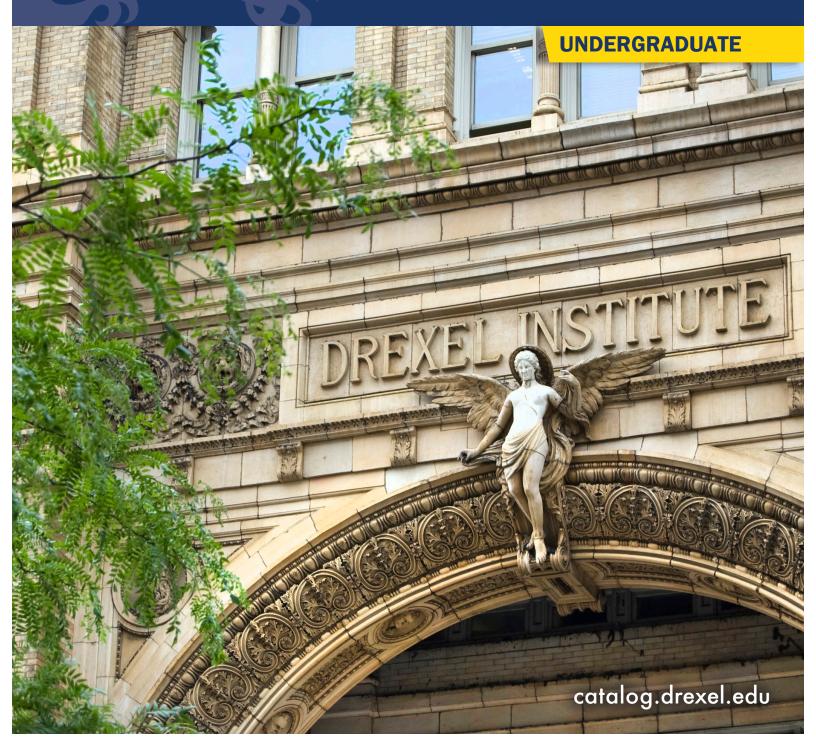


# CATALOG 2022-2023



# 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**

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- Elementary Education (PK4 and Special Education) (BS) / Applied Behavior Analysis (MS) (http://catalog.drexel.edu/ undergraduate/schoolofeducation/elementaryedpk4-specialedbs-appliedbehavioranalysisms/)
- Elementary Education (PK4 and Special Education) (BS) / Teaching, Learning and Curriculum (Advanced Track) MS (http://catalog.drexel.edu/undergraduate/schoolofeducation/ elementaryedpkspecialedbs-teachinglearningcurriculumms/)
- Elementary Education Middle Level (Math/English) (BS) / Global and International Education (MS) (p. 115)
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- Elementary Education Middle Level (Science/Math) (BS) / Global and International Education (MS) (http://catalog.drexel.edu/ undergraduate/schoolofeducation/elemedsciencemathbsglobalandinternationaledms/)
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#### **Certificates**

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#### **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

# **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.

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 coop 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.

#### 4 Elementary Education

**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 (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: 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

General Education/Content R	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
	elect 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
		1.0
EDUC 305 [WI]	Junior Pedagogy Seminar	
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

Student Teaching Seminar I Student Teaching	9.0 9.0
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	3.0
	5.0
Mathematics Methods and Content	3.0
Mathematics Methods and Content: Early Childhood	3.0
Teaching Engineering Concepts to Children	3.0
Family and Community Partnerships	3.0
Senior Pedagogy Seminar	1.0
Foundations in Instructing English Language Learners	3.0
Social Studies Teaching Methods	3.0
Expressive Arts for PK-4	3.0
Early Literacy II	3.0
Engaging the Learner	3.0
	Early Literacy II  Expressive Arts for PK-4  Social Studies Teaching Methods  Foundations in Instructing English Language Learners  Senior Pedagogy Seminar  Family and Community Partnerships  Teaching Englineering Concepts to Children  Mathematics Methods and Content: Early Childhood

\* 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 <sup>*</sup>	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

	13	12	13	
EDUC 411	3.0			
EDUC 409	9.0 SOC 335	3.0 Free electives	10.0	
EDUC 405	1.0 EDUC 410	9.0 ENVS 260	3.0	
Fall	Credits Winter	Credits Spring	Credits	
Fourth Year				
	3	3	14	15
		Elective: ENGL 200 - ENGL 360		
		English (Literature)	3.0 MTED 418	3.0
		PHYS 151	3.0 EDUC 355	3.0
		ESTM 342	3.0 EDUC 338	3.0
MTED 417	3.0 EDUC 336	3.0 EDUC 305	1.0 EDUC 324	3.0

Total Credits 180

# **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** 

# **Education Faculty**

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

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

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

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.

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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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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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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

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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: 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 co	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
Total Olbaits		100.0

- \* 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	3.0 PSY 101	3.0	
	MATH 172	3.0		
	14	17	16	0
Second Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
EDEX 344	3.0 BIO 101 or 162	3.0 EDUC 236	3.0 EDEX 350	3.0
EDEX 349	3.0 COOP 101	1.0 EDUC 326	3.0 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**

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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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

# **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	

Total Credits		180.0
Free Electives		9.0
EDUC 410 [WI]	Student Teaching	9.0
EDUC 409 [WI]	Student Teaching Seminar I	9.0
Student Teaching Experienc		
MTED 418	Mathematics Methods and Content	3.0
MTED 363	Middle Years Mathematics Methods (4-8)	1.5
EDUC 405	Senior Pedagogy Seminar	1.0
EDUC 365	Foundations in Instructing English Language Learners	3.0
EDUC 362	Middle Years Social Studies Methods	1.5
EDUC 361	Middle Years Science Methods	1.5
EDUC 360	English/Language Arts Teaching Methods for the Middle Years	1.5
EDUC 355	Social Studies Teaching Methods	3.0
EDUC 328	Language Arts Processes 4-8	3.0
EDUC 326 [WI]	Language Arts Processes	3.0
EDUC 324	Current Research in Curriculum & Instruction	3.0
EDUC 316	Teaching in Urban Contexts	3.0
EDUC 308	Creating a Positive Classroom Climate	3.0
EDUC 306	Assessment of Young Children	3.0
EDUC 305 [WI]	Junior Pedagogy Seminar	1.0
EDUC 223	Teaching the Middle School Child	3.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 205	Sophomore Pedagogy Seminar	1.0
EDUC 123	Adolescent Development	3.0
EDUC 108	First Year Seminar: Designing Learning Spaces	1.0
EDUC 107	First Year Seminar: Exploring Pedagogies	1.0
EDUC 106	First Year Seminar: A Case of Schools and Cities	1.0
EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDPO 312	Educational Policy, Law & Advocacy	3.0
EDLT 326	Technology Applications for Learning	3.0
EDLT 325	Design for Learning with Digital Media	3.0
EDEX 368 [WI]	Literacy and Content Skill Development PK-12	3.0
EDEX 344	Inclusive Practices	3.0
EDEX 142	Special Education Foundations: Referral and Assessment	3.0
Pedagogy Requirements		
or WRIT 301	Writing Poetry	
WRIT 225 [WI]	Creative Writing	3.0
UNIV T101	The Drexel Experience	1.0
SOC 335	Sociology of Education	3.0
PSY 330	Cognitive Psychology	3.0
PSY 320 [WI]	Educational Psychology	3.0
PSY 101	General Psychology I	3.0
PHYS 151	Applied Physics	3.0
NFS 101	Introduction to Nutrition & Food	1.0
NFS 100	Nutrition, Foods, and Health	2.0
MUSC 130	Introduction to Music	3.0
MATH 205	Survey of Geometry	3.0
or MATH 107	Probability and Statistics for Liberal Arts	
MATH 173	Introduction to Analysis C	3.0
MATH 172	Introduction to Analysis B	3.0
MATH 171	Introduction to Analysis A	3.0
LING 101	Introduction to Linguistics	3.0
HIST 275	History of Pennsylvania	3.0
HIST 201	United States History to 1815	4.0
ENVS 260	Environmental Science and Society	3.0
ENGL 304	Young Adult Fiction	3.0
or ENGL 113	English Composition III	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0

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

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

#### **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

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	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
			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	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
			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.

