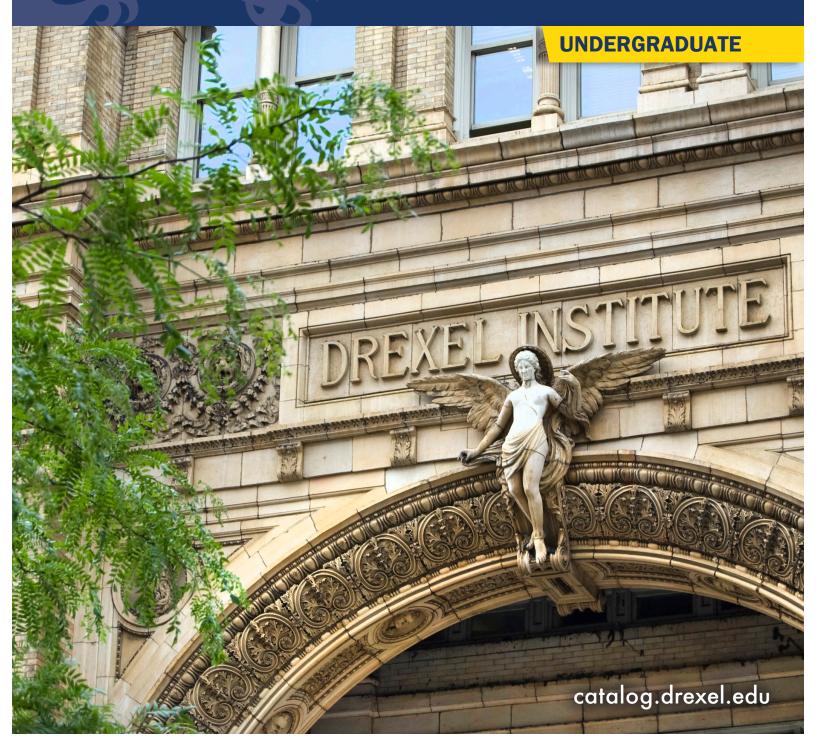


CATALOG 2021-2022



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

- Design of Learning Technologies (BS) (p. 4)
- Elementary Education (BS) (p. 8)
- PK-4 (p. 11)
 - PK-4 and Special Education (p. 17)
 - Middle Level Math and English (p. 21)
 - Middle Level Science and Math (p. 31)
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- Education: Non-Certification (BS) (p. 35)
- NEW: Special Education PK-12 (BS)
- Teacher Education (BS) (p. 43)
 - Biology (p. 46)
 - Chemistry (p. 51)
 - NEW: Computer Science
 - Earth and Space Science (p. 60)
 - English (p. 66)
 - General Science (p. 71)
 - Mathematics (p. 75)
 - Physics (p. 80)
 - Social Studies (p. 84)

Accelerated Degrees

- NEW: Elementary Education PK4 (BS) / Creativity and Innovation (MS)
- Elementary Education PK4 (BS) / Teaching Learning, and Curriculum (Advanced Track) MS (p. 93)
- NEW: Elementary Education (PK4 and Special Education) BS / Teaching, Learning and Curriculum (Advanced Track) MS
- NEW: Teacher Education BS English / Teaching, Learning, and Curriculum (Advanced Track) MS

- NEW: Teacher Education BS Secondary Mathematics / Teaching, Learning and Curriculum (Advanced Track) MS
- NEW: Teacher Education BS Secondary Social Studies / Teaching, Learning, and Curriculum (Advanced Track) MS

Minors

- Design of Learning Technologies (p. 120)
- NEW: DragonsTeach Certification Minor
- NEW: DragonsTeach Math Certification Minor
- NEW: DragonsTeach Middle Years Minor
- NEW: DragonsTeach Middle Years Certification Minor
- Education (p. 123)
- Sport Coaching Leadership (p. 123)
- STEM Education (p. 124)

Certificates

· Creativity and Innovation (p. 125)

About the Curriculum

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

Certification for classroom instruction is organized according to the two majors, the BS in Elementary Education and the BS in Secondary Education. Below is a list of all certification areas currently offered by the School of Education.

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

Students may acquire certification in more than one subject area.

The School of Education uses university-wide resources to prepare fully qualified teachers at both the elementary and secondary levels. The Teacher Education Program at Drexel University is closely aligned with National INTASC Teaching Standards as well as the Pennsylvania Department of Education's Four Domains for Professional Teaching. In addition, the Teacher Ed Program has identified seven *Program Outcomes*, which identify the specific qualities that set the Drexel

Teacher Candidate apart from other candidates in the field. These program outcomes are directly aligned with the Drexel University Student Learning Priorities (DSLP). It is expected that students exiting the Teacher Education Program at Drexel University will exhibit these seven standards in his/her professional teaching practice.

Program Outcomes:

- 1. The teacher candidate demonstrates independent and creative academic leadership skills that can be applied in the classroom, school community and the profession.
- 2. The teacher candidate understands the changing role of the educator in an increasingly diverse society, and applies this understanding in the classroom, school community and profession.
- 3. The teacher candidate holds a global perspective on current issues in education, understands best pedagogical practices, and utilizes this knowledge in the classroom, school community and profession.
- 4. The teacher candidate recognizes the importance of the application of educational research as a tool to explore critical aspects of teaching and learning in PK-12 setting.
- 5. The teacher candidate demonstrates a strong academic background in all subject areas that meet PDE content requirements, with strong emphasis on mathematics and science.
- 6. The teacher candidate can effectively integrate tools of technology in curriculum, assessment and instruction to enhance PK-12 student learning.
- 7. The teacher candidate demonstrates the ability to reflect upon one's professional practice through the successful completion of course work and engagement in experiential learning to promote positive, transformative change within the profession.

Pennsylvania Instructional I Teaching Certifications

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

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

*Please note that during a Drexel student's senior year, undergraduate students have the option to take up to and including 9 graduate credits in core pedagogy education courses that can be applied to a future graduate

level Post-baccalaureate Teacher Certification or MS degree program at Drexel provided that these graduate credits are not required for UG degree completion and the student received a minimum grade of a "B" in those graduate courses.

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

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

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

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

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

Post-Graduate Opportunities

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

Writing-Intensive Course Requirements

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

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

Cooperative Education

Drexel students are well prepared for success in their career thanks in part to high-quality experiential learning like the cooperative learning experiences. Drexel's School of Education Cooperative Education

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

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

Design of Learning Technologies

Major: Design of Learning Technologies Degree Awarded: Bachelor of Science (BS)

Calendar Type: Quarter Total Credit Hours: 182.0

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

Classification of Instructional Programs (CIP) code: 13.0607 Standard Occupational Classification (SOC) code: 25-9099

About the Program

Note: Effective Fall 2021, students are no longer being accepted into the BS in Design of Learning Technologies program.

