staff Development - Non-Field Experience
EDLT 537	Technologies for Performance Support
EDLT 543	Play & Learning in a Participatory Culture
EDLT 551	Instructional Design Methods
ELL 501	The Purpose and Business of E-Learning
Multisensory Reading Instruction Level 1	
EDLS 620	Applied Methods in Multisensory Reading Instruction
EDLS 621	Multisensory Reading Instruction
EDLS 622	Basic Word Study I
EDLS 623	Basic Word Study II
EDLS 624	Multisensory Practicum I
EDLS 625	Multisensory Practicum II
EDLS 626	Multisensory Practicum III
Professional Elective (minimum 3.0 credits) **	

Reading Specialist Certification Concentration

EDLS 560	Reading and Writing in the Content Areas (7-12)
EDLS 565	Constructing Meaning through Reading and Writing
EDLS 620	Applied Methods in Multisensory Reading Instruction
EDLS 622	Basic Word Study I
EDLS 623	Basic Word Study II
EDLS 624	Multisensory Practicum I
EDLS 625	Multisensory Practicum II
EDLS 626	Multisensory Practicum III

Teaching English as a Second Language Certification

EDUC 602	Language Learning & Teaching
EDUC 604	Structure and Sound System of English
EDUC 606	Design and Assessment
EDUC 608	The Intercultural Learner
Professional Elective (minimum 1.5 credits) ***	

Social Emotional Behavioral Wellness

EDEX 580	Social Emotional Wellness and Evidence-Based Preventative School Practices
EDEX 581	Understanding Social Emotional Disorders
EDEX 582	Evidence-Based School Interventions and Trauma Informed Education/Care
EDEX 583	Collaboration and Community Based Practices to Promote Social Emotion Wellness

*   Candidates may opt for a formal concentration or a **Customized Concentration** which may include course work from other Drexel academic departments in consultation with an academic advisors. Sample customized concentrations might include:

- Educational Administration
- Evaluation & Assessment
- Instructional Design
- Instructional Technology
- Leadership in Educational Settings
- Learning in Game-Based Environments
- Special Education Law and Process
- Special Education Leadership
- Urban Education

**   Complete 3.0 graduate elective credits (500-799) in EDUC, EDEX, EDGI, EDAM, EHRD, EDHE, CRTV, MTED, EDLT, EDLS, ELL, ABA, EDPO, SCL, ENTP or ESTM.

***   Complete 1.5 graduate elective credits (500-799) in EDUC, EDEX, EDGI, EDAM, EHRD, EDHE, CRTV, MTED, EDLT, EDLS, ELL, ABA, EDPO, SCL, ENTP or ESTM.

Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the Writing Intensive Course List (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/writing-intensive-courses/) at the University Writing Program (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/). (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/drexel-writing-center/) Students scheduling their courses can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.

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
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
EDUC 205	1.0	INFO 101	3.0	EDUC 305	3.0	EDUC 322	3.0
EDUC 223	3.0	LING 101	3.0	EDUC 308	3.0	HIST 201, 202, or 203	4.0
EDUC 365	3.0	NFS 100 & NFS 101	3.0	ENVS 260	3.0		
ENGL 200	3.0	WRIT 301	3.0	(UG) Free elective	3.0		
WRIT 225	3.0						
	17		**18**		**16**		**14**

Third Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
COOP EXPERIENCE		COOP EXPERIENCE		EDUC 316	3.0	EDPO 312	3.0
EDUC 358		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 524	3.0
(GR) MS Professional Elective	3.0	EDLT 532	3.0	ENGL 206	3.0	EDUC 530	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	EDUP 780 or EDUT 780	3.0	EDPO 620 or EDCR 518	3.0
EDUC 609	3.0	(GR) MS Professional Elective	3.0	EDUP 781 or EDUT 781	3.0-4.5
(GR) MS Professional Elective	3.0				
	9		**6**		**6-7.5**

Total Credits 227-230.5

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Stephanie Smith Budhai, PhD *(Drexel University)*. Associate Clinical Professor. Teacher and higher education, culturally responsive teaching, equity and social justice, online learning, community engagement and service-learning, family involvement and partnerships, and learning technologies.

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Salvatore V. Falletta, EdD *(North Carolina State University)*. Clinical Professor. Human Resource intelligence (i.e., HR research and analytics practices); HRD assessment, measurement, and evaluation models and taxonomies; organizational diagnostic models; web-based employee and organizational survey methods, and computational modeling.

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Rajashi Ghosh, PhD *(University of Louisville, Kentucky) Department Chair for Policy, Organization & Leadership*. Associate Professor. Mentoring and leader development, workplace Incivility, workplace learning and development.

John M. Gould, PhD *(University of Pittsburgh) Harrisburg EdD Educational Leadership & Change Program*. Clinical Professor. Change leadership, curriculum re-design, the impact of technology on learning.

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H. Bernard Hall, PhD *(Temple University)*. Assistant Professor. Hip-hop Pedagogy, English Education, Urban Teacher Education.

Penny Hammrich, PhD *(University of Minnesota) Dean*. Distinguished University Professor. Urban education; science education; genetics; gender equity; science knowledge for conceptual teaching; sport science.

Paul Harrington, PhD *(University of Massachusetts, Boston) Director, Center for Labor Markets and Policy*. Professor. Teen and young adult job access; economic outlook, college labor market; workforce development, planning, and development; vocational rehabilitation and job market transition.

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Deanna Hill, JD, PhD *(University of Pittsburgh)*. Associate Clinical Professor. Higher education, international education, education law, education policy

Erin Horvat, PhD *(University of California, Los Angeles) Senior Vice Provost for Faculty Affairs*. Professor. Urban education, access and equity, high school dropout, parent involvement/family involvement, community engagement in research.

Jennifer Katz-Buonincontro, PhD *(University of Oregon) Associate Dean of Research*. Associate Professor. Educational administration, leadership development, survey & instrument design.

Larry Keiser, PhD *(Drexel University)*. Assistant Clinical Professor. Education and corporate/business leaders' creativity and entrepreneurial mindsets; creative school/work environments; neuroscience of creativity; everyday creativity for teachers and educators.

Kristy Kelly, PhD *(University of Wisconsin, Madison)*. Associate Clinical Professor. Sociology of gender and development; anthropology of policy; comparative and international education; qualitative research methods; Vietnam and Southeast Asia.

Cameron Kiosoglous, PhD *(Virginia Tech University) Program Director*. Assistant Clinical Professor. Coached on the USRowing National Team staff since 2002, including the 2004, 2008, 2012, and 2016 Olympic Games; coaching development; measuring coaching quality; self-insight and reflective practices; coaching leadership; conference presenter; published author.

Valerie Klein, PhD *(Amherst College)*. Associate Clinical Professor. Mathematics learning and teaching; teacher's use of formative assessment in mathematics; creating opportunities for rich problem solving in the classroom; examining teachers growth and change; qualitative research methods.

Peggy Kong, PhD *(Harvard University)*. Associate Clinical Professor. Comparative and international education, equity in education, family and community, Chinese education and society, sociology of education

Michael G. Kozak, Ed.D. *(Rowan University)*. Assistant Clinical Professor. Leadership, STEAM, online and blended learning environments, systems thinking, experiential learning, K-12 education, and facilitating change

Amanda Lannie, PhD *(Syracuse University)*. Assistant Clinical Professor. Applied behavior analysis and special education; School-based consultation; system-wide interventions as a mechanism for delivery supports to all students; Designing effective and efficient interventions for students with emotional/behavioral disorders.

Vera Lee, EdD *(University of Pennsylvania) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Practitioner Research in online courses to explore inservice/preservice teachers' emerging understandings about issues of diversity; the development of information/digital literacies of urban youth; English language learners.

Bruce Levine, JD *(New York University)*. Associate Clinical Professor. Educational policy, school law, public-private partnerships, intersection of business and education.

Kristine Lewis-Grant, PhD *(Temple University)*. Clinical Professor. Experiences of students of African descent at predominantly white colleges and universities, college access and college student development, youth civic engagement in urban school reform, qualitative research and evaluation.

William Lynch, PhD *(University of Maryland)*. Professor. Curriculum and educational leadership, educational technology, distance learning policy development, higher and adult education.

Constance Lyttle, PhD, JD *(University of Pittsburgh, Duquesne University)*. Clinical Professor. Legal rights of gifted and talented children and children with disabilities; inclusive education of exceptional children; special education mediation; special education IEP/IFSP facilitation; resolution session facilitation

Joy Phillips, PhD *(The University of Texas at Austin)*. Associate Clinical Professor. Visionary leadership in theory and practice, school reform as innovative problem-setting, thinking qualitatively about school reform. thinking about school reform by drawing, Educational Leadership Program Assessment.