Avana 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

# **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

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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	Heister Obstace Historica to 4045	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	3.0
HIST 275 LING 101	History of Pennsylvania	3.0
MATH 171	Introduction to Linguistics	3.0
MATH 171 MATH 172	Introduction to Analysis A Introduction to Analysis B	3.0
MATH 173	Introduction to Analysis C	3.0
or MATH 107	Probability and Statistics for Liberal Arts	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
	3	
or WRIT 301	Writing Poetry	
or WRIT 301 Free electives	Writing Poetry	9.0
or WRIT 301 Free electives Pedagogy Requirements	Writing Poetry	9.0
Free electives	Writing Poetry  Special Education Foundations: Referral and Assessment	9.0
Free electives Pedagogy Requirements		
Free electives Pedagogy Requirements EDEX 142	Special Education Foundations: Referral and Assessment	3.0
Free electives  Pedagogy Requirements  EDEX 142  EDEX 344	Special Education Foundations: Referral and Assessment Inclusive Practices	3.0 3.0
Free electives  Pedagogy Requirements  EDEX 142  EDEX 344  EDEX 368 [WI]	Special Education Foundations: Referral and Assessment Inclusive Practices Literacy and Content Skill Development PK-12	3.0 3.0 3.0
Free electives  Pedagogy Requirements  EDEX 142  EDEX 344  EDEX 368 [WI]  EDLT 325	Special Education Foundations: Referral and Assessment Inclusive Practices Literacy and Content Skill Development PK-12 Design for Learning with Digital Media	3.0 3.0 3.0 3.0
Free electives  Pedagogy Requirements  EDEX 142  EDEX 344  EDEX 368 [WI]  EDLT 325  EDLT 326	Special Education Foundations: Referral and Assessment Inclusive Practices Literacy and Content Skill Development PK-12 Design for Learning with Digital Media Technology Applications for Learning	3.0 3.0 3.0 3.0 3.0
Free electives  Pedagogy Requirements  EDEX 142  EDEX 344  EDEX 368 [WI]  EDLT 325  EDLT 326  EDPO 312	Special Education Foundations: Referral and Assessment Inclusive Practices Literacy and Content Skill Development PK-12 Design for Learning with Digital Media Technology Applications for Learning Educational Policy, Law & Advocacy	3.0 3.0 3.0 3.0 3.0 3.0
Free electives  Pedagogy Requirements  EDEX 142  EDEX 344  EDEX 368 [WI]  EDLT 325  EDLT 326  EDPO 312  EDUC 101	Special Education Foundations: Referral and Assessment Inclusive Practices Literacy and Content Skill Development PK-12 Design for Learning with Digital Media Technology Applications for Learning Educational Policy, Law & Advocacy Foundations in Education I: A Historical and Philosophical Perspective	3.0 3.0 3.0 3.0 3.0 3.0
Free electives  Pedagogy Requirements  EDEX 142  EDEX 344  EDEX 368 [WI]  EDLT 325  EDLT 326  EDPO 312  EDUC 101  EDUC 106	Special Education Foundations: Referral and Assessment Inclusive Practices Literacy and Content Skill Development PK-12 Design for Learning with Digital Media Technology Applications for Learning Educational Policy, Law & Advocacy Foundations in Education I: A Historical and Philosophical Perspective First Year Seminar: A Case of Schools and Cities	3.0 3.0 3.0 3.0 3.0 3.0 3.0
Free electives  Pedagogy Requirements  EDEX 142  EDEX 344  EDEX 368 [WI]  EDLT 325  EDLT 326  EDPO 312  EDUC 101  EDUC 106  EDUC 107	Special Education Foundations: Referral and Assessment Inclusive Practices Literacy and Content Skill Development PK-12 Design for Learning with Digital Media Technology Applications for Learning Educational Policy, Law & Advocacy Foundations in Education I: A Historical and Philosophical Perspective First Year Seminar: A Case of Schools and Cities First Year Seminar: Exploring Pedagogies	3.0 3.0 3.0 3.0 3.0 3.0 1.0
Free electives  Pedagogy Requirements  EDEX 142  EDEX 344  EDEX 368 [WI]  EDLT 325  EDLT 326  EDPO 312  EDUC 101  EDUC 106  EDUC 107  EDUC 108	Special Education Foundations: Referral and Assessment Inclusive Practices Literacy and Content Skill Development PK-12 Design for Learning with Digital Media Technology Applications for Learning Educational Policy, Law & Advocacy Foundations in Education I: A Historical and Philosophical Perspective First Year Seminar: A Case of Schools and Cities First Year Seminar: Exploring Pedagogies First Year Seminar: Designing Learning Spaces	3.0 3.0 3.0 3.0 3.0 3.0 1.0
Free electives  Pedagogy Requirements  EDEX 142  EDEX 344  EDEX 368 [WI]  EDLT 325  EDLT 326  EDPO 312  EDUC 101  EDUC 106  EDUC 107  EDUC 108  EDUC 123	Special Education Foundations: Referral and Assessment Inclusive Practices Literacy and Content Skill Development PK-12 Design for Learning with Digital Media Technology Applications for Learning Educational Policy, Law & Advocacy Foundations in Education I: A Historical and Philosophical Perspective First Year Seminar: A Case of Schools and Cities First Year Seminar: Exploring Pedagogies First Year Seminar: Designing Learning Spaces Adolescent Development	3.0 3.0 3.0 3.0 3.0 3.0 1.0 1.0
Free electives  Pedagogy Requirements  EDEX 142  EDEX 344  EDEX 368 [WI]  EDLT 325  EDLT 326  EDPO 312  EDUC 101  EDUC 106  EDUC 107  EDUC 108  EDUC 123  EDUC 205	Special Education Foundations: Referral and Assessment Inclusive Practices Literacy and Content Skill Development PK-12 Design for Learning with Digital Media Technology Applications for Learning Educational Policy, Law & Advocacy Foundations in Education I: A Historical and Philosophical Perspective First Year Seminar: A Case of Schools and Cities First Year Seminar: Exploring Pedagogies First Year Seminar: Designing Learning Spaces Adolescent Development Sophomore Pedagogy Seminar	3.0 3.0 3.0 3.0 3.0 3.0 1.0 1.0 1.0
Free electives  Pedagogy Requirements  EDEX 142  EDEX 344  EDEX 368 [WI]  EDLT 325  EDLT 326  EDPO 312  EDUC 101  EDUC 106  EDUC 107  EDUC 108  EDUC 123  EDUC 205  EDUC 216	Special Education Foundations: Referral and Assessment Inclusive Practices Literacy and Content Skill Development PK-12 Design for Learning with Digital Media Technology Applications for Learning Educational Policy, Law & Advocacy Foundations in Education I: A Historical and Philosophical Perspective First Year Seminar: A Case of Schools and Cities First Year Seminar: Exploring Pedagogies First Year Seminar: Designing Learning Spaces Adolescent Development Sophomore Pedagogy Seminar Diversity and Today's Teacher	3.0 3.0 3.0 3.0 3.0 3.0 1.0 1.0 3.0
Free electives  Pedagogy Requirements  EDEX 142  EDEX 344  EDEX 368 [WI]  EDLT 325  EDLT 326  EDPO 312  EDUC 101  EDUC 106  EDUC 107  EDUC 108  EDUC 123  EDUC 205  EDUC 216  EDUC 223	Special Education Foundations: Referral and Assessment Inclusive Practices Literacy and Content Skill Development PK-12 Design for Learning with Digital Media Technology Applications for Learning Educational Policy, Law & Advocacy Foundations in Education I: A Historical and Philosophical Perspective First Year Seminar: A Case of Schools and Cities First Year Seminar: Exploring Pedagogies First Year Seminar: Designing Learning Spaces Adolescent Development Sophomore Pedagogy Seminar Diversity and Today's Teacher Teaching the Middle School Child	3.0 3.0 3.0 3.0 3.0 3.0 1.0 1.0 3.0 3.0
Free electives  Pedagogy Requirements  EDEX 142  EDEX 344  EDEX 368 [WI]  EDLT 325  EDLT 326  EDPO 312  EDUC 101  EDUC 106  EDUC 107  EDUC 108  EDUC 123  EDUC 205  EDUC 216  EDUC 223  EDUC 305 [WI]	Special Education Foundations: Referral and Assessment Inclusive Practices Literacy and Content Skill Development PK-12 Design for Learning with Digital Media Technology Applications for Learning Educational Policy, Law & Advocacy Foundations in Education I: A Historical and Philosophical Perspective First Year Seminar: A Case of Schools and Cities First Year Seminar: Exploring Pedagogies First Year Seminar: Designing Learning Spaces Adolescent Development Sophomore Pedagogy Seminar Diversity and Today's Teacher Teaching the Middle School Child Junior Pedagogy Seminar	3.0 3.0 3.0 3.0 3.0 3.0 1.0 1.0 3.0 3.0 1.0 3.0 3.0
Free electives  Pedagogy Requirements  EDEX 142  EDEX 344  EDEX 368 [WI]  EDLT 325  EDLT 326  EDPO 312  EDUC 101  EDUC 106  EDUC 107  EDUC 108  EDUC 123  EDUC 216  EDUC 223  EDUC 305 [WI]  EDUC 306	Special Education Foundations: Referral and Assessment Inclusive Practices Literacy and Content Skill Development PK-12 Design for Learning with Digital Media Technology Applications for Learning Educational Policy, Law & Advocacy Foundations in Education I: A Historical and Philosophical Perspective First Year Seminar: A Case of Schools and Cities First Year Seminar: Exploring Pedagogies First Year Seminar: Designing Learning Spaces Adolescent Development Sophomore Pedagogy Seminar Diversity and Today's Teacher Teaching the Middle School Child Junior Pedagogy Seminar Assessment of Young Children Creating a Positive Classroom Climate Teaching in Urban Contexts	3.0 3.0 3.0 3.0 3.0 3.0 1.0 1.0 3.0 1.0 3.0 3.0 3.0 3.0
Free electives  Pedagogy Requirements  EDEX 142  EDEX 344  EDEX 368 [WI]  EDLT 325  EDLT 326  EDPO 312  EDUC 101  EDUC 106  EDUC 107  EDUC 108  EDUC 123  EDUC 223  EDUC 225  EDUC 305 [WI]  EDUC 306  EDUC 308  EDUC 308  EDUC 316  EDUC 324	Special Education Foundations: Referral and Assessment Inclusive Practices Literacy and Content Skill Development PK-12 Design for Learning with Digital Media Technology Applications for Learning Educational Policy, Law & Advocacy Foundations in Education I: A Historical and Philosophical Perspective First Year Seminar: A Case of Schools and Cities First Year Seminar: Exploring Pedagogies First Year Seminar: Designing Learning Spaces Adolescent Development Sophomore Pedagogy Seminar Diversity and Today's Teacher Teaching the Middle School Child Junior Pedagogy Seminar Assessment of Young Children Creating a Positive Classroom Climate	3.0 3.0 3.0 3.0 3.0 3.0 1.0 1.0 3.0 3.0 3.0 3.0 3.0 3.0
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Free electives  Pedagogy Requirements  EDEX 142  EDEX 344  EDEX 368 [WI]  EDLT 325  EDLT 326  EDPO 312  EDUC 101  EDUC 106  EDUC 107  EDUC 108  EDUC 223  EDUC 223  EDUC 223  EDUC 305 [WI]  EDUC 306  EDUC 306  EDUC 324  EDUC 324  EDUC 328  EDUC 328  EDUC 325	Special Education Foundations: Referral and Assessment Inclusive Practices  Literacy and Content Skill Development PK-12  Design for Learning with Digital Media Technology Applications for Learning Educational Policy, Law & Advocacy Foundations in Education I: A Historical and Philosophical Perspective First Year Seminar: A Case of Schools and Cities First Year Seminar: Exploring Pedagogies First Year Seminar: Designing Learning Spaces Adolescent Development Sophomore Pedagogy Seminar Diversity and Today's Teacher Teaching the Middle School Child Junior Pedagogy Seminar Assessment of Young Children Creating a Positive Classroom Climate Teaching in Urban Contexts Current Research in Curriculum & Instruction Language Arts Processes Language Arts Processes 4-8 Social Studies Teaching Methods	3.0 3.0 3.0 3.0 3.0 3.0 1.0 1.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0
Free electives  Pedagogy Requirements  EDEX 142  EDEX 344  EDEX 368 [WI]  EDLT 325  EDLT 326  EDPO 312  EDUC 101  EDUC 106  EDUC 107  EDUC 108  EDUC 223  EDUC 223  EDUC 223  EDUC 305 [WI]  EDUC 306  EDUC 306  EDUC 316  EDUC 324  EDUC 324  EDUC 328  EDUC 325  EDUC 328  EDUC 355  EDUC 355  EDUC 360	Special Education Foundations: Referral and Assessment Inclusive Practices Literacy and Content Skill Development PK-12 Design for Learning with Digital Media Technology Applications for Learning Educational Policy, Law & Advocacy Foundations in Education I: A Historical and Philosophical Perspective First Year Seminar: A Case of Schools and Cities First Year Seminar: Exploring Pedagogies First Year Seminar: Designing Learning Spaces Adolescent Development Sophomore Pedagogy Seminar Diversity and Today's Teacher Teaching the Middle School Child Junior Pedagogy Seminar Assessment of Young Children Creating a Positive Classroom Climate Teaching in Urban Contexts Current Research in Curriculum & Instruction Language Arts Processes Language Arts Processes 4-8 Social Studies Teaching Methods English/Language Arts Teaching Methods for the Middle Years	3.0 3.0 3.0 3.0 3.0 3.0 1.0 1.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3
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Pree electives Pedagogy Requirements  EDEX 142 EDEX 344 EDEX 368 [WI] EDLT 325 EDLT 326 EDPO 312 EDUC 101 EDUC 106 EDUC 107 EDUC 108 EDUC 223 EDUC 225 EDUC 223 EDUC 305 [WI] EDUC 306 EDUC 326 EDUC 326 EDUC 328 EDUC 328 EDUC 328 EDUC 355 EDUC 360 EDUC 361 EDUC 361	Special Education Foundations: Referral and Assessment Inclusive Practices Literacy and Content Skill Development PK-12 Design for Learning with Digital Media Technology Applications for Learning Educational Policy, Law & Advocacy Foundations in Education I: A Historical and Philosophical Perspective First Year Seminar: A Case of Schools and Cities First Year Seminar: Exploring Pedagogies First Year Seminar: Exploring Pedagogies First Year Seminar: Designing Learning Spaces Adolescent Development Sophomore Pedagogy Seminar Diversity and Today's Teacher Teaching the Middle School Child Junior Pedagogy Seminar Oreating a Positive Classroom Climate Teaching in Urban Contexts Current Research in Curriculum & Instruction Language Arts Processes	3.0 3.0 3.0 3.0 3.0 3.0 3.0 1.0 1.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3
Pree electives Pedagogy Requirements  EDEX 142 EDEX 344 EDEX 368 [WI] EDLT 325 EDLT 326 EDPO 312 EDUC 101 EDUC 106 EDUC 107 EDUC 108 EDUC 205 EDUC 223 EDUC 223 EDUC 205 EDUC 305 [WI] EDUC 306 EDUC 308 EDUC 308 EDUC 324 EDUC 326 [WI] EDUC 328 EDUC 328 EDUC 355 EDUC 360 EDUC 361 EDUC 362 EDUC 362 EDUC 365	Special Education Foundations: Referral and Assessment Inclusive Practices Literacy and Content Skill Development PK-12 Design for Learning with Digital Media Technology Applications for Learning Educational Policy, Law & Advocacy Foundations in Education I: A Historical and Philosophical Perspective First Year Seminar: A Case of Schools and Cities First Year Seminar: Exploring Pedagogies First Year Seminar: Designing Learning Spaces Adolescent Development Sophomore Pedagogy Seminar Diversity and Today's Teacher Teaching the Middle School Child Junior Pedagogy Seminar Assessment of Young Children Creating a Positive Classroom Climate Teaching in Urban Contexts Current Research in Curriculum & Instruction Language Arts Processes Language Arts Processes Language Arts Teaching Methods English/Language Arts Teaching Methods Foundations in Instructing English Language Learners	3.0 3.0 3.0 3.0 3.0 3.0 3.0 1.0 1.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3
Pree electives Pedagogy Requirements  EDEX 142 EDEX 344 EDEX 368 [WI] EDLT 325 EDLT 326 EDPO 312 EDUC 101 EDUC 106 EDUC 107 EDUC 108 EDUC 205 EDUC 223 EDUC 221 EDUC 305 [WI] EDUC 306 EDUC 308 EDUC 308 EDUC 324 EDUC 326 [WI] EDUC 328 EDUC 326 EDUC 326 EDUC 326 EDUC 360 EDUC 361 EDUC 362 EDUC 365 EDUC 365 EDUC 365 EDUC 365 EDUC 365 EDUC 365	Special Education Foundations: Referral and Assessment Inclusive Practices Literacy and Content Skill Development PK-12 Design for Learning with Digital Media Technology Applications for Learning Educational Policy, Law & Advocacy Foundations in Education I: A Historical and Philosophical Perspective First Year Seminar: A Case of Schools and Cities First Year Seminar: Exploring Pedagogies First Year Seminar: Designing Learning Spaces Adolescent Development Sophomore Pedagogy Seminar Diversity and Today's Teacher Teaching the Middle School Child Junior Pedagogy Seminar Diversity and Today's Teacher Creating a Positive Classroom Climate Teaching in Urban Contexts Current Research in Curriculum & Instruction Language Arts Processes Language Arts Processes 4-8 Social Studies Teaching Methods English/Language Arts Teaching Methods for the Middle Years Middle Years Science Methods Middle Years Science Methods Foundations in Instructing English Language Learners Senior Pedagogy Seminar	3.0 3.0 3.0 3.0 3.0 3.0 3.0 1.0 1.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3
Pree electives Pedagogy Requirements  EDEX 142 EDEX 344 EDEX 368 [WI] EDLT 325 EDLT 326 EDPO 312 EDUC 101 EDUC 106 EDUC 107 EDUC 108 EDUC 205 EDUC 223 EDUC 223 EDUC 205 EDUC 305 [WI] EDUC 306 EDUC 308 EDUC 308 EDUC 324 EDUC 326 [WI] EDUC 328 EDUC 328 EDUC 355 EDUC 360 EDUC 361 EDUC 362 EDUC 362 EDUC 365	Special Education Foundations: Referral and Assessment Inclusive Practices Literacy and Content Skill Development PK-12 Design for Learning with Digital Media Technology Applications for Learning Educational Policy, Law & Advocacy Foundations in Education I: A Historical and Philosophical Perspective First Year Seminar: A Case of Schools and Cities First Year Seminar: Exploring Pedagogies First Year Seminar: Designing Learning Spaces Adolescent Development Sophomore Pedagogy Seminar Diversity and Today's Teacher Teaching the Middle School Child Junior Pedagogy Seminar Assessment of Young Children Creating a Positive Classroom Climate Teaching in Urban Contexts Current Research in Curriculum & Instruction Language Arts Processes Language Arts Processes Language Arts Teaching Methods English/Language Arts Teaching Methods Foundations in Instructing English Language Learners	3.0 3.0 3.0 3.0 3.0 3.0 3.0 1.0 1.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3