The Bachelor of Science in Design of Learning Technologies (DLT) prepares students to build the next generation of information and computing technology for learning. Students learn interdisciplinary skills and knowledge necessary to design, develop, and implement technology-enhanced learning environments for a variety of settings.

Students in the major will be exposed to three major themes in their coursework:

- Cognition and Learning: Cognitive/mental processes and representations underlying knowledge and skill acquisition
- · Culture and Society: Social, cultural, and organizational aspects of teaching and learning, in and outside of schools
- Design and Technology: Design and evaluation techniques to enable the development of new and emerging technologies to support learning and teaching

Work across these themes is coordinated to facilitate the development of expertise on the design of learning technologies grounded in strong theories of learning for a wide range of educational contexts (e.g., classrooms, museum exhibits, after-school, summer camps, etc.), audiences (e.g., teachers, students, corporations, children, adults, etc.), and learning environments.

The curriculum combines knowledge of how people learn, learning technology design, and child/adolescent development from the School of Education with design courses in the Westphal College of Media Arts & Design and computational thinking courses in the College of Computing and Informatics. Co-op experiences may include work at software and design companies, non-profits, cultural institutions, or research environments where there are needs for individuals with training in both learning theories and computational design.

Graduates of the program will have strong skills in applying theory to the creation of educational and learning environments. With hands-on courses focused on human learning and technology design, the Design of Learning Technologies major combines expertise in the foundations of education with design and technical expertise that is central for best practices of the application, development, and use of technologies throughout our lifetimes.

Degree Requirements

General Requirements 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 **CRTV 301** Foundations in Creativity 3.0 **CRTV 303** Creativity in the Workplace 3.0 **ECON 201** Principles of Microeconomics 4.0 **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** Literature Requirement (Select one from ENGL 200 - ENGL 335) 3.0 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 **INFO 105** Introduction to Informatics **MATH 101** Introduction to Analysis I 4.0 **MATH 102** Introduction to Analysis II 4.0 **MUSC 130** 3.0 Introduction to Music

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
Education Requirements		
EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDLT 103	Foundation in Education III: Learning Sciences	3.0
EDUC 105	Freshman Pedagogy Seminar *	3.0
EDUC 120	Child Development I: Typical Development	3.0
EDUC 123	Adolescent Development	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 335	Engaging the Learner	3.0
Design of Learning Technologies	Program Requirements	
ANTH 370	Ethnographic Methods	3.0
EDLT 101	Learning, Culture & Technology Workshop I	3.0
EDLT 201	Learning, Culture and Technology Workshop II	3.0
EDLT 238	New Media Literacies	3.0
EDLT 250	Sociocultural Perspectives on Learning	3.0
EDLT 301	Learning, Culture & Technology Workshop III	3.0
EDLT 339	Future Pedagogies	3.0
EDLT 353	Play and Learning in Participatory Cultures	3.0
EDLT 354	Learning In and Out of Schools	3.0
EDLT 491	Senior Project I	3.0
EDLT 492	Senior Project II	3.0
EDLT 493	Senior Project III	3.0
EHRD 205	Organizational Learning & Strategy	3.0
INFO 103	Introduction to Data Science	3.0
INFO 110	Introduction to Human-Computer Interaction	3.0
WEST T480	Special Topics in WEST Studies	3.0
Free Electives **		36.0
Other University Requirements		
CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development	1.0
UNIV T101	The Drexel Experience	1.0
Total Credits		182.0

- Students enroll in EDUC 105 three times; Fall, Winter and Spring of Freshman Year.
- ** Students are encouraged to work with their advisor to select electives or a minor.

Sample Plan of Study

4-Year Spring Summer Coop Cycle*

First Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
EDLT 101	3.0 CIVC 101	1.0 COM 111	3.0 VACATION	
ENGL 101 or 111	3.0 EDUC 105	1.0 EDLT 103	3.0	
EDUC 101	3.0 ENGL 102 or 112	3.0 EDUC 105	1.0	
EDUC 105	1.0 MATH 101	4.0 ENGL 103 or 113	3.0	
EDUC 120	3.0 Free elective	6.0 INFO 110	3.0	
UNIV T101	1.0	MATH 102	4.0	
	14	15	17	0
Second Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
EDLT 201	3.0 CRTV 301	3.0 ANTH 101	3.0 BIO 101	3.0
INFO 105	3.0 ECON 201	4.0 BIO 100	3.0 EDLT 353	3.0
PSY 101	3.0 EDLT 238	3.0 COOP 101**	1.0 ENGL 200 - ENGL 335	3.0
PHYS 151	3.0 EHRD 205	3.0 EDLT 339	3.0 Free electives	6.0
Free Elective	3.0	EDUC 123	3.0	

		SOC 335	3.0	
	15	13	16	15
Third Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CRTV 303	3.0 EDLT 250	3.0 COOP EXPERIENCE	COOP EXPERIENCE	
EDLT 301	3.0 EDUC 324	3.0		
EDLT 354	3.0 EDUC 335	3.0		
HIST 201, 202, or 203	4.0 Free electives	6.0		
Free elective	3.0			
	16	15	0	0
Fourth Year				
Fall	Credits Winter	Credits Spring	Credits	
CHEM 111	4.0 ANTH 370	3.0 EDLT 493	3.0	
EDLT 491	3.0 EDLT 492	3.0 MUSC 130	3.0	
INFO 103	3.0 EDUC 316	3.0 Free electives	9.0	
PSY 330	3.0 EDUC 322	3.0		
WEST T480	3.0 Free elective	3.0		
	16	15	15	

Total Credits 182

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

Major: Elementary Education

Degree Awarded: Bachelor of Science (BS)

Calendar Type: Quarter Total Credit Hours: 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. 11)
- Pre-Kindergarten Grade 4 & Special Education (p. 17)
- Middle Level (grades 4-8) Mathematics and English (p. 21)
- Middle Level (grades 4-8) Science and English (p. 26)
- Middle Level (grades 4-8) Science and Mathematics (p. 31)

Candidates may acquire certification in more than one subject area.