Kathleen Provinzano, PhD *(Marywood University)*. Assistant Professor. Educational administration.

Harriette Rasmussen, EdD *(Fielding Graduate University)*. Assistant Clinical Professor. Educational leadership and change.

Lori Severino, EdD *(Neumann University)*. Assistant Professor. Special education, differentiated instruction, reading, Wilson language, multi-sensory instruction, reading comprehension, assessment, adolescent literacy.

Jason Silverman, PhD *(Vanderbilt University)*. Professor. Teaching and learning of advanced mathematical ideas (algebra and calculus); improving teachers' ability to orchestrate and sustain inquiry-based and discussion-based instruction; technology in mathematics education.

Janet Sloand, EdD *(Duquesne University) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Special Education Leadership, Trauma-informed care, Parent engagement in special education service delivery.

Toni A. Sondergeld, PhD *(University of Toledo)*. Associate Professor. Cognitive and affective assessment development; program/grant evaluation; high stakes testing measurement; STEM education; urban education

Bridget Sweeney Blakely, PhD *(Temple University)*. Assistant Clinical Professor. Consultation; Positive Behavior Interventions and Supports (PBIS); Response to Intervention (RtI); Systems-level change; performance feedback

Mary Jean Tecce DeCarlo, EdD *(University of Pennsylvania)*. Associate Clinical Professor. Early literacy development, learning differences, knowledge construction, urban education.

Sarah P. Ulrich, EdD *(Saint Joseph's University) Associate Dean of Teacher Education and Undergraduate Affairs*. Clinical Professor. Cross-cultural, language and academic development, school reform, teacher preparation, teacher retention, teacher residencies in urban contexts.

Sheila Vaidya, PhD *(Temple University)*. Professor. Educational psychology, school psychology, research design.

Christina Vorndran, PhD *(Louisiana State University) Program Director, Applied Behavior Analysis and Special Education*. Clinical Professor. Designing effective and efficient community-based interventions, Severe behavior disorders, Functional behavior assessment

Christopher G. Wright, PhD *(Tufts University)*. Assistant Professor. Engineering and science education, Urban education, elementary teacher education.

Emeritus Faculty

Mary Jo Grdina, PhD *(Case Western Reserve University)*. Clinical Professor. Undergraduate studies, science education, curriculum design.

Joyce Pittman, PhD *(Iowa State University of Science and Technology)*. Clinical Professor. Curriculum and instruction K-16; teaching English as a foreign language (TEFL); instructional design business education and administration; industrial and career technology; oral and written communication; research methodology; instructional and assistive technology assessment; online learning pedagogy

Fredricka K. Reisman, PhD *(Syracuse University) School of Education, Founder, Drexel School of Education*. Professor Emerita. Director, Freddie Reisman Center for Translational Research in Creativity and Motivation, Creator and Former Director-Creativity and Innovation Programs, Co-Director-Drexel/Torrance Center for Creativity and Innovation, Drexel University Named Recognition- Freddie Reisman Faculty Scholarly and Creative Activity Awards

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

Major: Teacher Education, Secondary Mathematics; Teaching, Learning and Curriculum
Degree Awarded: Bachelor of Science (BS) and Master of Science (MS)
Calendar Type: Quarter
Minimum Required Credits: 230.0
Co-op Options: One Co-op
BS Classification of Instructional Programs (CIP) code: 13.1205
BS Standard Occupational Classification (SOC) code: 25-2031
MS Classification of Instructional Programs (CIP) code: 13.1399
MS Standard Occupational Classification (SOC) code: 11-9039

About the Program

The Teacher Education, Secondary Mathematics (7-12) BS and Teaching, Learning and Curriculum MS (Advanced Track) 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 Mathematics 7-12) 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 Secondary Mathematics Education and Teaching, Learning and Curriculum (Advanced Track) prepares students academically and practically for careers in PK–12 teaching or other educational settings, including capabilities to:

- Demonstrate professional ethics and independent and creative academic best practices that exhibit outstanding leadership, organizational, cross-cultural, interpersonal, and advocacy skills, including the ability to communicate effectively with internal and external groups
- Understand the changing role of teachers in increasingly diverse societies
- Demonstrate a strong academic background in all subject areas that meet PDE requirements, including literacy, language, and STEM areas
- Demonstrate the ability to create and maintain a positive and democratic classroom climate for students
- Demonstrate a thorough understanding of child development in their ability to develop and implement learning opportunities that are unique to every child
- Develop creative academic leadership skills with a global perspective on current educational issues, knowledge of best pedagogical practices, tools to effectively integrate technology in curriculum, assessment, and instruction, and a strong academic background in all subject areas that meet PDE content requirements
- Develop competencies to become reflective practitioners who are lifelong learners, who base their practice on theory, research, and developmentally appropriate pedagogy by analyzing, implementing, and evaluating existing and new instructional strategies and practices in a variety of educational institutions/organizations
- Demonstrate advanced teaching knowledge and skills well beyond that required for initial Pennsylvania certification

- Develop advanced skills to function in a variety of roles as instructors, instructional leaders, or researchers in local, state, national and international organizations, foundations, associations, corporations, and private educational institutions
- Have in-depth knowledge of both public and private (non-profit and for-profit) institutions as well as small and large institutions

Admission Requirements

Same as the BS in Teacher Education, the BSMS application must be submitted during sophomore year before 120.0 credits have been completed with a cumulative 3.0 GPA to gain acceptance into the program. Continuation as a BS/MS student in Teaching, Learning and Curriculum (Advanced Track) requires maintaining a minimum term and cumulative 3.0 GPA.

Degree 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	Inclusive Practices	3.0
EDEX 368 [WI]	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
EDPO 312	Educational Policy, Law & Advocacy	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 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 [WI]	Student Teaching Seminar I	9.0
EDUC 410 [WI]	Student Teaching	9.0
MS in TLC Core		
EDAM 714	Instructional and Curriculum Leadership (Take EDLS 550 if pursuing Reading Specialist Concentration)	3.0
or EDLS 550	Theories of Reading and Writing	
EDLT 532	Designing Virtual Communities for Staff Development - Non-Field Experience	3.0
EDUC 524	Current Research in Curriculum & Instruction (Take EDLS 575 if pursing Reading Specialist Concentration)	3.0
or EDLS 575	Responding to Children's and Young Adult Literature	
EDUC 530	Advanced Techniques in Instruction & Assessment	3.0
EDUC 609	Language & Culture in Education (Take EDLS 555 if pursing Reading Specialist Concentration)	3.0
or EDLS 555	Understanding Literacy through Sociocultural Perspectives	
Policy, Law & Organization Courses (6.0 credits)		**6.0**
Select two courses in Education Policy, Law & Organization EDPO or EDAM (500-799). Reading Specialist Concentration students enroll in EDLS 570 and EDLS 650.		
EDAM 705	School Law and Politics	
EDCR 518	Evidence-Based Evaluation	
EDLS 570	Literacy and Evaluation	
EDLS 650	Designing a Literacy Program	
EDPO 620	Education Policy: Concepts, Issues, and Applications	
MS in TLC Capstone Sequence (9.0-10.5 credits)		
EDU 780	Capstone Research	3.0
Student selects and enrolls in appropriate coursework following one of the following capstone tracks: Practitioner or Thesis		
EDUP 780	Practitioner Capstone Course I	3.0
or EDUT 780	Thesis Capstone Course I	
EDUP 781	Practitioner Capstone Course II	3.0-4.5
or EDUT 781	Thesis Capstone Course II	
Professional or Concentration Electives (15.0 credits)		**15.0**
Candidates may select any combination of the following for 15.0 credits: ABA, CRTV, EDAM, EDEX, EDGI, EDLS, EDLT, EDPO, EDUC, EHRD, ELL, ENTP, ESTM, MTED, or SCL (500-799 level), or candidates select a formal concentration. (See formal concentration options below)		
Total Credits		**230.0-231.5**

*   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.