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

First Year

#### 4 year, 1 co-op

i ii st i cai				
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.

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: 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

Total Credits		180.0
Free Electives †		50.0
EDUC 411	Family and Community Partnerships	3.0
EDUC 338	Expressive Arts for PK-4	3.0
EDUC 335	Engaging the Learner	3.0
EDUC 326 [WI]	Language Arts Processes	3.0
EDUC 324	Current Research in Curriculum & Instruction	3.0
EDUC 316	Teaching in Urban Contexts	3.0
EDUC 308	Creating a Positive Classroom Climate	3.0
EDUC 306	Assessment of Young Children	3.0
EDUC 305 [WI]	Junior Pedagogy Seminar	1.0
EDUC 236	Early Literacy I	3.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 210	Early Language Development	3.0
EDUC 205	Sophomore Pedagogy Seminar	1.0
EDUC 123	Adolescent Development	3.0
EDUC 121	Child Development II: Atypical Development	3.0
EDUC 120	Child Development I: Typical Development	3.0
EDUC 108	First Year Seminar: Designing Learning Spaces	1.0
EDUC 107	First Year Seminar: Exploring Pedagogies	1.0
EDUC 106	First Year Seminar: A Case of Schools and Cities	1.0
EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDPO 312	Educational Policy, Law & Advocacy	3.0
EDLT 325	Design for Learning with Digital Media	3.0
EDEX 344	Inclusive Practices	3.0
EDEX 142	Special Education Foundations: Referral and Assessment	3.0
Pedagogy		
UNIV T101	The Drexel Experience *	1.0
SOC 335	Sociology of Education	3.0
PSY 330	Cognitive Psychology	3.0
PSY 320 [WI]	Educational Psychology	3.0
PSY 101	General Psychology I	3.0
PHYS 151	Applied Physics	3.0
& NFS 101	and Introduction to Nutrition & Food	
NFS 100	Nutrition, Foods, and Health	3.0
MUSC 130	Introduction to Music	3.0
or MATH 107	Probability and Statistics for Liberal Arts	
MATH 173	Introduction to Analysis C	3.0
MATH 172	Introduction to Analysis B	3.0
MATH 171	Introduction to Analysis A	3.0
HIST 275	History of Pennsylvania	3.0
ENVS 260	Environmental Science and Society	3.0
English (Literature) Elective **		3.0
or ENGL 113	English Composition III	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 112	English Composition II	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 111	English Composition I	
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
ECON 201	Principles of Microeconomics	4.0
COOP 101	Career Management and Professional Development *	1.0
COM 111	Principles of Communication	3.0

\* 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** 

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

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

#### 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	1.0 EDUC 335	3.0
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

<sup>\*</sup> 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.

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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.

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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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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	e 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: Se	elect 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 Cour	rses	
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

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	g
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

#### **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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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**

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

More information is available at the School of Education (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

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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: 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**