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

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

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

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

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

Additional Information

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

Education Faculty

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Bridget Sweeney Blakely, PhD (*Temple University*). Assistant Clinical Professor. Consultation; Positive Behavior Interventions and Supports (PBIS); Response to Intervention (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

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: 25-2031

About the Concentration

This certification option within the BS in Elementary Education (p. 8) 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

Ganaral	Education/Conten	t Requirements

BIO 100	Applied Cells, Genetics & Physiology	3.0
or BIO 161	General Biology I	
BIO 101	Applied Biological Diversity, Ecology & Evolution	3.0
or BIO 162	General Biology II	
CHEM 111	General Chemistry I	4.0
CIVC 101	Introduction to Civic Engagement *	1.0
COM 111	Principles of Communication	3.0
COOP 101	Career Management and Professional Development *	1.0
ECON 201	Principles of Microeconomics	4.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
ENVS 260	Environmental Science and Society	3.0
HIST 275	History of Pennsylvania	3.0
MATH 171	Introduction to Analysis A	3.0
MATH 172	Introduction to Analysis B	3.0
MATH 173	Introduction to Analysis C	3.0
or MATH 107	Probability and Statistics for Liberal Arts	
MUSC 130	Introduction to Music	3.0
NFS 100	Nutrition, Foods, and Health	2.0
NFS 101	Introduction to Nutrition & Food	1.0
PHYS 151	Applied Physics	3.0
PSY 101	General Psychology I	3.0
PSY 320 [WI]	Educational Psychology	3.0
PSY 330	Cognitive Psychology	3.0
SOC 335	Sociology of Education	3.0
UNIV T101	The Drexel Experience	1.0
English (Literature) elective: Select 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
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

1.0 HIST 275

3.0

EDUC 210	Early Language Development	3.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 236	Early Literacy I	3.0
EDUC 305 [WI]	Junior Pedagogy Seminar	1.0
EDUC 306	Assessment of Young Children	3.0
EDUC 308	Creating a Positive Classroom Climate	3.0
EDUC 312	Educational Policy, Law & Advocacy	3.0
EDUC 314	Science Teaching Methods	3.0
EDUC 316	Teaching in Urban Contexts	3.0
EDUC 324	Current Research in Curriculum & Instruction	3.0
EDUC 326 [WI]	Language Arts Processes	3.0
EDUC 335	Engaging the Learner	3.0
EDUC 336	Early Literacy II	3.0
EDUC 338	Expressive Arts for PK-4	3.0
EDUC 355	Social Studies Teaching Methods	3.0
EDUC 365	Foundations in Instructing English Language Learners	3.0
EDUC 405	Senior Pedagogy Seminar	1.0
EDUC 411	Family and Community Partnerships	3.0
ESTM 342	Teaching Engineering Concepts to Children	3.0
MTED 417	Mathematics Methods and Content: Early Childhood	3.0
MTED 418	Mathematics Methods and Content	3.0
Student Teaching Experience		
EDUC 409 [WI]	Student Teaching Seminar I	9.0
EDUC 410 [WI]	Student Teaching	9.0
Total Credits		180.0

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

Sample Plan of Study 4 year, 1 co-op

3.0 EDUC 314

PSY 330

+ year, r co-o _l	9			
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 EDUC 210	3.0
EDEX 344	3.0 COOP 101*	1.0 EDUC 326	3.0 EDUC 306	3.0
EDUC 205	1.0 EDEX 368	3.0 EDUC 365	3.0 EDUC 312	3.0
EDUC 308	3.0 EDUC 216	3.0 NFS 100	2.0 EDUC 335	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
	3	3	14	15

3.0 NFS 101

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

Total Credits 180

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

Transfer Stud	ent Part-time Plan of St	udy*		
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 EDUC 306	3.0
EDEX 344	3.0 EDEX 368	3.0 EDUC 305	1.0 EDUC 312	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	3.0	
		Literature Elective		
	10	9	10	g
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	3.0 SOC 335	3.0 PSY 330	3.0
	& NFS 101			
	9	9	9	g
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	g
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 100

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.

^{*} Part-time Transfer Students do not take COOP 101, CIVC 101, and UNIV T101. Instead they take 3 additional credits of Free Electives.

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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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 Total Credit Hours: 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. 8) 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
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or ENGL 113	English Composition III	
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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
	The blevel Expellence	1.0
Pedagogy Requirements EDEX 142	Special Education Foundations: Referral and Assessment	3.0
EDEX 344	Inclusive Practices	3.0
		3.0
EDEX 368 [WI] EDLT 325	Literacy and Content Skill Development PK-12 Design for Learning with Digital Media	3.0
EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 106	First Year Seminar: A Case of Schools and Cities	1.0
EDUC 107	First Year Seminar: Exploring Pedagogies	1.0
EDUC 108	First Year Seminar: Designing Learning Spaces	1.0
EDUC 120	Child Development I: Typical Development	3.0
EDUC 121	Child Development II: Atypical Development	3.0
EDUC 205	Sophomore Pedagogy Seminar	1.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 236	Early Literacy I	3.0
EDUC 305 [WI]	Junior Pedagogy Seminar	1.0
EDUC 306	Assessment of Young Children	3.0
EDUC 308	Creating a Positive Classroom Climate	3.0
EDUC 312	Educational Policy, Law & Advocacy	3.0
EDUC 314	Science Teaching Methods	3.0
EDUC 316	Teaching in Urban Contexts	3.0
EDUC 324	Current Research in Curriculum & Instruction	3.0
EDUC 326 [WI]	Language Arts Processes	3.0
EDUC 335	Engaging the Learner	3.0
EDUC 336	Early Literacy II	3.0
EDUC 338	Expressive Arts for PK-4	3.0
EDUC 355	Social Studies Teaching Methods	3.0
EDUC 365	Foundations in Instructing English Language Learners	3.0
EDUC 405	Senior Pedagogy Seminar	1.0
EDUC 411	Family and Community Partnerships	3.0
MTED 417	Mathematics Methods and Content: Early Childhood	3.0
MTED 418	Mathematics Methods and Content	3.0
Special Education Core Courses	mationalise metrode and content	0.0
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	1	0.0
EDUC 409 [WI]	Student Teaching Seminar I	9.0
EDEX 414 [WI]	Special Education Student Teaching Seminar	9.0
Total Credits	-1	188.0
Total Credits		100.0

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

Sample Plan of Study

4 YR UG 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 EDUC 306	3.0
EDUC 205	1.0 EDEX 348	3.0 EDUC 365	3.0 EDUC 312	3.0
EDUC 308	3.0 EDEX 368	3.0 NFS 100	2.0 EDUC 324	3.0
English (Literature) elective: ENGL 200 - ENGL 360	3.0 EDUC 216	3.0 NFS 101	1.0 HIST 275	3.0
	EDUC 314	3.0 PSY 320	3.0	
	EDUC 316	3.0		
	13	19	15	15
Third Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE	COOP EXPERIENCE	EDEX 378	3.0 EDUC 335	3.0
MTED 417	3.0 EDUC 336	3.0 EDEX 388	3.0 EDUC 338	3.0
		EDUC 305	1.0 EDUC 355	3.0
		EDUC 411	3.0 ENVS 260	3.0
		PHYS 151	3.0 MTED 418	3.0
		PSY 330	3.0	
	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