Concentration Option [*]		
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	
EHRD 660	Principles of Adult Learning	
Autism Spectrum Disorders		
EDEX 555	Teaching Students with Autism Spectrum Disorder	
EDEX 556	Characteristics & Methods: Autism	

EDEX 558	Characteristics & Methods: High Functioning Autism
EDEX 560	Communication & Language Interventions: Autism Spectrum Disorders
EDEX 562	Behavior & Sensory Support: Autism Spectrum Disorders
Creativity and Innovation	
CRTV 501	Foundations in Creativity
CRTV 502	Tools and Techniques in Creativity
CRTV 503	Creativity in the Workplace
CRTV 620	Research Methods and Assessment of Creative and Innovative Thinking
CRTV 630	Global Perspectives on Creativity
Educational Policy	
EDPO 620	Education Policy: Concepts, Issues, and Applications
EDPO 624	The Shaping of American Education Policy: Global Forces, Interest Groups, and Politics
EDPO 628	American Educational Policy and U.S. Competitiveness
EDPO 632	Ethics in Educational Policy Making
EDPO 636	Access & Equity in Educational Policy Making
Global & International Education	
EDGI 503	Global, International & Comparative Education
EDGI 510	Culture, Society & Education in Comparative Perspective
EDGI 512	Globalization and Educational Change
EDGI 514	Education and National Development
EDGI 518	Analysis of Policy Issues in Global & International Education
Higher Education	
EDGI 506	Comparative Higher Education Systems
EDHE 501	Foundations of Higher Education and Governance
EDHE 531	Legal Issues & Ethics in Higher Education
EDHE 662	Critical Issues in Student Affairs
EHRD 660	Principles of Adult Learning
Learning Technologies	
EDLT 532	Designing Virtual Communities for Staff Development - Non-Field Experience
EDLT 537	Technologies for Performance Support
EDLT 543	Play & Learning in a Participatory Culture
EDLT 551	Instructional Design Methods
ELL 501	The Purpose and Business of E-Learning
Multisensory Reading Instruction Level 1	
EDLS 620	Applied Methods in Multisensory Reading Instruction
EDLS 621	Multisensory Reading Instruction
EDLS 622	Basic Word Study I
EDLS 623	Basic Word Study II
EDLS 624	Multisensory Practicum I
EDLS 625	Multisensory Practicum II
EDLS 626	Multisensory Practicum III
Professional Elective (minimum 3.0 credits) [**]	
Reading Specialist Certification Concentration	
EDLS 560	Reading and Writing in the Content Areas (7-12)
EDLS 565	Constructing Meaning through Reading and Writing
EDLS 620	Applied Methods in Multisensory Reading Instruction
EDLS 622	Basic Word Study I
EDLS 623	Basic Word Study II
EDLS 624	Multisensory Practicum I
EDLS 625	Multisensory Practicum II
EDLS 626	Multisensory Practicum III
Teaching English as a Second Language Certification	
EDUC 602	Language Learning & Teaching
EDUC 604	Structure and Sound System of English
EDUC 606	Design and Assessment
EDUC 608	The Intercultural Learner
Professional Elective (minimum 1.5 credits) [***]	
Social Emotional Behavioral Wellness	
EDEX 580	Social Emotional Wellness and Evidence-Based Preventative School Practices
EDEX 581	Understanding Social Emotional Disorders

EDEX 582	Evidence-Based School Interventions and Trauma Informed Education/Care
EDEX 583	Collaboration and Community Based Practices to Promote Social Emotion Wellness

*   Candidates may opt for a formal concentration or a **Customized Concentration** which may include course work from other Drexel academic departments in consultation with an academic advisors. Sample customized concentrations might include:
  - Educational Administration
  - Evaluation & Assessment
  - Instructional Design
  - Instructional Technology
  - Leadership in Educational Settings
  - Learning in Game-Based Environments
  - Special Education Law and Process
  - Special Education Leadership
  - Urban Education

**   Complete 3.0 graduate elective credits (500-799) in EDUC, EDEX, EDGI, EDAM, EHRD, EDHE, CRTV, MTED, EDLT, EDLS, ELL, ABA, EDPO, SCL, ENTP or ESTM.

***   Complete 1.5 graduate elective credits (500-799) in EDUC, EDEX, EDGI, EDAM, EHRD, EDHE, CRTV, MTED, EDLT, EDLS, ELL, ABA, EDPO, SCL, ENTP or ESTM.

Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the Writing Intensive Course List (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/writing-intensive-courses/) at the University Writing Program (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/). (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/drexel-writing-center/) Students scheduling their courses can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.

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 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 T101	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**		ECON 201	1.0	CHEM 101	4.0	BIO 109	3.5	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	3.0	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	EDPO 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		EDUC 410	9.0	EDUC 405	9.0	EDAM 705	1.0
MATH 331		MATH 311	4.0	ENGL 200 - ENGL 395	4.0	EDUC 524	3.0
(GR) MS Professional Elective		EDLT 532	3.0	ENVS 260	3.0	EDUC 530	3.0
				MATH 312	3.0		3.0
				PSY 320	4.0		
				EDAM 714	3.0		
				Student converts to Grad status at the end of the Spring Term	3.0		
	16		**16**		**17**		**9**

Fifth Year

Fall	Credits	Winter	Credits	Spring	Credits
EDU 780		EDUP 780 or EDUT 780	3.0	EDCR 518 or EDPO 620	3.0
EDUC 609		(GR) MS Professional Elective	3.0	EDUP 781 or EDUT 781	3.0
(GR) MS Professional Elective			3.0		3.0-4.5
	9		**6**		**6-7.5**

Total Credits 230-231.5

*   Students must receive Department permission to pursue the NCOP option. Students will work directly with their advisor to establish a unique plan of study.

**   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.

Education Faculty

Jennifer Adams, EdD *(Harvard University)*. Associate Professor. Comparative and international education; Poverty and education; Child welfare; Educational policy.

Ayana Allen, PhD *(Texas A&M University)*. Associate Professor. Urban education; Identity construction in school contexts; Urban school transformation.

Kristen Betts, EdD *(George Washington University)*. Clinical Professor. Higher education administration and governance, online blended education, instructional design and educational technology, program assessment and evaluation.

Eric Brewe, PhD *(Arizona State University)*. Associate Professor. Physics Education Research, introductory course reform, network analysis in learning, neuromechanisms of learning.

Stephanie Smith Budhai, PhD *(Drexel University)*. Associate Clinical Professor. Teacher and higher education, culturally responsive teaching, equity and social justice, online learning, community engagement and service-learning, family involvement and partnerships, and learning technologies.

José Luis Chávez, EdD *(University of Southern California)*. Clinical Professor. Higher education leadership and administration.

Rebecca Clothey, PhD *(University of Pittsburgh) Associate Department Head*. Associate Professor. Comparative and international education, education of ethnic and linguistic minorities, sociology of education.

James Connell, PhD *(Louisiana State University) Founding Clinical Core Director and Research Fellow, A.J. Drexel Autism Institute*. Associate Professor. Identifying the variables that influence adult behavior change in community settings; autism intervention; widespread dissemination of evidence-based interventions in school and community settings.

Kareem Edouard, PhD *(Stanford University)*. Assistant Professor. Educational technology; internet-based STEM learning; equity and inclusion in STEM education

Salvatore V. Falletta, EdD *(North Carolina State University)*. Clinical Professor. Human Resource intelligence (i.e., HR research and analytics practices); HRD assessment, measurement, and evaluation models and taxonomies; organizational diagnostic models; web-based employee and organizational survey methods, and computational modeling.

Aroutis N. Foster, PhD *(Michigan State University) Associate Dean for Academic Affairs and Graduate Studies.* Professor. Educational psychology and educational technology, especially the following: Motivation; Technological Pedagogical Content Knowledge (TPACK); Immersive Interactive Digital Environments (simulation, games, virtual realities.

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Larry Keiser, PhD *(Drexel University)*. Assistant Clinical Professor. Education and corporate/business leaders' creativity and entrepreneurial mindsets; creative school/work environments; neuroscience of creativity; everyday creativity for teachers and educators.

Kristy Kelly, PhD *(University of Wisconsin, Madison)*. Associate Clinical Professor. Sociology of gender and development; anthropology of policy; comparative and international education; qualitative research methods; Vietnam and Southeast Asia.

Cameron Kiosoglous, PhD *(Virginia Tech University) Program Director*. Assistant Clinical Professor. Coached on the USRowing National Team staff since 2002, including the 2004, 2008, 2012, and 2016 Olympic Games; coaching development; measuring coaching quality; self-insight and reflective practices; coaching leadership; conference presenter; published author.

Valerie Klein, PhD *(Amherst College)*. Associate Clinical Professor. Mathematics learning and teaching; teacher's use of formative assessment in mathematics; creating opportunities for rich problem solving in the classroom; examining teachers growth and change; qualitative research methods.