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

### **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	Cells and Biomolecules	5.0
& BIO 134	and Cells and Biomolecules Lab	
BIO 132 & BIO 135	Genetics and Evolution and Genetics and Evolution Lab	5.0
& BIO 133		5.0
& 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 288         Evolutionary Skolozy & Human Health         2.0           BIO 398         Biochministy Laboratory         2.0           BIO 373         Developmental Biology         2.0           BIO 444         Structure and Function of Biomelecules         2.0           BIOL 454         Caneral Chemistry I         4.5           CHEM 101         Caneral Chemistry I         4.0           CHEM 242         Organic Chemistry I         4.0           CHEM 243         Organic Chemistry Laboratory I         4.0           CHEM 244         Organic Chemistry Laboratory II         4.0           CHEM 245         Organic Chemistry Laboratory II         4.0           CHEM 246         Organic Chemistry Laboratory II         4.0           CHEM 247         Organic Chemistry Laboratory II         4.0           CHEM 248         Organic Chemistry Laboratory II         4.0           CHEM 249         Organic Chemistry Laboratory II         4.0           ENN 280         Organic Chemistry Laboratory II         4.0           ENN 2	Total Credits		195.0
80 93 09         Bockmistery Laboratory         20           80 373         Developmental Biology Lab         20           80 404         Oncolognetial Biology Lab         20           80 404         Structure and Function of Biomolecules         30           CHEM 101         General Chemistry I         45           CHEM 102         Gonard Chemistry II         40           CHEM 241         Organic Chemistry I         40           CHEM 242         Organic Chemistry Laboratory I         30           CHEM 243         Organic Chemistry Laboratory I         30           CHEM 243         Organic Chemistry Laboratory I         30           CHEM 243         Organic Chemistry Laboratory I         30           ENVE 284         Physiological and Propulation Ecology         30           ENVE 285         Physiological and Propulation Ecology         30           ENVE 382         Introductory Physics II         40           ENVE 382         Physiological and Propulation Ecology         30           ENVE 382         Problem Ecology         30           ENVE 382         Problem Ecology         30           ENVE 382         Problem Ecology Ecology         30           ENVE 382         Problem Ecology Ecology	EDUC 410 [WI]	Student Teaching	9.0
BOS 936         Biochemistry Laboratory         2.0           BOS 737         Developmental Biokoya         2.0           BO 440         Structure and Function of Biomolecules         3.0           CHEM 101         Chemat Chemistry II         3.0           CHEM 102         General Chemistry II         4.5           CHEM 124         Organic Chemistry II         4.0           CHEM 242         Organic Chemistry II         3.0           CHEM 243         Organic Chemistry Laboratory I         3.0           CHEM 244         Organic Chemistry Laboratory II         3.0           CHEM 245         Probagony Experiment         3.0           CHEM 245         Probagony Experiment         3.0           DEVE 352         Development Pixel II         3.0           DEV 245         Development Pixel II </td <td>EDUC 409 [WI]</td> <td>Student Teaching Seminar I</td> <td>9.0</td>	EDUC 409 [WI]	Student Teaching Seminar I	9.0
BO 305         Biochamistry Laboratory         20           BIO 373         Developmental Biology         20           BIO 440         Structure and Function of Biomolecules         40           BIO 440         Structure and Function of Biomolecules         35           CHEM 107         General Chemistry II         45           CHEM 1241         Organic Chemistry II         40           CHEM 242         Organic Chemistry II         40           CHEM 243         Organic Chemistry Laboratory I         30           CHEM 244         Organic Chemistry Laboratory I         30           CHEM 245         Organic Chemistry Laboratory II         30           CHEM 245	Student Teaching Experien	nce	
BIO 378         Bevolamental Biology         3.0           BIO 374         Devolamental Biology Lab         2.0           BIO 494         Structure and Function of Biomolecules         4.0           CHEM 101         Ceneral Chemistry I         4.5           CHEM 102         General Chemistry I         4.5           CHEM 241         Organic Chemistry I         4.0           CHEM 242         Organic Chemistry I         4.0           CHEM 243         Organic Chemistry Laboratory I         3.0           CHEM 244         Organic Chemistry Laboratory I         3.0           CHEM 245         Organic Chemistry Laboratory II         3.0           CHEM 246         Organic Chemistry Laboratory II         3.0           CHEM 247         Organic Chemistry Laboratory II         3.0           CHEM 248         Physiological and Population Ecology         3.0           ENVS 230         Introductory Physics I         3.0           ENVS 230         Introductory Physics I         3.0           EDEX 142         Inductory Physics I         3.0	EDUC 405	Senior Pedagogy Seminar	1.0
B0 336         Bickenistry Laboratory         2.0           B10 373         Devolopmental Biology         3.0           B10 44         Structure and Function of Biomolecules         4.0           B10 44         Structure and Function of Biomolecules         4.0           CHEM 101         General Chemistry I         4.5           CHEM 124         Organic Chemistry I         4.0           CHEM 244         Organic Chemistry I         4.0           CHEM 245         Organic Chemistry Laboratory I         3.0           ENVS 230         Organic Chemistry Laboratory I         3.0           ENVS 245         Productory Physics II         3.0           ENVS 245         Productory Physics I         3.0           ENVS 245         Secia	EDUC 365	Foundations in Instructing English Language Learners	3.0
BIO 336         Biochemistry Laboratory         2.0           BIO 373         Developmental Biology         3.0           BIO 494         Structure and Function of Biomolecules         4.0           CHEM 101         Ceneral Chemistry II         4.5           CHEM 102         Ceneral Chemistry II         4.5           CHEM 244         Organic Chemistry II         4.0           CHEM 245         Organic Chemistry Laboratory II         3.0           CHEM 246         Organic Chemistry Laboratory II         3.0           CHEM 247         Organic Chemistry Laboratory II         3.0           CHEM 248         Organic Chemistry Laboratory II         3.0           CHEM 249         Organic Chemistry Laboratory II         3.0           CHEM 245         Organic Chemistry Laboratory II         3.0           CHEM 246         Organic Chemistry Laboratory II         3.0           CHEM 247         Organic Chemistry Laboratory II         3.0           CHEM 248         Include Organic Structure II         3.0           CHEM 249         Physiological and Population Ecology         3.0           CHEM 249         Include Organic Structure II         3.0           CHEM 249         Physiological and Population Ecology         3.0	EDUC 324	Current Research in Curriculum & Instruction	3.0
BIO 306         Biochmistry Laboratory         2.0           BIO 373         Developmental Biology         2.0           BIO 374         Developmental Biology Lah         2.0           BIO 404         Structure and Function of Biomolecules         4.0           CHEM 101         General Chemistry I         5.5           CHEM 242         Organic Chemistry I         4.0           CHEM 243         Organic Chemistry Laboratory I         4.0           CHEM 244         Organic Chemistry Laboratory I         3.0           CHEM 245         Organic Chemistry Laboratory I         3.0           CHEM 246         Organic Chemistry Laboratory II         3.0           CHEM 247         Organic Chemistry Laboratory II         3.0           CHEM 248         Organic Chemistry Laboratory II         3.0           CHEM 249         Physiological and Populations For Laboratory II         3.0           CHEM 249         Physiological and Populations For Laboratory Physics I         3.0	EDUC 322	Evaluation of Instruction	3.0
BIO 308         Biochemistry Laboratory         2.0           BIO 373         Developmental Biology         3.0           BIO 404         Developmental Biology Lab         3.0           BIO 404         Structure and Function of Biomolecules         4.0           CHEM 101         General Chemistry I         5.5           CHEM 102         General Chemistry I         5.5           CHEM 241         Organic Chemistry I         4.0           CHEM 242         Organic Chemistry Laboratory I         3.0           CHEM 243         Organic Chemistry Laboratory I         3.0           CHEM 244         Organic Chemistry Laboratory I         3.0           CHEM 245         Organic Chemistry Laboratory I         3.0           CHEM 245         Organic Chemistry Laboratory I         3.0           CHEM 246         Organic Chemistry Laboratory I         3.0           CHEM 247         Physiological and Population Ecology         3.0           ENVS 230         Introductory Physics I         3.0           ENVS 241         Introductory Physics I         3.0           EDEX 342         Physiological and Populations Ecology         3.0           EDEX 342         Introductory Physics I         3.0           EDEX 342         Decisi	EDUC 316	Teaching in Urban Contexts	3.0
BIO 308         Bio chemistry Laboratory         20           BIO 373         Developmental Biology         30           BIO 374         Developmental Biology Lab         20           BIO 404         Developmental Biology Lab         20           BIO 404         Structure and Function of Biomolecules         40           CHEM 101         General Chemistry I         45           CHEM 242         Organic Chemistry I         46           CHEM 243         Organic Chemistry Laboratory I         40           CHEM 244         Organic Chemistry Laboratory I         40           CHEM 245         Organic Chemistry Laboratory II         40           CHEM 245         A United Active Chemistry Laboratory II         40           CHEM 245	EDUC 315	Secondary Science Teaching Methods	3.0
BIO 308         Biochmistry Laboratory         20           BIO 373         Developmental Biology         30           BIO 374         Developmental Biology Lab         20           BIO 404         Structure and Function of Biomolecules         40           CHEM 101         General Chemistry I         35           CHEM 102         General Chemistry II         40           CHEM 244         Organic Chemistry II         40           CHEM 242         Organic Chemistry Laboratory I         40           CHEM 243         Organic Chemistry Laboratory I         30           CHEM 244         Organic Chemistry Laboratory I         30           CHEM 245         Organic Chemistry Laboratory I         30           CHEM 246         Organic Chemistry Laboratory I         30           CHEM 247         Organic Chemistry Laboratory I         30           CHEM 248         Organic Chemistry Laboratory I         30           CHEM 249         Organic Chem	EDUC 308	Creating a Positive Classroom Climate	3.0
BIO 306         Biochmistry Laboratory         2           BIO 373         Developmental Biology         3           BIO 374         Developmental Biology Lab         20           BIO 404         Structure and Function of Biomolecules         4           CHEM 101         General Chemistry I         3.5           CHEM 102         General Chemistry II         4.5           CHEM 242         Organic Chemistry II         4.0           CHEM 242         Organic Chemistry Laboratory I         3.0           CHEM 243         Organic Chemistry Laboratory II         3.0           CHEM 244         Organic Chemistry Laboratory II         3.0           CHEM 245         Organic Chemistry Laboratory II         3.0           CHEM 246         Organic Chemistry Laboratory II         3.0           CHEM 247         Organic Chemistry Laboratory II         3.0           CHEM 248         Organic Chemistry Laboratory II         3.0           CHEM 249         Physiological and Population Ecology         3.0           DNY 281         Introductory Physics II         3.0           DNY 282         Physiological MacPortagoratory Physics II         3.0           DEX 142         Special Education Foundations: Referral and Assessment         3.0	EDUC 305 [WI]	Junior Pedagogy Seminar	1.0
BIO 306         Biochemistry Laboratory         20           BIO 373         Developmental Biology         3           BIO 374         Developmental Biology Lab         3           BIO 404         Developmental Biology Lab         4           BIO 404         Structure and Function of Biomolecules         4           CHEM 101         General Chemistry I         3.5           CHEM 102         Organic Chemistry I         4.5           CHEM 244         Organic Chemistry Laboratory I         4.0           CHEM 244         Organic Chemistry Laboratory I         3.0           CHEM 244         Organic Chemistry Laboratory II         3.0           CHEM 245         Organic Chemistry Laboratory II         3.0           CHEM 246         Organic Chemistry Laboratory II         3.0           CHEM 247         Organic Chemistry Laboratory II         3.0           CHEM 248         Organic Chemistry Laboratory II         3.0           CHEM 249         Organic Chemistry Laboratory II         3.0           CHEM 244         Directology         3.0           BVPS 230         Directology         3.0           BVPS 241         Introductory Physics I         3.0           DEV 242         Pack 242         3.0     <	EDUC 223	Teaching the Middle School Child	3.0
BIO 306         Biochemistry Laboratory         2.0           BIO 373         Developmental Biology         3.0           BIO 374         Developmental Biology Lab         2.0           BIO 374         Structure and Function of Biomolecules         4.0           CHEM 101         General Chemistry I         4.0           CHEM 102         General Chemistry I         4.5           CHEM 244         Organic Chemistry I         4.0           CHEM 244         Organic Chemistry I Laboratory I         3.0           CHEM 245         Organic Chemistry Laboratory I         3.0           ENNS 230         General Cology         3.0           ENNS 230         General Cology         3.0           ENNS 244         Physiological and Population Ecology         3.0           ENNS 250         Introductory Physics I         3.0           ENNS 245         Introductory Physics I         3.0           EDX 142         Special Education Foundations: Referral and Assessment         3.0           EDX 243         Despital Education Foundations: Referral and Assessment         3.0           EDX 344         Interpractical Education Foundations: Referral and Assessment         3.0           EDX 345         Design for Learning with Diplat Media         3.0	EDUC 216	Diversity and Today's Teacher	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         4.5           CHEM 102         General Chemistry I         4.5           CHEM 241         Organic Chemistry I         4.0           CHEM 242         Organic Chemistry I aboratory I         4.0           CHEM 243         Organic Chemistry Laboratory I         3.0           CHEM 244         Organic Chemistry Laboratory II         3.0           ENNS 284         Organic Chemistry Laboratory II         3.0           ENNS 284         Physiological and Population Ecology         3.0           ENNS 285         Introductory Physics I         3.0           EDEX 386         Introductory Physics I         3.0           EDEX 382         Introductory Physics I         3.0           EDEX 342	EDUC 205	Sophomore Pedagogy Seminar	1.0
BIO 306         Biochemistry Laboratory         2.0           BIO 373         Developmental Biology         3.0           BIO 374         Developmental Biology Lab         3.0           BIO 404         Structure and Function of Biomolecules         4.0           CHEM 101         General Chemistry I         4.5           CHEM 102         General Chemistry I         4.5           CHEM 244         Organic Chemistry I         4.0           CHEM 245         Organic Chemistry Laboratory I         3.0           CHEM 246         Organic Chemistry Laboratory I         3.0           CHEM 247         Organic Chemistry Laboratory II         3.0           ENVS 230         General Ecotogy         3.0           ENVS 230         Chernal Ecotogy         3.0           ENVS 234         Phys 152         1.0         4.0           PHYS 152         Introductory Physics II         4.0           PHYS 153         Introductory Physics II         4.0           DEX 142         Special Education Foundations: Referral and Assessment         3.0           EDEX 142         Special Education Foundations: Referral and Assessment         3.0           EDEX 142         Special Education Foundations: Referral and Assessment         3.0	EDUC 123	Adolescent Development	3.0
BIO 306         Biochemisty Laboratory         3.0           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 Laboratory I         3.0           CHEM 243         Organic Chemistry Laboratory II         3.0           CHEM 244         Organic Chemistry Laboratory II         3.0           CHEM 245         Organic Chemistry Laboratory II         3.0           ENNS 230         General Ecology         3.0           ENNS 240         Introductory Physics I         3.0           PHYS 153         Introductory Physics I         4.0           PHYS 153         Introductory Physics I         3.0           EDEX 342         Special Education Foundations: Referral and Assessment         3.0           EDEX 343         Inclusive Practices         3.0           EDEX 348 [W]         Interview Practices         3.0           EDEX 348 [W]         Interva and Content S	EDUC 113	Organizational Structure of Secondary Schools	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 I         4.0           CHEM 243         Organic Chemistry Laboratory I         3.0           CHEM 244         Organic Chemistry Laboratory I         3.0           CHEM 245         Organic Chemistry Laboratory II         3.0           ENEW 230         Organic Chemistry Laboratory II         3.0           ENYS 230         Organic Chemistry Laboratory II         3.0           ENYS 230         Organic Chemistry Laboratory II         3.0           ENYS 230         Physiological and Population Ecology         3.0           ENYS 240         Introductory Physics I         3.0           ENYS 241         Introductory Physics II         3.0           EDEX 342         Introductory Physics II         3.0           EDEX 342         Introductory Phys	EDUC 108	First Year Seminar: Designing Learning Spaces	1.0
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 I         4.5           CHEM 241         Organic Chemistry I         4.0           CHEM 242         Organic Chemistry Laboratory I         3.0           CHEM 243         Organic Chemistry Laboratory II         3.0           ENWS 230         General Ecology         3.0           ENWS 284         Physiological and Population Ecology         3.0           ENWS 152         Introductory Physics I         4.0           PHYS 153         Introductory Physics I         3.0           EDEX 142         Special Education Foundations: Referral and Assessment         3.0           EDEX 384         Inclusive Practices         3.0           EDEX 385         Juliany Content Skill Development PK-12         3.0           EDEX 386         Design for Learning with Digital Media         3.0           EDLT 326         Eigen for Learning with Digital Media         3.0           EDLT 326	EDUC 107	First Year Seminar: Exploring Pedagogies	1.0
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         4.5           CHEM 102         General Chemistry II         4.5           CHEM 241         Organic Chemistry I         4.0           CHEM 242         Organic Chemistry I         4.0           CHEM 243         Organic Chemistry Laboratory I         3.0           CHEM 244         Organic Chemistry Laboratory I         3.0           ENVS 230         General Ecology         3.0           ENVS 230         General Ecology         3.0           PHYS 152         Introductory Physics I         4.0           PHYS 152         Introductory Physics I         4.0           PHYS 152         Introductory Physics I         4.0           PHYS 152         Introductory Physics I         3.0           EDEX 342         Special Education Foundations: Referral and Assessment         3.0           EDEX 343         Inclusive Practices         3.0           EDEX 346 Wijl         Literacy and Content Skill Development PK-12	EDUC 106	First Year Seminar: A Case of Schools and Cities	1.0
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 Laboratory I         3.0           CHEM 243         Organic Chemistry Laboratory I         3.0           CHEM 245         Organic Chemistry Laboratory II         3.0           ENVS 230         General Ecology         3.0           ENVS 230         Physiological and Population Ecology         3.0           ENVS 244         Physiological and Population Ecology         3.0           PHYS 152         Introductory Physics I         4.0           PHYS 152         Introductory Physics II         4.0           PEX 142         Special Education Foundations: Referral and Assessment         3.0           EDEX 343         Inclusive Practices         3.0           EDEX 346 [WI]         Literacy and Content Skill Development PK-12         3.0           EDEX 3	EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	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         4.0           CHEM 241         Organic Chemistry I         4.0           CHEM 242         Organic Chemistry Laboratory I         3.0           CHEM 243         Organic Chemistry Laboratory I         3.0           ENVS 230         General Ecology         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 I         4.0           EDEX 142         Special Education Foundations: Referral and Assessment         3.0           EDEX 343         Inclusive Practices         3.0           EDEX 368 [WI]         Literacy and Content Skill Development PK-12         3.0           EDEX 125         Design for Learning with Digital Media         3.0	EDPO 312	Educational Policy, Law & Advocacy	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 I         4.0           CHEM 243         Organic Chemistry Laboratory I         3.0           CHEM 244         Organic Chemistry Laboratory I         3.0           ENVS 230         General Ecology         3.0           ENVS 230         General Ecology         3.0           ENYS 284         Physiological and Population Ecology         3.0           PHYS 152         Introductory Physics I         4.0           PHYS 153         Introductory Physics I         4.0           Pedagogy Requirements         5.0           EDX 142         Special Education Foundations: Referral and Assessment         3.0           EDX 348 [WI]         Iclieracy and Content Skill Development PK-12         3.0	EDLT 326	Technology Applications for Learning	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 Laboratory I       3.0         CHEM 243       Organic Chemistry Laboratory II       3.0         CHEM 244       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       4.0         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
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 II       4.0         CHEM 242       Organic Chemistry Laboratory I       3.0         CHEM 243       Organic Chemistry Laboratory I       3.0         CHEM 245       Organic Chemistry Laboratory II       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       4.0         EDX 142       Special Education Foundations: Referral and Assessment       3.0	EDEX 368 [WI]	Literacy and Content Skill Development PK-12	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 Laboratory I         3.0           CHEM 243         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         4.0	EDEX 344	Inclusive Practices	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 Laboratory I         3.0           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	EDEX 142	Special Education Foundations: Referral and Assessment	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 I         4.0           CHEM 244         Organic Chemistry Laboratory I         3.0           CHEM 245         Organic Chemistry Laboratory II         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	Pedagogy Requirements		
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 Laboratory I         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 153	Introductory Physics II	4.0
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 I       4.0         CHEM 244       Organic Chemistry Laboratory I       3.0         CHEM 245       Organic Chemistry Laboratory II       3.0         ENVS 230       General Ecology       3.0	PHYS 152	Introductory Physics I	4.0
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 Laboratory I       4.0         CHEM 244       Organic Chemistry Laboratory I       3.0         CHEM 245       Organic Chemistry Laboratory II       3.0	ENVS 284	Physiological and Population Ecology	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 Laboratory I         4.0           CHEM 244         Organic Chemistry Laboratory I         3.0	ENVS 230	General Ecology	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 245	Organic Chemistry Laboratory II	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 244	Organic Chemistry Laboratory I	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 242	Organic Chemistry II	4.0
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 241	Organic Chemistry I	4.0
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 102	General Chemistry II	4.5
BIO 306         Biochemistry Laboratory         2.0           BIO 373         Developmental Biology         3.0           BIO 374         Developmental Biology Lab         2.0	CHEM 101	General Chemistry I	3.5
BIO 306         Biochemistry Laboratory         2.0           BIO 373         Developmental Biology         3.0	BIO 404	Structure and Function of Biomolecules	4.0
BIO 306 Biochemistry Laboratory 2.0	BIO 374	Developmental Biology Lab	2.0
, 0,	BIO 373	Developmental Biology	3.0
BIO 228 Evolutionary Biology & Human Health 3.0	BIO 306	Biochemistry Laboratory	2.0
	BIO 228	Evolutionary Biology & Human Health	3.0