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

Elementary Education: Middle Level Math 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. 8) 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

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General Education/Content R	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
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 312	Educational Policy, Law & Advocacy	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
Student Teaching Experience		
EDUC 409 [WI]	Student Teaching Seminar I	9.0
EDUC 410 [WI]	Student Teaching	9.0
Free Electives		9.0
MTED 418	Mathematics Methods and Content	3.0
Total Credits		180.0

Sample Plan of Study

4 year, 1 co-op				
First Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
BIO 161	3.0 CIVC 101	1.0 EDEX 142	3.0 VACATION	
EDUC 101	3.0 COM 111	3.0 EDUC 108	1.0	
EDUC 106	1.0 EDUC 107	1.0 ENGL 103 or 113	3.0	
EDUC 123	3.0 ENGL 102 or 112	3.0 ENVS 260	3.0	
ENGL 101 or 111	3.0 MATH 172	3.0 LING 101	3.0	
MATH 171	3.0 MUSC 130	3.0 MATH 107 or 173	3.0	
UNIV T101	1.0			
	17	14	16	0
Second Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
BIO 162	3.0 EDUC 306	3.0 EDEX 368	3.0 CHEM 111	4.0
COOP 101	1.0 EDUC 312	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
			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

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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

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

This program addresses the complexities of adolescent development through discussion of theories. It explores the middle school environment, developmentally appropriate middle school programs, strategies for supporting students through the transition to middle school, and the impact of peer pressure on the middle school child.

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

Additional Information

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

Degree Requirements

General Education/Content Requirements

ARTH 101	History of Art I	3.0
BIO 161	General Biology I	3.0
BIO 162	General Biology II	3.0
CHEM 111	General Chemistry I	4.0
CIVC 101	Introduction to Civic Engagement	1.0
COM 111	Principles of Communication	3.0