Peggy Kong, PhD *(Harvard University)*. Associate Clinical Professor. Comparative and international education, equity in education, family and community, Chinese education and society, sociology of education

Michael G. Kozak, Ed.D. *(Rowan University)*. Assistant Clinical Professor. Leadership, STEAM, online and blended learning environments, systems thinking, experiential learning, K-12 education, and facilitating change

Amanda Lannie, PhD *(Syracuse University)*. Assistant Clinical Professor. Applied behavior analysis and special education; School-based consultation; system-wide interventions as a mechanism for delivery supports to all students; Designing effective and efficient interventions for students with emotional/behavioral disorders.

Vera Lee, EdD *(University of Pennsylvania) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Practitioner Research in online courses to explore inservice/preservice teachers' emerging understandings about issues of diversity; the development of information/digital literacies of urban youth; English language learners.

Bruce Levine, JD *(New York University)*. Associate Clinical Professor. Educational policy, school law, public-private partnerships, intersection of business and education.

Kristine Lewis-Grant, PhD *(Temple University)*. Clinical Professor. Experiences of students of African descent at predominantly white colleges and universities, college access and college student development, youth civic engagement in urban school reform, qualitative research and evaluation.

William Lynch, PhD *(University of Maryland)*. Professor. Curriculum and educational leadership, educational technology, distance learning policy development, higher and adult education.

Constance Lyttle, PhD, JD *(University of Pittsburgh, Duquesne University)*. Clinical Professor. Legal rights of gifted and talented children and children with disabilities; inclusive education of exceptional children; special education mediation; special education IEP/IFSP facilitation; resolution session facilitation

Joy Phillips, PhD *(The University of Texas at Austin)*. Associate Clinical Professor. Visionary leadership in theory and practice, school reform as innovative problem-setting, thinking qualitatively about school reform. thinking about school reform by drawing, Educational Leadership Program Assessment.

Kathleen Provinzano, PhD *(Marywood University)*. Assistant Professor. Educational administration.

Harriette Rasmussen, EdD *(Fielding Graduate University)*. Assistant Clinical Professor. Educational leadership and change.

Lori Severino, EdD *(Neumann University)*. Assistant Professor. Special education, differentiated instruction, reading, Wilson language, multi-sensory instruction, reading comprehension, assessment, adolescent literacy.

Jason Silverman, PhD *(Vanderbilt University)*. Professor. Teaching and learning of advanced mathematical ideas (algebra and calculus); improving teachers' ability to orchestrate and sustain inquiry-based and discussion-based instruction; technology in mathematics education.

Janet Sloand, EdD *(Duquesne University) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Special Education Leadership, Trauma-informed care, Parent engagement in special education service delivery.

Toni A. Sondergeld, PhD *(University of Toledo)*. Associate Professor. Cognitive and affective assessment development; program/grant evaluation; high stakes testing measurement; STEM education; urban education

Bridget Sweeney Blakely, PhD *(Temple University)*. Assistant Clinical Professor. Consultation; Positive Behavior Interventions and Supports (PBIS); Response to Intervention (Rtl); Systems-level change; performance feedback

Mary Jean Tecce DeCarlo, EdD *(University of Pennsylvania)*. Associate Clinical Professor. Early literacy development, learning differences, knowledge construction, urban education.

Sarah P. Ulrich, EdD *(Saint Joseph's University) Associate Dean of Teacher Education and Undergraduate Affairs*. Clinical Professor. Cross-cultural, language and academic development, school reform, teacher preparation, teacher retention, teacher residencies in urban contexts.

Sheila Vaidya, PhD *(Temple University)*. Professor. Educational psychology, school psychology, research design.

Christina Vorndran, PhD *(Louisiana State University) Program Director, Applied Behavior Analysis and Special Education*. Clinical Professor. Designing effective and efficient community-based interventions, Severe behavior disorders, Functional behavior assessment

Christopher G. Wright, PhD *(Tufts University)*. Assistant Professor. Engineering and science education, Urban education, elementary teacher education.

Emeritus Faculty

Mary Jo Grdina, PhD *(Case Western Reserve University)*. Clinical Professor. Undergraduate studies, science education, curriculum design.

Joyce Pittman, PhD *(Iowa State University of Science and Technology)*. Clinical Professor. Curriculum and instruction K-16; teaching English as a foreign language (TEFL); instructional design business education and administration; industrial and career technology; oral and written communication; research methodology; instructional and assistive technology assessment; online learning pedagogy

Fredricka K. Reisman, PhD *(Syracuse University) School of Education, Founder, Drexel School of Education*. Professor Emerita. Director, Freddie Reisman Center for Translational Research in Creativity and Motivation, Creator and Former Director-Creativity and Innovation Programs, Co-Director-Drexel/Torrance Center for Creativity and Innovation, Drexel University Named Recognition- Freddie Reisman Faculty Scholarly and Creative Activity Awards

Teacher Education, Secondary Social Studies BS / Global and International Education MS

Major: Teacher Education, Secondary Social Studies; Global and International Education
Degree Awarded: Bachelor of Science (BS) and Master of Science (MS)
Calendar Type: Quarter
Minimum Required Credits: 187.0
Co-op Options: One Co-op
BS Classification of Instructional Programs (CIP) code: 13.1205
BS Standard Occupational Classification (SOC) code: 25-2031
MS Classification of Instructional Programs (CIP) code: 13.1319
MS Standard Occupational Classification (SOC) code: 25-2062

About the Program

The BS/MS in Secondary Social Studies Education and MS in Global and International Education offers a flexible, innovative curriculum with a unique emphasis on creative problem solving, the application of the latest learning technologies, the integration of global perspectives, and development of intercultural competencies. The joint-program provides students with an in-depth, applied knowledge of the role of education in solving global problems as well as fostering an understanding of diverse cultures and globalization.

This accelerated degree program allows candidates to pursue a BS in Secondary Social Studies Education with Pennsylvania initial state teacher certification and continue for a fifth graduate year to complete the MS in Global and International Education.

For more information please visit the School of Education website (https://drexel.edu/soe/academics/undergraduate/Degrees/BS-MS-in-Education-Five-Year-Program/).

Admission Requirements

BS/MS application must be submitted during Sophomore year before 120 undergraduate credits have been completed with cumulative 3.0 GPA to gain acceptance into BS/MS program. Continuation as a BS/MS student in Global and International Education requires maintaining minimum term and cumulative 3.0 GPA.

Degree 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	Inclusive Practices	3.0
EDEX 368 [WI]	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 [WI]	Student Teaching Seminar I	9.0
EDUC 410 [WI]	Student Teaching	9.0
Total Credits		**187.0**

Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the Writing Intensive Course List (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/writing-intensive-courses/) at the University Writing Program (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/). (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/drexel-writing-center/) Students scheduling their courses can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.

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 101	3.0	ANTH 101	3.0	EDEX 142	3.0	VACATION	
EDUC 106	1.0	CIVC 101	1.0	EDUC 108	1.0		
ENGL 101 or 111	3.0	EDUC 107	1.0	EDUC 123	3.0		
MATH 171	3.0	EDUC 113	3.0	ENGL 103 or 113	3.0		
HIST 161	4.0	ENGL 102 or 112	3.0	MATH 173	3.0		
PSY 101	3.0	HIST 162 or 163	4.0	Free elective	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	EDPO 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
				EDCR 518	3.0		
	3		**0**		**15**		**14**

Fourth Year

Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
EDUC 409	9.0	ECON 201	4.0	ECON 202	4.0	Student converts to Graduate status	
PSCI 220	4.0	EDUC 410	9.0	EDUC 405	1.0	EDGI 518	3.0
EDGI 503	3.0	EDGI 510	3.0	HIST 212	4.0	Secondary Concentration	3.0
				PSCI 240	4.0		
				EDGI 520	3.0		
				EDGI 522	3.0		
	16		**16**		**19**		**6**

Fifth Year

Fall	Credits	Winter	Credits	Spring	Credits
EDCR 512	3.0	EDGI 524	3.0	EDUP 781 or EDUT 781	3.0-4.5
EDGI 506	3.0	EDUP 780 or EDUT 780	3.0	Secondary Concentration	3.0
EDU 780	3.0	Secondary Concentration	3.0		
	9		**9**		**6-7.5**

Total Credits 232-233.5

[*]   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.

Education Faculty

Jennifer Adams, EdD *(Harvard University)*. Associate Professor. Comparative and international education; Poverty and education; Child welfare; Educational policy.

Ayana Allen, PhD *(Texas A&M University)*. Associate Professor. Urban education; Identity construction in school contexts; Urban school transformation.

Kristen Betts, EdD *(George Washington University)*. Clinical Professor. Higher education administration and governance, online blended education, instructional design and educational technology, program assessment and evaluation.

Eric Brewe, PhD *(Arizona State University)*. Associate Professor. Physics Education Research, introductory course reform, network analysis in learning, neuromechanisms of learning.