\* 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.

#### **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/).

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 131	5.0 BIO 132	5.0 BIO 133	5.0 VACATION	
& BIO 134	& BIO 135	& BIO 136		
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** 

### 4 year, no co-op

First Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
BIO 131	5.0 BIO 132	5.0 BIO 133	5.0 VACATION	
& BIO 134	& BIO 135	& BIO 136		
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

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

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

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** 

# **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.

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

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: 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**

3		
General Education Requirem	nents	
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	en 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

Total Credits		186.0
EDUC 410 [WI]	Student Teaching (Chemistry)	9.0
EDUC 409 [WI]	Student Teaching Seminar I	9.0
Student Teaching Experien	nces	
EDUC 405	Senior Pedagogy Seminar	1.0
EDUC 365	Foundations in Instructing English Language Learners	3.0
EDUC 324	Current Research in Curriculum & Instruction	3.0
EDUC 322	Evaluation of Instruction	3.0
EDUC 316	Teaching in Urban Contexts	3.0
EDUC 315	Secondary Science Teaching Methods	3.0
EDUC 308	Creating a Positive Classroom Climate	3.0
EDUC 305 [WI]	Junior Pedagogy Seminar	1.0
EDUC 223	Teaching the Middle School Child	3.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 205	Sophomore Pedagogy Seminar	1.0
EDUC 123	Adolescent Development	3.0
EDUC 113	Organizational Structure of Secondary Schools	3.0
EDUC 108	First Year Seminar: Designing Learning Spaces	1.0
EDUC 107	First Year Seminar: Exploring Pedagogies	1.0
EDUC 106	First Year Seminar: A Case of Schools and Cities	1.0
EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDPO 312	Educational Policy, Law & Advocacy	3.0
EDLT 326	Technology Applications for Learning	3.0

\* 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	4.0 EDEX 368	3.0 EDLT 325	3.0

	14.5	12	14	
		PSY 320	3.0	
		HIST 289	4.0	
ENGL 200 - ENGL 329	3.0	ENVS 401	3.0	
EDUC 409	9.0 EDUC 410	9.0 EDUC 405	1.0	
CHEM 357	2.5 CHEM 420	3.0 CHEM 421	3.0	
Fall	Credits Winter	Credits Spring	Credits	
Fourth Year	•	•		
	3	3	13	13
		PHYS 201	4.0 PHIL 251	3.0
		EDUC 316	3.0 EDUC 324	3.0
EDUC 315	3.0 CHEM 244	3.0 EDLT 326	3.0 EDPO 312	3.0
COOP EXPERIENCE	COOP EXPERIENCE	CHEM 245	3.0 CHEM 253	4.0
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
Third Year			-	
2500 000	19	13	15	17
EDUC 365	3.0			
EDUC 223	3.0			
EDUC 205	1.0	F1113 101	4.0 F1113 102	4.0
EDEX 344	3.0	PHYS 101	4.0 PHYS 102	4.0
COOP 101*	1.0 MATH 200	4.0 EDUC 308	3.0 PHEV 145	4.0
CHEM 230	4.0 EDUC 216	3.0 EDUC 305	1.0 EDUC 322	3.0

**Total Credits 186** 

\* 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

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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.

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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.

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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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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%7C637592777068701188%7CUnknown %7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTil6lk1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=jvgl5KX1BeChKo %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	Cells and Biomolecules	
& BIO 134	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	General Chemistry I	
& CHEM 102	and General Chemistry II	
& CHEM 103	and General Chemistry III	
PHYS 101	Fundamentals of Physics I	
& PHYS 102 & PHYS 201	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	0.0
CS 172	Computer Programming II	3.0
00 112	Computer i regianning ii	5.0
or CS 176	Advanced Computer Programming II	
or CS 176 CS 260	Advanced Computer Programming II	3.0
or CS 176 CS 260 CS 265	Advanced Computer Programming II  Data Structures  Advanced Programming Tools and Techniques	3.0 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 Require	ements	
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

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.

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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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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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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 (*lowa 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**

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

182.0-184.0

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 (opti	ion 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 Experien		
EDUC 409 [WI]	Student Teaching Seminar I	9.0
EDUC 410 [WI]	Student Teaching	9.0
Free Elective		3.0

\* 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.

**Total Credits** 

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

Firet Voar

#### 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.

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#### 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.

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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 **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 Calculus II **MATH 122** 4.0 **MATH 123** Calculus III 4.0 **PHIL 251 Ethics** 3.0 General Psychology I 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] EDLT 325	Literacy and Content Skill Development PK-12	3.0 3.0
EDLT 326	Design for Learning with Digital Media  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	es	
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

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

# **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: 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.

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 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 Composition and Rhetoric II: Advanced Research and Evidence-Based Writing **ENGL 102** 3.0 or FNGL 112 **English Composition II ENGL 103** Composition and Rhetoric III: Themes and Genres 3.0 or ENGL 113 English elective course between 200-329 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 Calculus II **MATH 122** 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	e	
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	1.0 CHEM 102	4.5
EDUC 223	3.0 MATH 201	4.0 EDUC 308	3.0 EDLT 325	3.0
EDUC 365	3.0	MATH 205	3.0 EDUC 322	3.0
HIST 289	4.0	MATH 210	4.0 MTED 428	3.0
MATH 200	4.0			
	19	14	17.5	17.5
Third Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE	COOP EXPERIENCE	EDLT 326	3.0 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

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.