COOP 101	Career Management and Professional Development	1.0
ECON 201	Principles of Microeconomics	4.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
ENGL 304	Young Adult Fiction	3.0
ENVS 260	Environmental Science and Society	3.0
Select one of the following	Halland Olahar History 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	2.0
HIST 275	History of Pennsylvania	3.0
LING 101 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
	Writing Poetry	
or WRIT 301	Writing Poetry	9.0
	Writing Poetry	9.0
or WRIT 301 Free electives	Writing Poetry Special Education Foundations: Referral and Assessment	9.0
or WRIT 301 Free electives Pedagogy Requirements		
or WRIT 301 Free electives Pedagogy Requirements EDEX 142	Special Education Foundations: Referral and Assessment	3.0
or WRIT 301 Free electives Pedagogy Requirements EDEX 142 EDEX 344	Special Education Foundations: Referral and Assessment Inclusive Practices	3.0 3.0
or WRIT 301 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
or WRIT 301 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
or WRIT 301 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
or WRIT 301 Free electives Pedagogy Requirements EDEX 142 EDEX 344 EDEX 368 [WI] EDLT 325 EDLT 326 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 Foundations in Education I: A Historical and Philosophical Perspective	3.0 3.0 3.0 3.0 3.0 3.0
or WRIT 301 Free electives Pedagogy Requirements EDEX 142 EDEX 344 EDEX 368 [WI] EDLT 325 EDLT 326 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 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
or WRIT 301 Free electives Pedagogy Requirements EDEX 142 EDEX 344 EDEX 368 [WI] EDLT 325 EDLT 326 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 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
or WRIT 301 Free electives Pedagogy Requirements EDEX 142 EDEX 344 EDEX 368 [WI] EDLT 325 EDLT 326 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 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
or WRIT 301 Free electives Pedagogy Requirements EDEX 142 EDEX 344 EDEX 368 [WI] EDLT 325 EDLT 326 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 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 1.0 1.0 1.0
or WRIT 301 Free electives Pedagogy Requirements EDEX 142 EDEX 344 EDEX 368 [WI] EDLT 325 EDLT 326 EDUC 101 EDUC 106 EDUC 107 EDUC 108 EDUC 123 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 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 1.0 1.0 1.0
or WRIT 301 Free electives Pedagogy Requirements EDEX 142 EDEX 344 EDEX 368 [WI] EDLT 325 EDLT 326 EDUC 101 EDUC 106 EDUC 107 EDUC 108 EDUC 123 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 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 1.0 1.0 1.0 3.0
or WRIT 301 Free electives Pedagogy Requirements EDEX 142 EDEX 344 EDEX 368 [WI] EDLT 325 EDLT 326 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 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 1.0 1.0 1.0 3.0 3.0
or WRIT 301 Free electives Pedagogy Requirements EDEX 142 EDEX 344 EDEX 368 [WI] EDLT 325 EDLT 326 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 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 1.0 1.0 3.0 1.0 3.0 3.0
or WRIT 301 Free electives Pedagogy Requirements EDEX 142 EDEX 344 EDEX 368 [WI] EDLT 325 EDLT 326 EDUC 101 EDUC 106 EDUC 107 EDUC 108 EDUC 123 EDUC 205 EDUC 216 EDUC 223 EDUC 305 [WI] EDUC 306 EDUC 308 EDUC 308 EDUC 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 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	3.0 3.0 3.0 3.0 3.0 1.0 1.0 3.0 3.0 3.0 3.0 3.0
or WRIT 301 Free electives Pedagogy Requirements EDEX 142 EDEX 344 EDEX 368 [WI] EDLT 325 EDLT 326 EDUC 101 EDUC 106 EDUC 107 EDUC 108 EDUC 213 EDUC 223 EDUC 216 EDUC 221 EDUC 305 [WI] EDUC 306 EDUC 308 EDUC 308 EDUC 312 EDUC 316	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 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 1.0 1.0 3.0 3.0 3.0 3.0 3.0 3.0
or WRIT 301 Free electives Pedagogy Requirements EDEX 142 EDEX 344 EDEX 368 [WI] EDLT 325 EDLT 326 EDUC 101 EDUC 106 EDUC 107 EDUC 108 EDUC 213 EDUC 223 EDUC 216 EDUC 223 EDUC 305 [WI] EDUC 306 EDUC 308 EDUC 312 EDUC 316 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 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 Educational Policy, Law & Advocacy	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
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or WRIT 301 Free electives Pedagogy Requirements EDEX 142 EDEX 344 EDEX 368 [WI] EDLT 325 EDLT 326 EDUC 101 EDUC 106 EDUC 107 EDUC 108 EDUC 213 EDUC 223 EDUC 216 EDUC 223 EDUC 305 [WI] EDUC 306 EDUC 305 EDUC 306 EDUC 308 EDUC 312 EDUC 316 EDUC 312 EDUC 316 EDUC 324 EDUC 328	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 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 Educational Policy, Law & Advocacy Teaching in Urban Contexts Current Research in Curriculum & Instruction Language Arts Processes Language Arts Processes 4-8	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
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or WRIT 301 Free electives Pedagogy Requirements EDEX 142 EDEX 344 EDEX 368 [WI] EDLT 325 EDLT 326 EDUC 101 EDUC 106 EDUC 107 EDUC 108 EDUC 213 EDUC 223 EDUC 216 EDUC 223 EDUC 305 [WI] EDUC 306 EDUC 305 EDUC 306 EDUC 302 EDUC 316 EDUC 312 EDUC 324 EDUC 324 EDUC 328 EDUC 328 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 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 Educational Policy, Law & Advocacy Teaching in Urban Contexts Current Research in Curriculum & Instruction Language Arts Processes Language Arts Teaching Methods English/Language Arts Teaching Methods for the Middle Years	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
or WRIT 301 Free electives Pedagogy Requirements EDEX 142 EDEX 344 EDEX 368 [WI] EDLT 325 EDLT 326 EDUC 101 EDUC 106 EDUC 107 EDUC 108 EDUC 223 EDUC 223 EDUC 216 EDUC 223 EDUC 305 [WI] EDUC 306 EDUC 308 EDUC 308 EDUC 308 EDUC 312 EDUC 324 EDUC 324 EDUC 328 EDUC 355 EDUC 360 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 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 Creating a Positive Classroom Climate Educational Policy, Law & Advocacy 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 English/Language Arts 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 3.0 3