Stephanie Smith Budhai, PhD *(Drexel University)*. Associate Clinical Professor. Teacher and higher education, culturally responsive teaching, equity and social justice, online learning, community engagement and service-learning, family involvement and partnerships, and learning technologies.

José Luis Chávez, EdD *(University of Southern California)*. Clinical Professor. Higher education leadership and administration.

Rebecca Clothey, PhD *(University of Pittsburgh) Associate Department Head*. Associate Professor. Comparative and international education, education of ethnic and linguistic minorities, sociology of education.

James Connell, PhD *(Louisiana State University) Founding Clinical Core Director and Research Fellow, A.J. Drexel Autism Institute*. Associate Professor. Identifying the variables that influence adult behavior change in community settings; autism intervention; widespread dissemination of evidence-based interventions in school and community settings.

Kareem Edouard, PhD *(Stanford University)*. Assistant Professor. Educational technology; internet-based STEM learning; equity and inclusion in STEM education

Salvatore V. Falletta, EdD *(North Carolina State University)*. Clinical Professor. Human Resource intelligence (i.e., HR research and analytics practices); HRD assessment, measurement, and evaluation models and taxonomies; organizational diagnostic models; web-based employee and organizational survey methods, and computational modeling.

Aroutis N. Foster, PhD *(Michigan State University) Associate Dean for Academic Affairs and Graduate Studies*. Professor. Educational psychology and educational technology, especially the following: Motivation; Technological Pedagogical Content Knowledge (TPACK); Immersive Interactive Digital Environments (simulation, games, virtual realities.

Rajashi Ghosh, PhD *(University of Louisville, Kentucky) Department Chair for Policy, Organization & Leadership*. Associate Professor. Mentoring and leader development, workplace Incivility, workplace learning and development.

John M. Gould, PhD *(University of Pittsburgh) Harrisburg EdD Educational Leadership & Change Program*. Clinical Professor. Change leadership, curriculum re-design, the impact of technology on learning.

Dominic F. Gullo, PhD *(Indiana University)*. Professor. Studying the relative and long-range effects of early schooling experiences in prekindergarten and kindergarten on children's achievement and social adaptation to school routine.

H. Bernard Hall, PhD *(Temple University)*. Assistant Professor. Hip-hop Pedagogy, English Education, Urban Teacher Education.

Penny Hammrich, PhD *(University of Minnesota) Dean*. Distinguished University Professor. Urban education; science education; genetics; gender equity; science knowledge for conceptual teaching; sport science.

Paul Harrington, PhD *(University of Massachusetts, Boston) Director, Center for Labor Markets and Policy*. Professor. Teen and young adult job access; economic outlook, college labor market; workforce development, planning, and development; vocational rehabilitation and job market transition.

Michael J. Haslip, PhD *(Old Dominion University)*. Assistant Professor. Early childhood education, social and emotional learning, child guidance strategies, effects of public pre-school attendance.

Deanna Hill, JD, PhD *(University of Pittsburgh)*. Associate Clinical Professor. Higher education, international education, education law, education policy

Erin Horvat, PhD *(University of California, Los Angeles) Senior Vice Provost for Faculty Affairs*. Professor. Urban education, access and equity, high school dropout, parent involvement/family involvement, community engagement in research.

Jennifer Katz-Buonincontro, PhD *(University of Oregon) Associate Dean of Research*. Associate Professor. Educational administration, leadership development, survey & instrument design.

Larry Keiser, PhD *(Drexel University)*. Assistant Clinical Professor. Education and corporate/business leaders' creativity and entrepreneurial mindsets; creative school/work environments; neuroscience of creativity; everyday creativity for teachers and educators.

Kristy Kelly, PhD *(University of Wisconsin, Madison)*. Associate Clinical Professor. Sociology of gender and development; anthropology of policy; comparative and international education; qualitative research methods; Vietnam and Southeast Asia.

Cameron Kiosoglous, PhD *(Virginia Tech University) Program Director*. Assistant Clinical Professor. Coached on the USRowing National Team staff since 2002, including the 2004, 2008, 2012, and 2016 Olympic Games; coaching development; measuring coaching quality; self-insight and reflective practices; coaching leadership; conference presenter; published author.

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Christina Vorndran, PhD *(Louisiana State University) Program Director, Applied Behavior Analysis and Special Education*. Clinical Professor. Designing effective and efficient community-based interventions, Severe behavior disorders, Functional behavior assessment

Christopher G. Wright, PhD *(Tufts University)*. Assistant Professor. Engineering and science education, Urban education, elementary teacher education.

Emeritus Faculty

Mary Jo Grdina, PhD *(Case Western Reserve University)*. Clinical Professor. Undergraduate studies, science education, curriculum design.

Joyce Pittman, PhD *(Iowa State University of Science and Technology)*. Clinical Professor. Curriculum and instruction K-16; teaching English as a foreign language (TEFL); instructional design business education and administration; industrial and career technology; oral and written communication; research methodology; instructional and assistive technology assessment; online learning pedagogy

Fredricka K. Reisman, PhD *(Syracuse University) School of Education, Founder, Drexel School of Education*. Professor Emerita. Director, Freddie Reisman Center for Translational Research in Creativity and Motivation, Creator and Former Director-Creativity and Innovation Programs, Co-Director-Drexel/Torrance Center for Creativity and Innovation, Drexel University Named Recognition- Freddie Reisman Faculty Scholarly and Creative Activity Awards

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

Major: Teacher Education, Secondary Social Studies; Teaching, Learning and Curriculum
Degree Awarded: Bachelor of Science (BS) and Master of Science (MS)
Calendar Type: Quarter
Minimum Required Credits: 232.0
Co-op Options: One Co-op
BS Classification of Instructional Programs (CIP) code: 13.1205
BS Standard Occupational Classification (SOC) code: 25-2031
MS Classification of Instructional Programs (CIP) code: 13.1399
MS Standard Occupational Classification (SOC) code: 11-9039

About the Program

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).

The BS/MS in Teacher Education and Teaching, Learning and Curriculum (Advanced Track) prepares students academically and practically for careers in PK–12 teaching or other educational settings, including capabilities to:

- Demonstrate professional ethics and independent and creative academic best practices that exhibit outstanding leadership, organizational, cross-cultural, inter-personal, and advocacy skills, including the ability to communicate effectively with internal and external groups
- Understand the changing role of teachers in increasingly diverse societies
- Demonstrate a strong academic background in all subject areas that meet PDE requirements, including literacy, language, and STEM areas
- Demonstrate the ability to create and maintain a positive and democratic classroom climate for students
- Demonstrate a thorough understanding of child development in their ability to develop and implement learning opportunities that are unique to every child
- Develop creative academic leadership skills with a global perspective on current educational issues, knowledge of best pedagogical practices, tools to effectively integrate technology in curriculum, assessment and instruction, and a strong academic background in all subject areas that meet PDE content requirements
- Develop competencies to become reflective practitioners who are lifelong learners, who base their practice on theory, research, and developmentally appropriate pedagogy by analyzing, implementing, and evaluating existing and new instructional strategies and practices in a variety of educational institutions/organizations
- Demonstrate advanced teaching knowledge and skills well beyond that required for initial Pennsylvania certification
- Develop advanced skills to function in a variety of roles as instructors, instructional leaders, or researchers in local, state, national and international organizations, foundations, associations, corporations, and private educational institutions
- Have in-depth knowledge of both public and private (non-profit and for-profit) institutions as well as small and large institutions

Admission Requirements

The admission requirements are the same as the BS in Teacher Education. The BS/MS application must be submitted during sophomore year before 120.0 credits have been completed with a cumulative 3.0 GPA to gain acceptance into the BS/MS program. Continuation as a BS/MS student in Teaching, Learning and Curriculum (Advanced Track) requires maintaining a minimum term and cumulative 3.0 GPA.