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

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.

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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 **PSY 101** General Psychology I 3.0

PSY 320 [WI]	Educational Psychology	3.0
UNIV T101	The Drexel Experience	1.0
Science Requirements	The Brood Experience	1.0
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	Qualitati inedialite	0
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		
J .		
EDUC 409 [WI]	Student Teaching Seminar I	9.0
EDUC 409 [WI] EDUC 410 [WI]	Student Teaching Seminar I Student Teaching	9.0 9.0

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

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

#### **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** 

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.

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

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.

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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.

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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

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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.

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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

#### **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

DSV 150	Introduction to Social Povohology	2.2
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 UNIV T101	Sociology of Education	3.0
	The Drexel Experience	1.0
Social Studies Content Requir	rments:	0.0
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	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
	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

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.

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

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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 / 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

General Biology I

- · 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.

or BIO 161

BIO 404	Applied Dislocical Diversity Coolegy 9 Evolution	2.0
BIO 101 or BIO 162	Applied Biological Diversity, Ecology & Evolution	3.0
CHEM 111	General Biology II  General Chemistry I	4.0
CIVC 101	·	1.0
COM 111	Introduction to Civic Engagement	3.0
COOP 101	Principles of Communication  Career Management and Professional Development *	1.0
ECON 201		4.0
ENGL 101	Principles of Microeconomics  Composition and Rhotoria I: Inquiry and Evaluatory Records	3.0
or ENGL 111	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
ENGL 102	English Composition I	3.0
or ENGL 112	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
ENGL 103	English Composition II	3.0
or ENGL 113	Composition and Rhetoric III: Themes and Genres	3.0
ENVS 260	English Composition III	3.0
HIST 275	Environmental Science and Society  History of Pennsylvania	3.0
MATH 171	History of Pennsylvania	3.0
MATH 171 MATH 172	Introduction to Analysis A	3.0
MATH 172 MATH 173	Introduction to Analysis B	3.0
or MATH 107	Introduction to Analysis C	3.0
MUSC 130	Probability and Statistics for Liberal Arts	3.0
NFS 100	Introduction to Music  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 cou	irse between ENGL 200 - ENGL 360	3.0
Free electives		10.0
Pedagogy Requirements		0.0
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	Could Studies Leaching Methods	3.0
	Social Studies Teaching Methods	
EDUC 365	Foundations in Instructing English Language Learners	3.0
EDUC 405	Foundations in Instructing English Language Learners Senior Pedagogy Seminar	3.0 1.0
EDUC 405 EDUC 411	Foundations in Instructing English Language Learners Senior Pedagogy Seminar Family and Community Partnerships	3.0 1.0 3.0
EDUC 405	Foundations in Instructing English Language Learners Senior Pedagogy Seminar	3.0 1.0

Total Credits		226
ABA 642	Seminar in Applied Behavior Analysis	
ABA 641	Therapeutic Approaches Using Principles of Behavior Analysis	
ABA 640	An Analysis of Verbal Behavior	
Advanced Topics in ABA		
EDEX 562	Behavior & Sensory Support: Autism Spectrum Disorders	
EDEX 560	Communication & Language Interventions: Autism Spectrum Disorders	
EDEX 558	Characteristics & Methods: High Functioning Autism	
EDEX 556	Characteristics & Methods: Autism	
EDEX 555	Teaching Students with Autism Spectrum Disorder	
Select 3 of the following:		
Autism Spectrum Disorders	•	
EDEX 583	Collaboration and Community Based Practices to Promote Social Emotion Wellness	
EDEX 582	Evidence-Based School Interventions and Trauma Informed Education/Care	
EDEX 581	Understanding Social Emotional Disorders	
EDEX 580	Social Emotional Wellness and Evidence-Based Preventative School Practices	
Select 3 of the following:		
Social Emotional and Behav	vior Wellness	
Concentration Options (sele		9
ABA 781	Capstone in ABA II	3
ABA 780	Capstone in ABA I	3
MS in ABA Capstone Seque		
ABA 636	Applications of Fundamental Elements of Behavior Analysis	4
ABA 635	Ethical Considerations and Professional Conduct	4
ABA 634	Consultation, Systems Change and Supervision	4
ABA 633	Behavioral Interventions	4
ABA 632	Behavioral Assessment and Functional Analysis	4
ABA 631	Measurement and Experimental Design	4
ABA 630	Fundamental Elements of Behavior Change	4
MS in Applied Behavior Ana	*	
EDUC 410 [WI]	Student Teaching	9
EDUC 409 [WI]	Student Teaching Seminar I	9
Student Teaching Experience	Ce	

\* 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.
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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

# 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	0.0
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112		3.0
	English Composition II	2.0
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 co	ourse 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 EDUC 314	Creating a Positive Classroom Climate	3.0
	Science Teaching Methods Teaching in Lithou Contacts	3.0
EDUC 316	Teaching in Urban Contexts	
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	n 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	n Capstone Sequence	
EDU 780	Capstone Research	3.0
Students have the option to se	elect 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 Option	ns (Select one concentration from the options below)	12.0
Human Resource Develo	pment	
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 Ed	ducation	
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	-	
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 Concentra		
oustoni-besigned concentra		

Total Credits 225.0-226.5

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.

\* 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	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	

Course	Course	0.0	6-7.5	
(GR) MS Concentration	3.0 EDUP 780 or EDUT 780  3.0 (GR) MS Concentration	3.0 EDUP 781 or EDUT 781 3.0	3.0-4.5	
EDU 780	3.0 EDUP 780 or EDUT 780	3.0 EDUP 781 or EDUT 781	3.0-4.5	

#### 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.

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 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**

Ganaral Fr	ducation/Content	Paguiromente

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 co	ourse 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

Autism Spectrum Disorders		12.0
EDEX 583	Collaboration and Community Based Practices to Promote Social Emotion Wellness	
EDEX 582	Evidence-Based School Interventions and Trauma Informed Education/Care	
EDEX 581	Understanding Social Emotional Disorders	
EDEX 580	Social Emotional Wellness and Evidence-Based Preventative School Practices	
		12.0
Social Emotional Behavior Wellness		12.0
Concentration Options (Choose 1)	anon mass and sample to the or the following concentrations.	
	ation must also complete one of the following concentrations:	
EDUT 781	Thesis Capstone Course II	
EDUT 780	Thesis Capstone Course I	
Thesis		
EDUP 781	Practitioner Capstone Course II	
EDUP 780	Practitioner Capstone Course I	
Practitioner	·	
Students have the option to select from	·	6.0-7.5
EDU 780	Capstone Research	3.0
	ation must complete one of the following Capstone options	
EDUC 522	Evaluation of Instruction	
EDUC 521	Typical and Atypical Development in Early Childhood Education	
EDUC 515	Adolescent Learners in Secondary Schools	
EDEX 568	Literacy and Content Skill Development PK-12	
EDEX 544	Inclusive Practices	
EDEX 542	Fundamentals of Special Education	
EDEX 514	Special Education Student Teaching Seminar	
Initial Certification Concentration		24.0
Students obtaining an initial certification	n must complete the following concentration:	
Concentration Options		
EDEX 588	Implementing Academic Interventions in Inclusive Educational Environments	3.0
EDEX 578	Special Education Practicum PK-12	3.0
EDEX 575	Teaching STEAM in an Inclusive Environment PK-12	3.0
EDEX 555	Teaching Students with Autism Spectrum Disorder	3.0
EDEX 552	Integrating Technology for Learning & Achievement	3.0
EDEX 550	Teaching Individuals with Low Incident Disabilities	3.0
EDEX 549	Teaching Individuals with High Incident Disabilities	3.0
EDEX 543	Emotional and Behavioral Support of Individuals with Disabilities	3.0
EDEX 536	Special Education Law and Process	3.0
Core Courses		
MS in Special Education		
EDUC 410 [WI]	Student Teaching	9.0
EDUC 409 [WI]	Student Teaching Seminar I	9.0
Student Teaching Experience		
MTED 418	Mathematics Methods and Content	3.0
MTED 417	Mathematics Methods and Content: Early Childhood	3.0
ESTM 342	Teaching Engineering Concepts to Children	3.0
EDUC 411	Family and Community Partnerships	3.0
EDUC 405	Senior Pedagogy Seminar	1.0
EDUC 365	Foundations in Instructing English Language Learners	3.0
EDUC 355	Social Studies Teaching Methods	3.0
EDUC 338	Expressive Arts for PK-4	3.0
EDUC 336	Early Literacy II	3.0
EDUC 335	Engaging the Learner	3.0
EDUC 326 [WI]	Language Arts Processes	3.0
EDUC 324	Current Research in Curriculum & Instruction	3.0
EDUC 316	Teaching in Urban Contexts	3.0
EDUC 314	Science Teaching Methods	3.0
EDUC 308	Creating a Positive Classroom Climate	3.0
EDUC 306	Assessment of Young Children	3.0
EDUC 305 [WI]	Junior Pedagogy Seminar	1.0
EDUC 236	Early Literacy I	3.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 210	Early Language Development	3.0
EDUC 205	Sophomore Pedagogy Seminar	1.0

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 La	w 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	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
		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** 

- \* 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.

# **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 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

Applied Cells, Genetics & Physiology	3.0
General Biology I	
Applied Biological Diversity, Ecology & Evolution	3.0
General Biology II	
General Chemistry I	4.0
Introduction to Civic Engagement *	1.0
Principles of Communication	3.0
Career Management and Professional Development *	1.0
Principles of Microeconomics	4.0
Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
English Composition I	
Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
English Composition II	
	General Biology I Applied Biological Diversity, Ecology & Evolution General Biology II General Chemistry I Introduction to Civic Engagement Principles of Communication Career Management and Professional Development Principles of Microeconomics Composition and Rhetoric I: Inquiry and Exploratory Research English Composition I Composition and Rhetoric II: Advanced Research and Evidence-Based Writing

ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	0.0
ENVS 260	Environmental Science and Society	3.0
HIST 275	History of Pennsylvania	3.0
MATH 171 MATH 172	Introduction to Analysis A	3.0
	Introduction to Analysis B	3.0
MATH 173	Introduction to Analysis C	3.0
or MATH 107 MUSC 130	Probability and Statistics for Liberal Arts  Introduction to Music	3.0
NFS 100		2.0
NFS 100	Nutrition, Foods, and Health 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 co	·	3.0
Free electives	uise between Live 200 - Live 500	10.0
Pedagogy Requirements		10.0
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 Edu	cation 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 Seque	nce	
EDU 780	Capstone Research	3.0
Student selects and enroll	s 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 Concentrati	on Electives	15.0
,	y combination of the following for 15.0 credits: ABA, CRTV, EDAM, EDEX, EDGI, EDLS, EDLT, EDPO, EDUC, EHRD, ELL, ENTP, ESTM, evel), 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	
	From defining of University 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 Ins	struction 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 (r	ninimum 3.0 credits) **
Reading Specialist Certification	ication 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 Se	econd 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 (r	ninimum 1.5 credits) ***
Social Emotional Behavio	oral 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.