or WRIT 301 Free electives Pedagogy Requirements EDEX 142 EDEX 344 EDEX 368 [WI] EDLT 325 EDLT 326 EDUC 101 EDUC 106 EDUC 107 EDUC 108 EDUC 223 EDUC 216 EDUC 223 EDUC 305 [WI] EDUC 306 EDUC 308 EDUC 308 EDUC 308 EDUC 312 EDUC 324 EDUC 324 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 Foundations in Education I: A Historical and Philosophical Perspective First Year Seminar: A Case of Schools and Cities 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 Teaching a Positive Classroom Climate Educational Policy, Law & Advocacy Teaching in Urban Contexts Current Research in Curriculum & Instruction Language Arts Processes Language Arts Processes Language Arts Teaching Methods English/Language Arts Teaching Methods Middle Years Science Methods Middle Years Science 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 3.0 3
or WRIT 301 Free electives Pedagogy Requirements EDEX 142 EDEX 344 EDEX 368 [WI] EDLT 325 EDLT 326 EDUC 101 EDUC 106 EDUC 107 EDUC 108 EDUC 223 EDUC 216 EDUC 223 EDUC 305 [WI] EDUC 306 EDUC 308 EDUC 308 EDUC 308 EDUC 312 EDUC 324 EDUC 326 [WI] EDUC 328 EDUC 326 EDUC 326 EDUC 360 EDUC 361 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 Foundations in Education I: A Historical and Philosophical Perspective First Year Seminar: A Case of Schools and Cities First Year Seminar: Esploring 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 Educational Policy, Law & Advocacy Teaching in Urban Contexts Current Research in Curriculum & Instruction Language Arts Processes Language Arts Processes Language Arts Teaching Methods English/Language Arts Teaching Methods for the Middle Years Middle Years Science Methods Middle Years Science Methods Middle Years Social Studies Methods Foundations in Instructing English Language Learners	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
or WRIT 301 Free electives Pedagogy Requirements EDEX 142 EDEX 344 EDEX 368 [WI] EDLT 325 EDLT 326 EDUC 101 EDUC 106 EDUC 107 EDUC 108 EDUC 223 EDUC 216 EDUC 216 EDUC 223 EDUC 305 [WI] EDUC 306 EDUC 308 EDUC 305 EDUC 308 EDUC 312 EDUC 324 EDUC 324 EDUC 325 EDUC 326 EDUC 360 EDUC 361 EDUC 362 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 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 Educational Policy, Law & Advocacy 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 Foundations in Instructing English Language Learners Senior Pedagogy Seminar	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
or WRIT 301 Free electives Pedagogy Requirements EDEX 142 EDEX 344 EDEX 368 [WI] EDLT 325 EDLT 326 EDUC 101 EDUC 106 EDUC 107 EDUC 108 EDUC 223 EDUC 216 EDUC 223 EDUC 305 [WI] EDUC 306 EDUC 308 EDUC 308 EDUC 308 EDUC 312 EDUC 324 EDUC 326 [WI] EDUC 328 EDUC 326 EDUC 326 EDUC 360 EDUC 361 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 Foundations in Education I: A Historical and Philosophical Perspective First Year Seminar: A Case of Schools and Cities First Year Seminar: Esploring 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 Educational Policy, Law & Advocacy Teaching in Urban Contexts Current Research in Curriculum & Instruction Language Arts Processes Language Arts Processes Language Arts Teaching Methods English/Language Arts Teaching Methods for the Middle Years Middle Years Science Methods Middle Years Science Methods Middle Years Social Studies Methods Foundations in Instructing English Language Learners	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

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 EDUC 306	3.0 EDEX 368	3.0 CHEM 111	4.0
COOP 101	1.0 EDUC 312	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: Middle Level Science and Math

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. 8) 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 Require	ments	
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

PNYS 161 Applicat Physics 3 PSY 101 Genoral Physichology 3 PSY 320 (W) Caprillor Psychology 3 PSY 320 (W) Caprillor Psychology 3 SCO 235 Colology of Education 1 LINY 101 The Drexel Experience 1 Free electives The Drexel Experience 1 PER 240 Special Education Foundations: Referral and Assessment 3 EDEX 342 Inclusive Practices 3 EDEX 342 Inclusive Practices 3 EDEX 342 Inclusive Practices 3 EDEX 343 Inclusive Practices 3 EDEX 342 Texth 242 3 EDEX 343 Inclusive Practices 3 EDEX 342 Texth 242 3 EDEX 343 Texth 242 3 EDEX 344 Texth 242 3	Total Credits		180.0
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PHYS 151 Applied Physics 3. PSY 101 General Psychology I 3. PSY 320 [WI] Educational Psychology 3. PSY 330 Cognitive Psychology 3. SCO 335 Sociology of Education 3. UNIV 7101 The Drexel Experience 1. Free electives 12. Pdagogy Requirements EDEX 142 Special Education Foundations: Referral and Assessment 3. EDEX 344 Inclusive Practices 3. EDEX 388 [WI] Literacy and Content Skill Development PK-12 3. EDLT 325 Design for Learning with Digital Media 3. EDUC 132 Technology Applications for Learning 3. EDUC 101 First Year Seminar: A Case of Schools and Cities 3. EDUC 106 First Year Seminar: Exploring Pedagogies 4. EDUC 108 First Year Seminar: Exploring Pedagogies 1. EDUC 108 First Year Seminar: Designing Learning Spaces 3.	EDUC 216	Diversity and Today's Teacher	3.0
PHYS 151 Applied Physics 3. PSY 101 General Psychology I 3. PSY 320 [WI] Educational Psychology 3. SPSY 330 Cognitive Psychology 3. SOC 335 Sociology of Education 3. UNIV 1101 The Drexel Experience 1. Free electives 12. Pedagogy Requirements 12. EDEX 142 Special Education Foundations: Referral and Assessment 3. EDEX 344 Inclusive Practices 3. EDEX 386 [WI] Literacy and Content Skill Development PK-12 3. EDLT 325 Design for Learning with Digital Media 3. EDLT 326 Technology Applications for Learning 3. EDUC 101 Foundations in Education I: A Historical and Philosophical Perspective 3. EDUC 106 First Year Seminar: A Case of Schools and Cities 1. EDUC 107 First Year Seminar: Exploring Pedagogies 1. EDUC 108 First Year Seminar: Designing Learning Spaces 1.	EDUC 205	Sophomore Pedagogy Seminar	1.0
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PHYS 151 Applied Physics 3. PSY 101 General Psychology I 3.	PSY 330	Cognitive Psychology	3.0
PHYS 151 Applied Physics 3.	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.	NFS 101	Introduction to Nutrition & Food	1.0