Degree Requirements

General Education Requirements

ANTH 101	Introduction to Cultural Diversity	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	Inclusive Practices	3.0
EDEX 368 [WI]	Literacy and Content Skill Development PK-12	3.0
EDLT 325	Design for Learning with Digital Media	3.0
EDPO 312	Educational Policy, Law & Advocacy	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 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
Free elective		3.0
Student Teaching Experience		
EDUC 409 [WI]	Student Teaching Seminar I	9.0
EDUC 410 [WI]	Student Teaching	9.0
Master's Requirements		
MS in TLC Core		
EDAM 714	Instructional and Curriculum Leadership (Take EDLS 550 if pursuing Reading Specialist Concentration)	3.0
or EDLS 550	Theories of Reading and Writing	
EDLT 532	Designing Virtual Communities for Staff Development - Non-Field Experience	3.0
EDUC 524	Current Research in Curriculum & Instruction (Take EDLS 575 if pursing Reading Specialist Concentration)	3.0
or EDLS 575	Responding to Children's and Young Adult Literature	
EDUC 530	Advanced Techniques in Instruction & Assessment	3.0
EDUC 609	Language & Culture in Education (Take EDLS 555 if pursing Reading Specialist Concentration)	3.0
or EDLS 555	Understanding Literacy through Sociocultural Perspectives	
Policy, Law & Organization Courses (6.0 credits)		**6.0**
Select two courses in Education Policy, Law & Organization EDPO or EDAM (500-799). Reading Specialist Concentration students enroll in EDLS 570 and EDLS 650.		
EDAM 705	School Law and Politics	
EDCR 518	Evidence-Based Evaluation	
EDLS 570	Literacy and Evaluation	
EDLS 650	Designing a Literacy Program	
EDPO 620	Education Policy: Concepts, Issues, and Applications	
MS in TLC Capstone Sequence (9.0-10.5 credits)		
EDU 780	Capstone Research	3.0
Student selects and enrolls in appropriate coursework following one of the following capstone tracks: Practitioner or Thesis		
EDUP 780	Practitioner Capstone Course I	3.0
or EDUT 780	Thesis Capstone Course I	
EDUP 781	Practitioner Capstone Course II	3.0-4.5
or EDUT 781	Thesis Capstone Course II	
Professional or Concentration Electives (15.0 credits)		**15.0**
Candidates may select any combination of the following for 15.0 credits: ABA, CRTV, EDAM, EDEX, EDGI, EDLS, EDLT, EDPO, EDUC, EHRD, ELL, ENTP, ESTM, MTED, or SCL (500-799 level), or candidates select a formal concentration. (See formal concentration options below)		
Total Credits		**232.0-233.5**

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

  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.

Concentration Option *

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
EHRD 660	Principles of Adult Learning
Autism Spectrum Disorders	
EDEX 555	Teaching Students with Autism Spectrum Disorder
EDEX 556	Characteristics & Methods: Autism
EDEX 558	Characteristics & Methods: High Functioning Autism
EDEX 560	Communication & Language Interventions: Autism Spectrum Disorders
EDEX 562	Behavior & Sensory Support: Autism Spectrum Disorders
Creativity and Innovation	
CRTV 501	Foundations in Creativity
CRTV 502	Tools and Techniques in Creativity
CRTV 503	Creativity in the Workplace

CRTV 620	Research Methods and Assessment of Creative and Innovative Thinking
CRTV 630	Global Perspectives on Creativity
Educational Policy	
EDPO 620	Education Policy: Concepts, Issues, and Applications
EDPO 624	The Shaping of American Education Policy: Global Forces, Interest Groups, and Politics
EDPO 628	American Educational Policy and U.S. Competitiveness
EDPO 632	Ethics in Educational Policy Making
EDPO 636	Access & Equity in Educational Policy Making
Global & International Education	
EDGI 503	Global, International & Comparative Education
EDGI 510	Culture, Society & Education in Comparative Perspective
EDGI 512	Globalization and Educational Change
EDGI 514	Education and National Development
EDGI 518	Analysis of Policy Issues in Global & International Education
Higher Education	
EDGI 506	Comparative Higher Education Systems
EDHE 501	Foundations of Higher Education and Governance
EDHE 531	Legal Issues & Ethics in Higher Education
EDHE 662	Critical Issues in Student Affairs
EHRD 660	Principles of Adult Learning
Learning Technologies	
EDLT 532	Designing Virtual Communities for Staff Development - Non-Field Experience
EDLT 537	Technologies for Performance Support
EDLT 543	Play & Learning in a Participatory Culture
EDLT 551	Instructional Design Methods
ELL 501	The Purpose and Business of E-Learning
Multisensory Reading Instruction Level 1	
EDLS 620	Applied Methods in Multisensory Reading Instruction
EDLS 621	Multisensory Reading Instruction
EDLS 622	Basic Word Study I
EDLS 623	Basic Word Study II
EDLS 624	Multisensory Practicum I
EDLS 625	Multisensory Practicum II
EDLS 626	Multisensory Practicum III
Professional Elective (minimum 3.0 credits) [**]	
Reading Specialist Certification Concentration	
EDLS 560	Reading and Writing in the Content Areas (7-12)
EDLS 565	Constructing Meaning through Reading and Writing
EDLS 620	Applied Methods in Multisensory Reading Instruction
EDLS 622	Basic Word Study I
EDLS 623	Basic Word Study II
EDLS 624	Multisensory Practicum I
EDLS 625	Multisensory Practicum II
EDLS 626	Multisensory Practicum III
Teaching English as a Second Language Certification	
EDUC 602	Language Learning & Teaching
EDUC 604	Structure and Sound System of English
EDUC 606	Design and Assessment
EDUC 608	The Intercultural Learner
Professional Elective (minimum 1.5 credits) [***]	
Social Emotional Behavioral Wellness	
EDEX 580	Social Emotional Wellness and Evidence-Based Preventative School Practices
EDEX 581	Understanding Social Emotional Disorders
EDEX 582	Evidence-Based School Interventions and Trauma Informed Education/Care
EDEX 583	Collaboration and Community Based Practices to Promote Social Emotion Wellness

[*] Candidates may opt for a formal concentration or a **Customized Concentration** which may include course work from other Drexel academic departments in consultation with an academic advisors. Sample customized concentrations might include:
- Educational Administration
- Evaluation & Assessment
- Instructional Design

- Instructional Technology
- Leadership in Educational Settings
- Learning in Game-Based Environments
- Special Education Law and Process
- Special Education Leadership
- Urban Education

**   Complete 3.0 graduate elective credits (500-799) in EDUC, EDEX, EDGI, EDAM, EHRD, EDHE, CRTV, MTED, EDLT, EDLS, ELL, ABA, EDPO, SCL, ENTP or ESTM.

***   Complete 1.5 graduate elective credits (500-799) in EDUC, EDEX, EDGI, EDAM, EHRD, EDHE, CRTV, MTED, EDLT, EDLS, ELL, ABA, EDPO, SCL, ENTP or ESTM.

Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the Writing Intensive Course List (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/writing-intensive-courses/) at the University Writing Program (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/). (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/drexel-writing-center/) Students scheduling their courses can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.

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 101	3.0	ANTH 101	3.0	EDEX 142	3.0	VACATION	
EDUC 106	1.0	CIVC 101	1.0	EDUC 108	1.0		
ENGL 101 or 111	3.0	EDUC 107	1.0	EDUC 123	3.0		
MATH 171	3.0	EDUC 113	3.0	ENGL 103 or 113	3.0		
HIST 161	4.0	ENGL 102 or 112	3.0	MATH 173	3.0		
PSY 101	3.0	HIST 162 or 163	4.0	Free elective	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**		EDUC 216	1.0	EDEX 368	3.0	EDLT 325	3.0
EDEX 344		HIST 201	3.0	EDUC 305	4.0	EDUC 322	3.0
EDUC 112		HIST 214	3.0	EDUC 308	4.0	HIST 275	3.0
EDUC 205		PSCI 110	1.0	HIST 202	4.0	PSCI 375	4.0
EDUC 223		PSY 150	3.0	HIST 203	3.0	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		EDUC 324	3.0
EDUC 356			3.0	EDUC 316	3.0	EDPO 312	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 524	3.0
(GR) MS Professional Elective	3.0	EDLT 532	3.0	HIST 212	4.0	EDUC 530	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	EDUP 780 or EDUT 780	3.0	EDPO 620 or EDCR 518	3.0
EDUC 609	3.0	(GR) MS Professional Elective	3.0	EDUP 781 or EDUT 781	3.0-4.5
(GR) MS Professional Elective	3.0				
	9		**6**		**6-7.5**

Total Credits 232-233.5

*   Students must receive Department permission to pursue the NCOP option. Students will work directly with their advisor to establish a unique plan of study.

**   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.

Education Faculty

Jennifer Adams, EdD *(Harvard University)*. Associate Professor. Comparative and international education; Poverty and education; Child welfare; Educational policy.

Ayana Allen, PhD *(Texas A&M University)*. Associate Professor. Urban education; Identity construction in school contexts; Urban school transformation.

Kristen Betts, EdD *(George Washington University)*. Clinical Professor. Higher education administration and governance, online blended education, instructional design and educational technology, program assessment and evaluation.

Eric Brewe, PhD *(Arizona State University)*. Associate Professor. Physics Education Research, introductory course reform, network analysis in learning, neuromechanisms of learning.