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 / 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 Re	equirements	
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	3.3
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	0.0
Pedagogy Requirements	Wilding Focus	
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	
EDUC 106 EDUC 107	First Year Seminar: A Case of Schools and Cities  First Year Seminar: Exploring Pedagogies	1.0
EDUC 107		1.0
EDUC 108	First Year Seminar: Designing Learning Spaces	
	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	om 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 Second	dary Concentrations: **	9.0
Secondary Concentration in Pe	eace 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 Hi	gher 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 Ec		
Required:		
EDPO 620	Education Policy: Concepts, Issues, and Applications	
Select two of the following course		
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	
	ducational Learning Technologies	
EDLT 532	Designing Virtual Communities for Staff Development - Non-Field Experience	
EDLT 537	Technologies for Performance Support	
LDL1 001	Toolingiogios for Estionnation 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:

The following courses are strongly suggested offerings from the GLE 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	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
		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.
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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 (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**

ments	
History of Art I	3.0
General Biology I	3.0
General Biology II	3.0
General Chemistry I	4.0
Introduction to Civic Engagement	1.0
Principles of Communication	3.0
Career Management and Professional Development *	1.0
Principles of Microeconomics	4.0
Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
English Composition I	
Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
English Composition II	
Composition and Rhetoric III: Themes and Genres	3.0
English Composition III	
Young Adult Fiction	3.0
Environmental Science and Society	3.0
	4.0
United States History to 1815	
United States History, 1815-1900	
United States History since 1900	
History of Pennsylvania	3.0
Introduction to Linguistics	3.0
Introduction to Analysis A	3.0
Introduction to Analysis B	3.0
Introduction to Analysis C	3.0
Probability and Statistics for Liberal Arts	
Introduction to Music	3.0
Nutrition, Foods, and Health	2.0
Introduction to Nutrition & Food	1.0
Applied Physics	3.0
General Psychology I	3.0
Educational Psychology	3.0
Cognitive Psychology	3.0
	History of Art I General Biology I General Chemistry I Introduction to Civic Engagement Principles of Communication Career Management and Professional Development * Principles of Microeconomics Composition and Rhetoric I: Inquiry and Exploratory Research English Composition 1 Composition and Rhetoric II: Advanced Research and Evidence-Based Writting English Composition II Composition and Rhetoric III: Themes and Genres English Composition III Young Adult Fiction Environmental Science and Society  United States History to 1815 United States History to 181

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 EDUC 107	First Year Seminar: A Case of Schools and Cities	1.0
	First Year Seminar: Exploring Pedagogies	1.0
EDUC 108 EDUC 123	First Year Seminar: Designing Learning Spaces	1.0 3.0
EDUC 205	Adolescent Development Sophomore Pedagogy Seminar	1.0
EDUC 216		3.0
EDUC 223	Diversity and Today's Teacher  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	n 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 Secondar		9.0
	ice 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 co	ourses:
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 ***	
	additional electives from within the School of Education or a course (with School of Education approval) from another Drexel University business administration, foreign languages, women's and gender studies, or science/technology/society.
The following courses are strong	gly 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.

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- \*\* 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	
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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, 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**

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General Education/Content F	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	0.0
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		6.0
	y, Law & Organization EDPO or EDAM (500-799). Reading Specialist Concentration students enroll in EDLS 570 and EDLS 650.	0.0
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	Education Foliation, totalog, and Applications	
EDU 780	Capstone Research	3.0
	ropriate course work following one of the following capstone tracks: Practitioner or Thesis	0.0
EDUP 780	Practitioner Capstone Course I	3.0
or EDUT 780	Thesis Capstone Course I	0.0
EDUP 781	Practitioner Capstone Course II	3.0-4.5
or EDUT 781	Thesis Capstone Course II	3.0-4.3
MS Professional Elective or Concer	*	15.0
		15.0
	on of the following for 15.0 credits: ABA, CRTV, EDAM, EDEX, EDGI, EDLS, EDLT, EDPO, EDUC, EHRD, ELL, ENTP, ESTM, MTED, 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	Thiopio of Addit Edithing	
CRTV 501	Foundations in Creativity	
	Foundations in Creativity  Tools and Techniques 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		
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 Edu	ucation
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
ligher 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
_earning 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 Inst	
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 (m	
Reading Specialist Certific	
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 Sec	cond 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 (m	ninimum 1.5 credits) <sup>†</sup>
Social Emotional Behavio	
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.

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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

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### **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 Require	ements	
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 305 [WI]	Assessment of Young Children	3.0
EDUC 308	Creating a Positive Classroom Climate	3.0
EDUC 316		3.0
	Teaching in Urban Contexts	3.0
EDUC 324	Current Research in Curriculum & Instruction	
EDUC 326 [WI]	Language Arts Processes	3.0
EDUC 328	Language Arts Processes 4-8	3.0
EDUC 355 EDUC 360	Social Studies Teaching Methods	3.0
	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		0.0
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 Cours		6.0
	icy, 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
	priate 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		15.0
	etion of the following for 15.0 credits: ABA, CRTV, EDAM, EDEX, EDGI, EDLS, EDLT, EDPO, EDUC, EHRD, ELL, ENTP, ESTM, MTED, es 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	t
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	on
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 Instructi	ion 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 (minimu	um 3.0 credits)
Reading Specialist Certification	n
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) <sup>†</sup>					
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			

2200 2200

\* 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 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	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
		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

**English Composition III** 

- · 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

or ENGL 113

#### **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

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	The Brood Experience	1.0
BIO 131	Cells and Biomolecules	5.0
& BIO 134	and Cells and Biomolecules Lab	
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	introductory i riyotoc ii	4.0
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
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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  EDPO 637 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	CRTV 620	Research Methods and Assessment of Creative and Innovative Thinking	
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EDHE 531 Legal Issues & Ethics in Higher Education  EDHE 662 Critical Issues in Student Affairs			
EDHE 662 Critical Issues in Student Affairs		•	

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 Instruct	ion 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 (minim	um 3.0 credits) ***
Reading Specialist Certification	n
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 (minim	um 1.5 credits) <sup>†</sup>
Social Emotional Behavioral V	/ellness
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	5.0 BIO 132	5.0 BIO 133	5.0 VACATION	
& BIO 134	& BIO 135	& BIO 136		
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
		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		<del></del>		
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	
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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, crosscultural, 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** 

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 min	nor 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	S	6.0
Select two courses in Education P	olicy, 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
	ropriate 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 Elect		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

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 Le	evel 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	O credits)

Reading Specialist Certification Co	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 Wellne	ess		
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.

CHEM 11 oF PHYS   30 -40 ARTH 101   30 EDEX 142   30 VACATION   10   10   10   10   10   10   10   1	First Year				
170	Fall	Credits Winter	Credits Spring	Credits Summer	Credits
175	CHEM 111 or PHYS 170	3.0-4.0 ARTH 101	3.0 EDEX 142	3.0 VACATION	
RNGL 101 of 11	EDUC 101		3.0-4.0 EDUC 108	1.0	
MATH 177	EDUC 106	1.0 CIVC 101	1.0 EDUC 123	3.0	
PSY 101   3.0 ENGL 102 or 112   3.0 PHYS 131   3.0	ENGL 101 or 111	3.0 EDUC 107	1.0 ENGL 103 or 113	3.0	
UNIVECTION   10 MATTH 172   10   17-18   16   0   0   0   0   0   0   0   0   0	MATH 171	3.0 EDUC 113	3.0 MATH 173	3.0	
UNIVECTION   10 MATTH 172   10   17-18   16   0   0   0   0   0   0   0   0   0	PSY 101			3.0	
Part	UNIV T101		3.0		
Pail		17-18	17-18	16	0
COOP   10	Second Year				
COOP 119"   1.0 EDUC 216   3.0 COM 230   3.0 ECON 201   4.0 EDUC 236   3.0 EDUC 305   3.0 HIST 201, 202, or 203   4.0 EDUC 203   3.0 INIST 100   3.0 EDUC 306   3.0 HIST 201, 202, or 203   4.0 EDUC 306   3.0 INIST 201, 202, or 203   4.0 EDUC 306   3.0 INIST 201, 202, or 203   4.0 EDUC 306   3.0 INIST 201, 202, or 203   4.0 EDUC 306   3.0 INIST 201, 202, or 203   4.0 EDUC 306   3.0 INIST 201, 202, or 203   4.0 EDUC 306   3.0 INIST 201, 202, or 203   4.0 EDUC 306   3.0 INIST 201, 202, or 203   4.0 EDUC 305   3.0	Fall	Credits Winter	Credits Spring	Credits Summer	Credits
EDICA 344   3.0 ENGL 201   3.0 EDICA 368   3.0 EDICT 325   3.0 EDICA 365   1.0 EDICA 325   3.0 EDICA 365   1.0 EDICA 325   3.0 EDICA 325   3	COOP 101**		· -		
EDUC 205					
EDUC 228 3 0 LING 101 3.0 EDUC 308 3.0 HIST 201, 202, or 203 4.0 EDUC 365 3.0 NIS 100 3.0 EDUC 308 3.0 HIST 201, 202, or 203 4.0 EDUC 365 8 NIS 101 3.0 EDUC 300 3.0 MRIT 301 3.0 (US) Free elective 3.0 EDUC 300 MRIT 301 3.0 (US) Free elective 3.0 EDUC 300 MRIT 301 3.0 (US) Free elective 3.0 EDUC 300 EDUC 300 MRIT 301 3.0 (US) Free elective 3.0 EDUC 300 EDUC 300 EDUC 300 EDUC 300 EXPERIENCE EDUC 316 3.0 EDUC 324 3.0 EDUC 324 3.0 EDUC 336 3.0 EDUC 336 3.0 EDUC 336 3.0 EDUC 336 3.0 EDUC 330 3.0 EDU					
EDUC 365					
### 19					4.0
NRUT 225   3.0   17   18   16   16   14   15   16   14   15   16   14   15   16   14   15   16   14   15   16   14   15   15   16   14   15   15   16   15   15   16   15   15	2500 000		0.0 2.00 200	6.6	
17	ENGL 200	3.0 WRIT 301	3.0 (UG) Free elective	3.0	
Tail         Credits Winter         Credits Spring         Credits Summer         Codes           COOP EXPERIENCE         EDUC 316         3.0 EDPC 312         3.0 EDUC 324         3.0	WRIT 225	3.0			
Fall         Credits Winter         Credits Spring         Credits Summer         Credits           COOP EXPERIENCE         EDUC 316         3.0 EDPO 312         3.0           EDUC 358         3.0 ENGL 211         3.0 ENGL 304         3.0 EDVG 324         3.0           ADD C 358         3.0 ENGL 212         3.0         3.0         ENGL 335         3.0           ADD C 345         3.0 ENGL 325         3.0         ENGL 335         3.0         ENGL 335         3.0           ADD C 345         3.0 ENGL 325         3.0 ENGL 335         3.0         ENGL 355         3.0           FOURTH Year         Credits Spring         Credits Summer         Credits EDUC 409         9.0 EDUC 410         9.0 EDUC 405         1.0 EDAM 705         3.0           ENGL 204         3.0 ENGL 335         3.0 ENGL 205         3.0 EDUC 530         3.0           ENGL 205         3.0 EDUC 530         3.0         EDUC 530         3.0           ELECTOR         5.0 ENGL 205         3.0 EDUC 530         3.0           ELECTOR         5.0 ENGL 205         3.0 EDUC 530         3.0           ELECTOR         5.0 ENGL 205         3.0 EDUC 530         3.0           ELECTOR         5.0 ENGL 205         3.0 EDUC 530         3.0		17	18	16	14
COOP EXPERIENCE	Third Year				
EDUC 358 3.0 ENGL 211 3.0 ENGL 304 3.0 EDUC 324 3.0 ENGL 212 3.0 ENGL 325 3.0 ENGL 205 3.0 ENGL	Fall	Credits Winter	Credits Spring	Credits Summer	Credits
PSY 320	COOP EXPERIENCE	COOP EXPERIENCE	EDUC 316	3.0 EDPO 312	3.0
SOC 335   3.0 ENGL 335   3.0	EDUC 358	3.0 ENGL 211	3.0 ENGL 304	3.0 EDUC 324	3.0
CRY MS Professional   3.0 (GRY MS Professional Elective   1.0 (G			PSY 320	3.0 ENGL 212	3.0
Elective			SOC 335	3.0 ENGL 335	3.0
Security Pear   Security Pea					3.0
Fourth Year Fail Credits Winter Credits Spring Credits Summer Credits Spring Credits Summer Credits Spring Credits Summer Credits Spring Summer Spring Summer Summe		2			15
Fail         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           G(R) MS Professional         3.0 EDUT 532         3.0 ENGL 206         3.0 EDUC 530         3.0           Elective         ENGL 325         3.0         3.0         3.0           ELECTIVE         ENGL 325         3.0         3.0           ELECTIVE         EDAM 714         3.0         3.0           Student converts to Grad status at the end of the Spring Term         16         9           Fifth Year         Foredits Spring         Credits           EDU 780         3.0 EDUP 780 or EDUT 780         3.0 EDUP 620 or EDCR         3.0           518         518         3.0 EDUP 780 or EDUT 780         3.0 EDUP 781 or EDUT 781         3.0 4.5           EDUC 609         3.0 (R) MS Professional Elective         3.0 EDUP 781 or EDUT 781         3.0 4.5	Fourth Voor	3	3	13	13
EDUC 409 9.0 EDUC 410 9.0 EDUC 405 1.0 EDAM 705 3.0 ENGL 204 3.0 ENGL 205 3.0 EDUC 524 3.0 (GR) MS Professional Elective		Cradite Winter	Cradite Spring	Cradite Summar	Crodite
ENGL 204 3.0 ENGL 335 3.0 ENGL 205 3.0 EDUC 524 3.0 (GR) MS Professional Elective			· -		
Selective   Sele					
Elective     ENGL 325   3.0     MUSC 130   3.0     EDAM 714   EDAM 715   EDAM 716   EDAM 718   EDAM 718   EDAM 719   EDAM 719   EDAM 719   EDAM 719   EDAM 719   EDAM 714   3.0   EDAM 714   EDAM 714   EDAM 715   EDAM 714   EDAM 714   EDAM 714   EDAM 714   EDAM 714   EDAM 715   EDAM 714   EDAM 714   EDAM 715   EDAM 714   EDAM 714   EDAM 715   EDAM 714   EDAM 714   EDAM 714   EDAM 715   EDAM 714   EDAM 714   EDAM 715   EDAM 715   EDAM 714   EDAM 715   EDAM 715   EDAM 715   EDAM 714   EDAM 715   EDAM 715   EDAM 715   EDAM 715   EDAM 715   EDAM 714   EDAM 715   EDAM					
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 15 16 9  Fifth Year  Fall Credits Winter Credits Spring Credits  EDU 780 3.0 EDUP 780 or EDUT 780 3.0 EDUP 781 or EDUT 781 3.0-4.5  EDUC 609 3.0 (GR) MS Professional Elective  (GR) MS Professional 3.0  Elective		3.0 EDL1 532	3.0 ENGL 206	3.0 EDUC 530	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   9   9   9   9   9   9   9   9			ENGL 325	3.0	
EDAM 714   3.0   Student converts to Grad status at the end of the Spring Term   15   16   9					
Student converts to Grad status at the end of the Spring Term  15 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  EDUC 609 3.0 (GR) MS Professional Elective  GGR) MS Professional 3.0 EDUP 780 or EDUT 781 and 5.0 EDUP 781					
15					
Fifth Year         Credits Winter         Credits Spring         Credits           EDU 780         3.0 EDUP 780 or EDUT 780         3.0 EDUP 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			of the Spring Term		
Fall         Credits Winter         Credits Spring         Credits           EDU 780         3.0 EDUP 780 or EDUT 780 518         3.0 EDUP 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         3.0-4.5           (GR) MS Professional Elective         3.0         4.0         4.0		15	15	16	9
EDU 780 3.0 EDUP 780 or EDUT 780 3.0 EDPO 620 or EDCR 518  EDUC 609 3.0 (GR) MS Professional Elective 3.0 EDUP 781 or EDUT 781 3.0-4.5  (GR) MS Professional 3.0 EDUP 781 or EDUT 781 5.0-4.5	Fifth Year				
518	Fall	Credits Winter	Credits Spring	Credits	
Elective  (GR) MS Professional 3.0  Elective	EDU 780	3.0 EDUP 780 or EDUT 780		3.0	
Elective	EDUC 609		3.0 EDUP 781 or EDUT 781	3.0-4.5	
	(GR) MS Professional	3.0			
9 6 6-7.5	Elective				
		9	6	6-7.5	