Sample Plan of Study 4 Year, One Co-op

3.0 EDUC 306

1.0 EDUC 312

BIO 162

COOP 101

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

3.0 EDEX 368

3.0 EDUC 216

3.0 CHEM 111

3.0 EDLT 325

4.0

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

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 Total Credit Hours: 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

or BIO 101 Cemena Biology I 3.0 or BIO 102 General Biology II 4.0 CHEM 111 General Biology II 4.0 CHEM 111 Introduction to Civic Engagement (CIVIC II) 1.0 COXD 101 Clarer Management and Professional Development (CIVIC II) 1.0 EXON 201 Principles of Commenciation 2.0 EXON 201 Principles Adminisorment and Information (CIVIC II) 1.0 EXON 201 Principles Adminisorments and Exponsion (Principles Adminisorments and Exposion) 3.0 EXON 201 English Composition and Research and Evidence-Based Writing (CIVIC II) 3.0 EXON 201 English Composition and Research and Evidence-Based Writing (CIVIC II) 3.0 or EXIGL 113 English Composition and Research and Evidence-Based Writing (CIVIC II) 3.0 EXIGL 113 English Composition and Research and Evidence-Based Writing (CIVIC II) 3.0 EXIGL 113 English Composition and Research and Evidence-Based Writing (CIVIC II) 3.0 EXIGL 113 English Composition and Research and Evidence-Based Writing (CIVIC II) 3.0 EXIGL 113 English Composition and Research and Evidence-Based Writing (CIVIC II)	BIO 100	Applied Cells, Genetics & Physiology	3.0
CRIMEN 1111 Cemental Chemistry	or BIO 161	General Biology I	
CHEM 111	BIO 101	Applied Biological Diversity, Ecology & Evolution	3.0
CVC.0101 Introduction to CVCE Engapement 1.0 COMD 1111 Principles of Communication 3.0 COMD 2011 Principles of Microconomics 4.0 ENOL 2011 Principles of Microconomics 4.0 ENOL 111 English Composition and Principles of Microconomics 1.0 ENOL 112 English Composition II 1.0 ENOL 122 English Composition III 1.0 ENOL 122 English Composition III 1.0 A PARCH 113 Composition and Release of Research and Evidence-Based Writing 3.0 A FENGL 113 English Composition III. 1.0 ENVIS 200 English Composition III. 1.0 ENVIS 201 Environmental Scence and Scoaty 3.0 HIST 275 History of Penneylvarian 3.0 MATH 177 Introduction to Analysis B 3.0 MATH 177 Introduction to Analysis C 3.0 MATH 177 Introduction to Analysis C 3.0 MS 5100 Introduction to Analysis C 3.0 MS 5101 Introduction to Multilion & Food 3.0	or BIO 162	General Biology II	
COMENTIAL Principles of Communication 3.0 COOP 101 Caneer Management and Prindessional Development 1.0 EVOL 101 Composition and Rhistoric Lithority and Expiratory Research 4.0 EVOL 101 Composition and Rhistoric Lithority and Expiratory Research 3.0 or EVOL 112 English Composition II 1 EVOL 103 Composition and Rhistoric III Rhaymace Research and Evidence-Based Writing 3.0 or EVOL 113 English Composition III 3.0 EVOL 103 Composition and Rhistoric III Rhaymace Research and Evidence-Based Writing 3.0 are EVOL 113 English Composition III 3.0 EVOL 200 English Composition III 3.0 EVOL 200 Environmental Selence and Society 3.0 AUTH 171 Introduction to Analysis A 3.0 MATH 172 Introduction to Analysis A 3.0 MATH 173 Introduction to Markey is A 3.0 MATH 174 Introduction to Markey is A 3.0 MATH 175 Introduction to Markey is A 3.0 MATH 176 Introduction to Markey is A 3.	CHEM 111	General Chemistry I	4.0
COCP 101 Camen Management and Professional Development 1.0 ECON 201 Principles of Microeconomics 4.0 ENGL 101 Corposition and Rheatine I: Inquiry and Exploratory Research 3.0 or ENGL 112 English Composition I 1 ENGL 102 English Composition II 2 ENGL 103 Corposition and Rheatine II: Alvanced Research and Evidence-Based Writing 3.0 or ENGL 112 English Composition II 2 ENGL 103 Corposition and Rheatine II: Alvanced Research and Evidence-Based Writing 3.0 or ENGL 113 English Composition III 3.0 ENGL 103 Corposition and Rheatine II: Alvanced Research and Evidence-Based Writing 3.0 ENGL 113 English Composition III 3.0 ENGL 114 English Composition III 3.0 ENGL 117 English Composition III 3.0 MIST 275 History of Pensylvania 3.0 MATH 177 Introduction to Analysis B 3.0 MATH 178 Introduction to Analysis C 3.0 MUSC 130 Introduction to Maries 3.0 <tr< td=""><td>CIVC 101</td><td>Introduction to Civic Engagement *</td><td>1.0</td></tr<>	CIVC 101	Introduction to Civic Engagement *	1.0
ECOLO 201	COM 111	Principles of Communication	3.0
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OF NEIL 110 English Composition and Rebatice II: Advanced Research and Evidence-Based Writing 3.0 or ENGL 120 Composition on And Rebatice III: Themes and Getres 3.0 or ENGL 133 English Composition II English (Literature) Elective Fanjath Composition II EINVS 200 Environmental Science and Society 3.0 MATH 171 Introduction to Analysis A 3.0 MATH 172 Introduction to Analysis A 3.0 MATH 173 Introduction to Analysis C 3.0 MATH 174 Probability and Statistics for Liberal Arts 3.0 MATH 173 Introduction to Analysis C 3.0 MATH 174 Probability and Statistics for Liberal Arts 3.0 MWISC 130 Introduction to No Nutrition Foods, and Health 3.0 NFS 101 Applied Physics 3.0 NFS 101 Applied Physics 3.0 SPSY 302 [Wijl Educational Physhology 3.0 SPSY 303 Cognitive Physhology 3.0 SPSY 305 [Wijl Educational Physhology 3.0 SPSY 305 [Wijl Physhology Seminar	ECON 201	Principles of Microeconomics	4.0
ENDEL 102 Composition and Rheboric III: Advanced Research and Evidence-Based Writing 3.0 or FNCL 113 English Composition III Composition and Rehotion III Themes and Genres 3.0 ENNCL 113 English Composition III English Composition III ERNS 260 Environmental Science and Society 3.0 ENNS 275 Hélatory 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 MS 230 Introduction to Music 3.0 MS 3101 Introduction to Music 3.0 MS 3101 A Introduction to Music 3.0 MS 3101 General Psychology I 3.0 SS 320 (Will) Education and Introduction to Music in Education Science and	ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 112 English Composition and Rhetoria II: Themes and Genres 3.0 or ENGL 113 English Composition and Rhetoria III: Themes and Genres 3.0 or ENGL 113 English Composition III English (Literature) Elective* 5.0 ENVS 280 Environmental Science and Society 3.0 MATH 171 Introduction to Analysia B 3.0 MATH 172 Introduction to Analysia B 3.0 MATH 173 Introduction to Manalysia C 3.0 MATH 174 Probability and Statistics for Liberal Arts 3.0 MISC 130 Introduction to Music 3.0 MS 100 Nutrion, Foods, and Health 3.0 M FS 101 A polled Physics 3.0 M FS 101 A polled Physics 3.0 PSY 130 Central Psychology I 3.0 PSY 330 Cognitive Psychology I	or ENGL 111	English Composition I	
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or ENGL 113 English Composition III English (Literature) Elective* Environmental Science and Society 3.0 ENNS 280 Environmental Science and Society 3.0 SENS 275 History of Pennsylvania 3.0 MATH 171 Introduction to Analysis B 3.0 MATH 173 Introduction to Analysis G 3.0 MATH 174 Introduction to Analysis G 3.0 MUSC 130 Introduction to Music 3.0 MUSC 130 Introduction to Music 3.0 NFS 101 Applied Physics 3.0 NFS 102 Applied Physics 3.0 NFS 103 Applied Physics 3.0 PSY 101 General Psychology I 3.0 PSY 320 (W) Educational Psychology 3.0 PSY 320 (W) Educational Psychology 3.0 PSY 320 (W) To Enreal Experience 3.0 DESY 324 Description Psychology 3.0 PSY 320 (W) To Enreal Experience 3.0 EDEX 124 Inclusive Practices 3.0	or ENGL 112	English Composition II	
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MATH 172 Introduction to Analysis C 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 Autrition, Foods, and Health 3.0 S NFS 101 and Introduction to Nutrition & Food PHYS 151 Applied Physics 3.0 PSY 101 General Psychology I 3.0 PSY 320 [WI] Educational Psychology 3.0 SPSY 320 [WI] Educational Psychology 3.0 SOC 335 Sociology of Education 3.0 SUNIVTIOI The Devel Experience * 1.0 PEDEX 142 Special Education Foundations: Referral and Assessment 3.0 EDEX 344 Inclusive Practices 3.0 EDEX 1325 Design for Learning with Digital Media 3.0 EDUC 101 Foundations in Education 1: A Historical and Philosophical Perspective 3.0 EDUC 102 First Year Seminar: Expioring Pedagogies 1.0 EDUC 103 First Year Seminar: Expioring Pedagogies 1.0 <td>HIST 275</td> <td>History of Pennsylvania</td> <td>3.0</td>	HIST 275	History of Pennsylvania	3.0