Stephanie Smith Budhai, PhD *(Drexel University)*. Associate Clinical Professor. Teacher and higher education, culturally responsive teaching, equity and social justice, online learning, community engagement and service-learning, family involvement and partnerships, and learning technologies.

José Luis Chávez, EdD *(University of Southern California)*. Clinical Professor. Higher education leadership and administration.

Rebecca Clothey, PhD *(University of Pittsburgh) Associate Department Head*. Associate Professor. Comparative and international education, education of ethnic and linguistic minorities, sociology of education.

James Connell, PhD *(Louisiana State University) Founding Clinical Core Director and Research Fellow, A.J. Drexel Autism Institute*. Associate Professor. Identifying the variables that influence adult behavior change in community settings; autism intervention; widespread dissemination of evidence-based interventions in school and community settings.

Kareem Edouard, PhD *(Stanford University)*. Assistant Professor. Educational technology; internet-based STEM learning; equity and inclusion in STEM education

Salvatore V. Falletta, EdD *(North Carolina State University)*. Clinical Professor. Human Resource intelligence (i.e., HR research and analytics practices); HRD assessment, measurement, and evaluation models and taxonomies; organizational diagnostic models; web-based employee and organizational survey methods, and computational modeling.

Aroutis N. Foster, PhD *(Michigan State University) Associate Dean for Academic Affairs and Graduate Studies*. Professor. Educational psychology and educational technology, especially the following: Motivation; Technological Pedagogical Content Knowledge (TPACK); Immersive Interactive Digital Environments (simulation, games, virtual realities.

Rajashi Ghosh, PhD *(University of Louisville, Kentucky) Department Chair for Policy, Organization & Leadership*. Associate Professor. Mentoring and leader development, workplace Incivility, workplace learning and development.

John M. Gould, PhD *(University of Pittsburgh) Harrisburg EdD Educational Leadership & Change Program*. Clinical Professor. Change leadership, curriculum re-design, the impact of technology on learning.

Dominic F. Gullo, PhD *(Indiana University)*. Professor. Studying the relative and long-range effects of early schooling experiences in prekindergarten and kindergarten on children's achievement and social adaptation to school routine.

H. Bernard Hall, PhD *(Temple University)*. Assistant Professor. Hip-hop Pedagogy, English Education, Urban Teacher Education.

Penny Hammrich, PhD *(University of Minnesota) Dean*. Distinguished University Professor. Urban education; science education; genetics; gender equity; science knowledge for conceptual teaching; sport science.

Paul Harrington, PhD *(University of Massachusetts, Boston) Director, Center for Labor Markets and Policy*. Professor. Teen and young adult job access; economic outlook, college labor market; workforce development, planning, and development; vocational rehabilitation and job market transition.

Michael J. Haslip, PhD *(Old Dominion University)*. Assistant Professor. Early childhood education, social and emotional learning, child guidance strategies, effects of public pre-school attendance.

Deanna Hill, JD, PhD *(University of Pittsburgh)*. Associate Clinical Professor. Higher education, international education, education law, education policy

Erin Horvat, PhD *(University of California, Los Angeles) Senior Vice Provost for Faculty Affairs*. Professor. Urban education, access and equity, high school dropout, parent involvement/family involvement, community engagement in research.

Jennifer Katz-Buonincontro, PhD *(University of Oregon) Associate Dean of Research*. Associate Professor. Educational administration, leadership development, survey & instrument design.

Larry Keiser, PhD *(Drexel University)*. Assistant Clinical Professor. Education and corporate/business leaders' creativity and entrepreneurial mindsets; creative school/work environments; neuroscience of creativity; everyday creativity for teachers and educators.

Kristy Kelly, PhD *(University of Wisconsin, Madison)*. Associate Clinical Professor. Sociology of gender and development; anthropology of policy; comparative and international education; qualitative research methods; Vietnam and Southeast Asia.

Cameron Kiosoglous, PhD *(Virginia Tech University) Program Director*. Assistant Clinical Professor. Coached on the USRowing National Team staff since 2002, including the 2004, 2008, 2012, and 2016 Olympic Games; coaching development; measuring coaching quality; self-insight and reflective practices; coaching leadership; conference presenter; published author.

Valerie Klein, PhD *(Amherst College)*. Associate Clinical Professor. Mathematics learning and teaching; teacher's use of formative assessment in mathematics; creating opportunities for rich problem solving in the classroom; examining teachers growth and change; qualitative research methods.

Peggy Kong, PhD *(Harvard University)*. Associate Clinical Professor. Comparative and international education, equity in education, family and community, Chinese education and society, sociology of education

Michael G. Kozak, Ed.D. *(Rowan University)*. Assistant Clinical Professor. Leadership, STEAM, online and blended learning environments, systems thinking, experiential learning, K-12 education, and facilitating change

Amanda Lannie, PhD *(Syracuse University)*. Assistant Clinical Professor. Applied behavior analysis and special education; School-based consultation; system-wide interventions as a mechanism for delivery supports to all students; Designing effective and efficient interventions for students with emotional/behavioral disorders.

Vera Lee, EdD *(University of Pennsylvania) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Practitioner Research in online courses to explore inservice/preservice teachers' emerging understandings about issues of diversity; the development of information/digital literacies of urban youth; English language learners.

Bruce Levine, JD *(New York University)*. Associate Clinical Professor. Educational policy, school law, public-private partnerships, intersection of business and education.

Kristine Lewis-Grant, PhD *(Temple University)*. Clinical Professor. Experiences of students of African descent at predominantly white colleges and universities, college access and college student development, youth civic engagement in urban school reform, qualitative research and evaluation.

William Lynch, PhD *(University of Maryland)*. Professor. Curriculum and educational leadership, educational technology, distance learning policy development, higher and adult education.

Constance Lyttle, PhD, JD *(University of Pittsburgh, Duquesne University)*. Clinical Professor. Legal rights of gifted and talented children and children with disabilities; inclusive education of exceptional children; special education mediation; special education IEP/IFSP facilitation; resolution session facilitation

Joy Phillips, PhD *(The University of Texas at Austin)*. Associate Clinical Professor. Visionary leadership in theory and practice, school reform as innovative problem-setting, thinking qualitatively about school reform. thinking about school reform by drawing, Educational Leadership Program Assessment.

Kathleen Provinzano, PhD *(Marywood University)*. Assistant Professor. Educational administration.

Harriette Rasmussen, EdD *(Fielding Graduate University)*. Assistant Clinical Professor. Educational leadership and change.

Lori Severino, EdD *(Neumann University)*. Assistant Professor. Special education, differentiated instruction, reading, Wilson language, multi-sensory instruction, reading comprehension, assessment, adolescent literacy.

Jason Silverman, PhD *(Vanderbilt University)*. Professor. Teaching and learning of advanced mathematical ideas (algebra and calculus); improving teachers' ability to orchestrate and sustain inquiry-based and discussion-based instruction; technology in mathematics education.

Janet Sloand, EdD *(Duquesne University) Department Chair for Teaching, Learning & Curriculum*. Associate Clinical Professor. Special Education Leadership, Trauma-informed care, Parent engagement in special education service delivery.

Toni A. Sondergeld, PhD *(University of Toledo)*. Associate Professor. Cognitive and affective assessment development; program/grant evaluation; high stakes testing measurement; STEM education; urban education

Bridget Sweeney Blakely, PhD *(Temple University)*. Assistant Clinical Professor. Consultation; Positive Behavior Interventions and Supports (PBIS); Response to Intervention (RtI); Systems-level change; performance feedback

Mary Jean Tecce DeCarlo, EdD *(University of Pennsylvania)*. Associate Clinical Professor. Early literacy development, learning differences, knowledge construction, urban education.

Sarah P. Ulrich, EdD *(Saint Joseph's University) Associate Dean of Teacher Education and Undergraduate Affairs*. Clinical Professor. Cross-cultural, language and academic development, school reform, teacher preparation, teacher retention, teacher residencies in urban contexts.

Sheila Vaidya, PhD *(Temple University)*. Professor. Educational psychology, school psychology, research design.

Christina Vorndran, PhD *(Louisiana State University) Program Director, Applied Behavior Analysis and Special Education*. Clinical Professor. Designing effective and efficient community-based interventions, Severe behavior disorders, Functional behavior assessment

Christopher G. Wright, PhD *(Tufts University)*. Assistant Professor. Engineering and science education, Urban education, elementary teacher education.

Emeritus Faculty

Mary Jo Grdina, PhD *(Case Western Reserve University)*. Clinical Professor. Undergraduate studies, science education, curriculum design.