Total Credits 227-230.5

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

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

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

## **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, 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
- 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 200-3	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
	Organizational Structure of Secondary Schools	3.0
	Adolescent Development	3.0
	Sophomore Pedagogy Seminar	1.0
	Diversity and Today's Teacher	3.0
	Teaching the Middle School Child	3.0
	•	1.0
	Junior Pedagogy Seminar	3.0
	Creating a Positive Classroom Climate	
	Teaching in Urban Contexts	3.0
	Evaluation of Instruction	3.0
	Current Research in Curriculum & Instruction	3.0
	Foundations in Instructing English Language Learners	3.0
	Senior Pedagogy Seminar	1.0
	Teaching Secondary Mathematics	3.0
	Cultural and Historical Significance of Mathematics	3.0
Student Teaching Experience		
	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 Poli	icy, 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	0.5 credits)	
EDU 780	Capstone Research	3.0
Student selects and enrolls in appropriate the selection of the selec	priate 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
	Thesis Capstone Course II	
Professional or Concentration Electiv	ves (15.0 credits)	15.0
	tion 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 ca	andidates select a formal concentration. (See formal concentration options below)	

\* 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 Ed	
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 Ins	truction 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 (r	ninimum 3.0 credits) **
Reading Specialist Certif	cation 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 Se	cond 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 (r	ninimum 1.5 credits)
Social Emotional Behavio	oral 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**	1.0 ECON 201			
	20011201	4.0 CHEM 101	3.5 BIO 109	3.0
EDEX 344	3.0 EDUC 216	4.0 CHEM 101 3.0 EDEX 368	3.5 BIO 109 3.0 BIO 110	3.0 1.0
EDEX 344 EDUC 205				
	3.0 EDUC 216	3.0 EDEX 368	3.0 BIO 110	1.0
EDUC 205	3.0 EDUC 216 1.0 INFO 108 or CS 150	3.0 EDEX 368 3.0 EDUC 305	3.0 BIO 110 1.0 CHEM 102	1.0 4.5
EDUC 205 EDUC 223	3.0 EDUC 216 1.0 INFO 108 or CS 150 3.0 MATH 201	3.0 EDEX 368 3.0 EDUC 305 4.0 EDUC 308	3.0 BIO 110 1.0 CHEM 102 3.0 EDLT 325	1.0 4.5 3.0
EDUC 205 EDUC 223 EDUC 365	3.0 EDUC 216 1.0 INFO 108 or CS 150 3.0 MATH 201 3.0	3.0 EDEX 368 3.0 EDUC 305 4.0 EDUC 308 MATH 205	3.0 BIO 110 1.0 CHEM 102 3.0 EDLT 325 3.0 EDUC 322	1.0 4.5 3.0 3.0

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	9.0 EDUC 410	9.0 EDUC 405	1.0 EDAM 705	3.0
MATH 331	4.0 MATH 311	4.0 ENGL 200 - ENGL 395	3.0 EDUC 524	3.0
(GR) MS Professional Elective	3.0 EDLT 532	3.0 ENVS 260	3.0 EDUC 530	3.0
		MATH 312	4.0	
		PSY 320	3.0	
		EDAM 714	3.0	
		Student converts to Grad status at the end of the Spring Term		
	16	16	17	9
Fifth Year				
Fall	Credits Winter	Credits Spring	Credits	
EDU 780	3.0 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 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.

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, 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.

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 / 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**

Degree Requirem	nents	
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 Requirment	s:	
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  First Year Seminar: Exploring Pedagogies	1.0
EDUC 107 EDUC 108	First Year Seminar: Exploring Fedagogies 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
30 0.0		0.0

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 Co	purses (6.0 credits)	6.0
Select two courses in Educat	tion 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	e (9.0-10.5 credits)	
EDU 780	Capstone Research	3.0
Student selects and enrolls in	n 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
	combination of the following for 15.0 credits: ABA, CRTV, EDAM, EDEX, EDGI, EDLS, EDLT, EDPO, EDUC, EHRD, ELL, ENTP, ESTM, el), or candidates select a formal concentration. (See formal concentration options below)	
Total Credits		232.0-233.5

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, 5year) 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	n 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 La	
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	
Social Emotional Behavioral Wel	
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**	1.0 EDUC 216	3.0 EDEX 368	3.0 EDLT 325	3.0
EDEX 344	3.0 HIST 201	4.0 EDUC 305	1.0 EDUC 322	3.0
EDUC 112	3.0 HIST 214	4.0 EDUC 308	3.0 HIST 275	3.0
EDUC 205	1.0 PSCI 110	4.0 HIST 202	4.0 PSCI 375	4.0
EDUC 223	3.0 PSY 150	3.0 HIST 203	4.0 SOC 101	3.0
EDUC 365	3.0	PSCI 140	4.0	
	14	18	19	16
Third Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE	COOP EXPERIENCE	EDLT 326	3.0 EDUC 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 (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

# **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**

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

- \* 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 C	ourse *	
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 Lange	uage 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 Eng	lish 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**

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

# **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**

Total Credits		24.0
SCL 419	Global Coaching Seminar	
SCL 401	Professional Coaching Portfolio	
SCL 345	Evaluating Athletes and Teams	
SCL 325	Athlete Leadership Development	
SCL 315	Athletic Recruiting	
SCL 314	Sport Performance and Energy Systems	
SCL 280	Kinesiology	
SCL 201	Sport-Based Youth Development	
PSY 245 [WI]	Sports Psychology	
Select 9 credits from the following		9.0
SCL Minor Electives		
or SCL 496	Coaching Practicum II	
SCL 495	Coaching Practicum I	3.0
SCL 210	Prevention and Care of Athletic Injuries	3.0
SCL 203	Sports Conditioning	3.0
SCL 102	Principles of Coaching II	3.0
SCL 101	Principles of Coaching	3.0
Required Core Courses		

# 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**

ESTM 201 DragonsTeach: Step 1 1.5

ESTM 210	DragonsTeach: Step 2	1.5
STEM Education Core Cor	urses	
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 Math	hematics 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 Engl	lish 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

Second Year

Fall	Credits Winter	Credits	
Professional Elective	3.0 Professional Elective	3.0	
	3	3	

Total Credits 18

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BS in Teacher Education
C
Certificate in Creativity and Innovation
D
DragonsTeach Certification Minor
DragonsTeach Math Certification Minor
DragonsTeach Middle Years Certification Minor
DragonsTeach Middle Years Minor
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#### T

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