Joyce Pittman, PhD *(Iowa State University of Science and Technology)*. Clinical Professor. Curriculum and instruction K-16; teaching English as a foreign language (TEFL); instructional design business education and administration; industrial and career technology; oral and written communication; research methodology; instructional and assistive technology assessment; online learning pedagogy

Fredricka K. Reisman, PhD *(Syracuse University) School of Education, Founder, Drexel School of Education*. Professor Emerita. Director, Freddie Reisman Center for Translational Research in Creativity and Motivation, Creator and Former Director-Creativity and Innovation Programs, Co-Director-Drexel/Torrance Center for Creativity and Innovation, Drexel University Named Recognition- Freddie Reisman Faculty Scholarly and Creative Activity Awards

DragonsTeach Certification Minor

About the Minor

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 will be prepared to apply for the PA Instructional I 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.

Admission Requirements

Must be a STEM major.

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	Inclusive Practices	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

About the Minor

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 will be prepared to apply for the PA Instructional I 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.

Admission Requirements

Must be a STEM major.

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	Inclusive Practices	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 Minor

About the Minor

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 Instructional I teacher certification in grades 4-8 through the School of Education's other minor, DragonsTeach Middle Years Certification Minor (p. 181).

Program Requirements

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	Inclusive Practices	3.0
EDEX 368 [WI]	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**

DragonsTeach Middle Years Certification Minor

About the Minor

This minor can be coupled with a variety of majors and fulfils the coursework that leads to a PA Instructional I teaching certification in grades 4-8. It will provide the opportunity to learn about teaching middle level grades and to develop core knowledge and practices in education. Candidates will select to focus on certification in two middle level content areas. This minor includes coursework that meets the requirements to be recommended for teacher certification in PA.

Program Requirements

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	Inclusive Practices	3.0
EDEX 368 [WI]	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**

Minor in Education

About the Minor

The minor in Education provides a structured academic opportunity for students who wish to add a fundamental understanding of the field of education as well as practical knowledge in the art and science of teaching and learning to their undergraduate experience.

Designed for students with a strong interest in education and training, the minor will not necessarily lead to the student being recommended for a state teaching certificate; however, should a student decide to also pursue a teaching certificate as a component of their major—or in post-baccalaureate work — the courses required for the minor are applicable to Pennsylvania state certification.

The following courses (EDEX 368 [WI] , EDUC 123, and EDUC 223) require stage 1-2 field experiences. Students must submit current clearances and the appropriate field placement application prior to registering for those courses. For more information regarding stage 1-2 field placements and obtaining clearances, please click on the Field Placement Office website (https://drexel.edu/soe/resources/student-teaching/).

Program Requirements

Required Courses		
EDEX 142	Special Education Foundations: Referral and Assessment	3.0
EDEX 368 [WI]	Literacy and Content Skill Development PK-12	3.0
EDLT 325	Design for Learning with Digital Media	3.0
or EDUC 308	Creating a Positive Classroom Climate	
EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
or EDUC 316	Teaching in Urban Contexts	
EDUC 120	Child Development I: Typical Development	3.0
or EDUC 123	Adolescent Development	
or EDUC 223	Teaching the Middle School Child	
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 322	Evaluation of Instruction	3.0
or EDUC 306	Assessment of Young Children	
EDUC 324	Current Research in Curriculum & Instruction	3.0

or EDUC 365	Foundations in Instructing English Language Learners	
Total Credits		**24.0**

Minor in Sport Coaching Leadership

About the Minor

The minor in Sport Coaching Leadership (SCL), open to all undergraduate students across the University, provides the foundation for the effective coaching and managing of athletes at various levels. The minor is complementary to a variety of degree programs.

Upon completion of the minor, students will have developed the ability to communicate and motivate athletes, enhance the social and emotional growth of athletes, develop sound physical training programs, use sport skills effectively, inform athletes about the principles of good nutrition, reduce injuries by managing roles better, effectively deal with equipment, facilities, scheduling and team logistics and understand the administrative facets of coaching.

Program Requirements

Required Core Courses		
SCL 101	Principles of Coaching	3.0
SCL 102	Principles of Coaching II	3.0
SCL 203	Sports Conditioning	3.0
SCL 210	Prevention and Care of Athletic Injuries	3.0
SCL 495	Coaching Practicum I	3.0
or SCL 496	Coaching Practicum II	
SCL Minor Electives		
Select 9 credits from the following		9.0
PSY 245 [WI]	Sports Psychology	
SCL 201	Sport-Based Youth Development	
SCL 280	Kinesiology	
SCL 314	Sport Performance and Energy Systems	
SCL 315	Athletic Recruiting	
SCL 325	Athlete Leadership Development	
SCL 345	Evaluating Athletes and Teams	
SCL 401	Professional Coaching Portfolio	
SCL 419	Global Coaching Seminar	
Total Credits		**24.0**

Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the Writing Intensive Course List (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/writing-intensive-courses/) at the University Writing Program (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/). (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/drexel-writing-center/) Students scheduling their courses can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.

Minor in STEM Education

About the Minor

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. Additional coursework for teacher certification includes student teaching and required Special Education and English Language Learner courses (an additional 2 courses + student teaching).

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 or English Language Learner Elective		
EDEX 142	Special Education Foundations: Referral and Assessment	3.0
or EDEX 344	Inclusive Practices	
or EDUC 365	Foundations in Instructing English Language Learners	
Total Credits		**25.0**

[*]   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: If pursuing PA teaching certification requirements beyond the STEM Minor, all three Special Education or English Language Learner Elective courses listed above must be taken as well as ESTM 410. In addition, students specifically pursuing secondary level Mathematics PA Teacher Certification must also complete ESTM T380: Functions and Modeling.

Certificate in Creativity and Innovation

Certificate Level: Undergraduate
Admission Requirements: High school diploma
Certificate Type: Certificate
Number of Credits to Completion: 18.0
Instructional Delivery: Online
Calendar Type: Quarter
Expected Time to Completion: 2 years
Financial Aid Eligibility: Not aid eligible
Classification of Instructional Program (CIP) Code: 30.9999
Standard Occupational Classification (SOC) Code: 11-9199

About the Program

The undergraduate certificate in Creativity & Innovation (C&I) provides the fundamentals of creative problem-solving content and competencies indicative of creative leaders. The certificate in C&I provides students with the content knowledge of what creativity is and is not, and the tools and skills to identify and enhance their creative strengths and abilities, while fostering their ability to apply creativity in their personal lives and in a leadership role within the workplace.

Students have the option of completing this undergraduate certificate as a standalone professional development credential or as a concentration within their baccalaureate degree.

Additional Information

For more information about this program, please visit the School of Education (https://drexel.edu/soe/academics/undergraduate/Degrees/Creativity-Innovation-Undergraduate-Certificate/) website.

Program Requirements

Requirements		
Core Courses		
CRTV 301	Foundations in Creativity	3.0
CRTV 302	Tools and Techniques in Creativity	3.0
CRTV 303	Creativity in the Workplace	3.0
Electives		
Select three of the following:		9.0
EDLT 101	Learning, Culture & Technology Workshop I	
EDLT 238	New Media Literacies	
EDLT 343	Play and Learning in a Participatory Culture	
PRST 450	Creative Leadership for Professionals	
WRIT 220 [WI]	Creative Nonfiction Writing	
WRIT 225 [WI]	Creative Writing	
Total Credits		**18.0**

Writing-Intensive Course Requirements

In order to graduate, all students must pass three writing-intensive courses after their freshman year. Two writing-intensive courses must be in a student's major. The third can be in any discipline. Students are advised to take one writing-intensive class each year, beginning with the sophomore year, and to avoid "clustering" these courses near the end of their matriculation. Transfer students need to meet with an academic advisor to review the number of writing-intensive courses required to graduate.

A "WI" next to a course in this catalog may indicate that this course can fulfill a writing-intensive requirement. For the most up-to-date list of writing-intensive courses being offered, students should check the Writing Intensive Course List (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/writing-intensive-courses/) at the University Writing Program (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/). (http://drexel.edu/coas/academics/departments-centers/english-philosophy/university-writing-program/drexel-writing-center/) Students scheduling their courses can also conduct a search for courses with the attribute "WI" to bring up a list of all writing-intensive courses available that term.

Sample Plan of Study

First Year							
Fall	Credits	Winter	Credits	Spring	Credits	Summer	Credits
CRTV 301	3.0	CRTV 302	3.0	CRTV 303	3.0	Professional Elective	3.0
	3		**3**		**3**		**3**

Second Year

Fall	Credits	Winter	Credits
Professional Elective	3.0	Professional Elective	3.0
	3		**3**

Total Credits 18

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