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or MATH 107 Probability and Statistics for Liberal Arts MUSC 130 Introduction to Music 3.0 NFS 100 Autrition, Foods, and Health 3.0 ANFS 101 Applied Physics 3.0 PFY 101 General Psychology I 3.0 PSY 201 [WI] Educational Psychology 3.0 PSY 330 Cognitive Psychology 3.0 SOS 335 Sociology of Education 3.0 UNIV T101 The Drexel Experience 1.0 PEAS 344 Inclusive Practices 3.0 EDEX 142 Special Education Foundations: Referral and Assessment 3.0 EDUC 101 Foundations in Education is: A Historical and Philosophical Perspective 3.0 EDUC 132 Special Education is: A Historical and Philosophical Perspective 3.0 EDUC 106 First Year Seminar: Exploring Pedagogies 1.0 EDUC 107 First Year Seminar: Exploring Pedagogies 1.0 EDUC 120 Child Development I: Typical Development 3.0 EDUC 121 Child Development I: Appical Development 3.0 EDUC 205 Sophom	MATH 172	Introduction to Analysis B	3.0
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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 7101 The Drexel Experience* 1.0 Pedagogy EDEX 142 Special Education Foundations: Referral and Assessment 3.0 EDEX 344 Inclusive Practices 3.0 EDUT 325 Design for Learning with Digital Media 3.0 EDUC 101 Foundations in Education I: A Historical and Philosophical Perspective 3.0 EDUC 102 First Year Seminar: A Case of Schools and Cities 1.0 EDUC 103 First Year Seminar: Designing Learning Spaces 1.0 EDUC 104 First Year Seminar: Designing Learning Spaces 1.0 EDUC 120 Child Development II: Atypical Development 3.0 EDUC 121 Child Development II: Atypical Development 3.0 EDUC 212 Adolescent Development 3.0 EDUC 210 Early Language Development 3.0 EDUC 216 Early Language Development 3.0	& NFS 101	and Introduction to Nutrition & Food	
PSY 320 [WI] Educational Psychology 3.0 PSY 330 Cognitive Psychology 3.0 SCC 335 Sociology of Education 3.0 LNIV 7101 The Drexel Experience ' 1.0 PPedagogy EDEX 142 Special Education Foundations: Referral and Assessment 3.0 EDEX 344 Inclusive Practices 3.0 EDIC 325 Design for Learning with Digital Media 3.0 EDUC 101 Foundations in Education I: A Historical and Philosophical Perspective 3.0 EDUC 106 First Year Seminar: A Case of Schools and Cities 1.0 EDUC 107 First Year Seminar: Exploring Pedagogies 1.0 EDUC 108 First Year Seminar: Designing Learning Spaces 1.0 EDUC 120 Child Development I: Typical Development 3.0 EDUC 121 Child Development II: Atypical Development 3.0 EDUC 205 Sophomore Pedagogy Seminar 1.0 EDUC 210 Early Language Development 3.0 EDUC 236 Early Language Development 3.0 EDUC 236 Early Lieracy I 3.0 <td>PHYS 151</td> <td>Applied Physics</td> <td>3.0</td>	PHYS 151	Applied Physics	3.0
PSY 330 Cognitive Psychology 3.0 SOC 335 Sociology of Education 3.0 UNIV Tr01 The Drexel Experience 1.0 Pedagogy EDEX 142 Special Education Foundations: Referral and Assessment 3.0 EDEX 344 Inclusive Practices 3.0 EDLT 325 Design for Learning with Digital Media 3.0 EDUC 101 Foundations in Education I: A Historical and Philosophical Perspective 3.0 EDUC 106 First Year Seminar: 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 226 Early Literacy I 3.0 EDUC 236 Early Literacy I 3.0 EDUC 306 [WI] Junior Pedagogy Seminar 1.0	PSY 101	General Psychology I	3.0
SOC 335 Sociology of Education 3.0 UNIV T101 The Drexel Experience 1.0 Pedagogy EDEX 142 Special Education Foundations: Referral and Assessment 3.0 EDEX 344 Inclusive Practices 3.0 EDLT 325 Design for Learning with Digital Media 3.0 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: Designing Learning Spaces 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 122 Adolescent Development 3.0 EDUC 205 Sophomore Pedagogy Seminar 1.0 EDUC 210 Early Language Development 3.0 EDUC 226 Diversity and Todays Teacher 3.0 EDUC 236 Early Literacy I 3.0 EDUC 306 [WI] Junior Pedagogy Seminar	PSY 320 [WI]	Educational Psychology	3.0
UNIV T101 The Drexel Experience 1.0 Pedagogy FDEX 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 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 202 Sophomore Pedagogy Seminar 1.0 EDUC 203 Early Language Development 3.0 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	PSY 330	Cognitive Psychology	3.0
Pedagogy EDEX 142 Special Education Foundations: Referral and Assessment 3.0 EDEX 344 Inclusive Practices 3.0 EDLT 325 Design for Learning with Digital Media 3.0 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: Exploring Pedagogies 1.0 EDUC 120 Child Development I: Typical Development 3.0 EDUC 121 Child Development II: Atypical Development 3.0 EDUC 122 Child Development II: Atypical Development 3.0 EDUC 233 Adolescent Development 3.0 EDUC 240 Early Language Development 3.0 EDUC 216 Diversity and Today's Teacher 3.0 EDUC 236 Early Literacy I 3.0 EDUC 305 [Wil] Junior Pedagogy Seminar 1.0 EDUC 306 [Wil] Junior Pedagogy Seminar 1.0 EDUC 306 Assessment o	SOC 335	Sociology of Education	3.0
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 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: Appical Development 3.0 EDUC 122 Child Development II: Appical 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 306 Assessment of Young Children 3.0	UNIV T101	The Drexel Experience	1.0
EDEX 344 Inclusive Practices 3.0 EDLT 325 Design for Learning with Digital Media 3.0 EDUC 101 Foundations in Education I: A Historical and Philosophical Perspective 3.0 EDUC 106 First Year Seminar: A Case of Schools and Cities 1.0 EDUC 107 First Year Seminar: Exploring Pedagogies 1.0 EDUC 108 First Year Seminar: Designing Learning Spaces 1.0 EDUC 120 Child Development I: Typical Development 3.0 EDUC 121 Child Development II: Atypical Development 3.0 EDUC 205 Sophomore Pedagogy Seminar 1.0 EDUC 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	Pedagogy		
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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 223 Adolescent Development 3.0 EDUC 205 Sophomore Pedagogy Seminar 1.0 EDUC 210 Early Language Development 3.0 EDUC 216 Diversity and Today's Teacher 3.0 EDUC 236 Early Literacy I 3.0 EDUC 305 [WI] Junior Pedagogy Seminar 1.0 EDUC 306 Assessment of Young Children 3.0	EDEX 344	Inclusive Practices	3.0
EDUC 106 First Year Seminar: A Case of Schools and Cities 1.0 EDUC 107 First Year Seminar: Exploring Pedagogies 1.0 EDUC 108 First Year Seminar: Designing Learning Spaces 1.0 EDUC 120 Child Development I: Typical Development 3.0 EDUC 121 Child Development II: Atypical Development 3.0 EDUC 123 Adolescent Development 3.0 EDUC 205 Sophomore Pedagogy Seminar 1.0 EDUC 210 Early Language Development 3.0 EDUC 216 Diversity and Today's Teacher 3.0 EDUC 236 Early Literacy I 3.0 EDUC 305 [WI] Junior Pedagogy Seminar 1.0 EDUC 306 Assessment of Young Children 3.0	EDLT 325	Design for Learning with Digital Media	3.0
EDUC 107 First Year Seminar: Exploring Pedagogies 1.0 EDUC 108 First Year Seminar: Designing Learning Spaces 1.0 EDUC 120 Child Development I: Typical Development 3.0 EDUC 121 Child Development II: Atypical Development 3.0 EDUC 123 Adolescent Development 3.0 EDUC 205 Sophomore Pedagogy Seminar 1.0 EDUC 210 Early Language Development 3.0 EDUC 216 Diversity and Today's Teacher 3.0 EDUC 236 Early Literacy I 3.0 EDUC 305 [WI] Junior Pedagogy Seminar 1.0 EDUC 306 Assessment of Young Children 3.0	EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 108 First Year Seminar: Designing Learning Spaces 1.0 EDUC 120 Child Development I: Typical Development 3.0 EDUC 121 Child Development II: Atypical Development 3.0 EDUC 123 Adolescent Development 3.0 EDUC 205 Sophomore Pedagogy Seminar 1.0 EDUC 210 Early Language Development 3.0 EDUC 216 Diversity and Today's Teacher 3.0 EDUC 236 Early Literacy I 3.0 EDUC 305 [WI] Junior Pedagogy Seminar 1.0 EDUC 306 Assessment of Young Children 3.0	EDUC 106	First Year Seminar: A Case of Schools and Cities	1.0
EDUC 120 Child Development I: Typical Development 3.0 EDUC 121 Child Development II: Atypical Development 3.0 EDUC 123 Adolescent Development 3.0 EDUC 205 Sophomore Pedagogy Seminar 1.0 EDUC 210 Early Language Development 3.0 EDUC 216 Diversity and Today's Teacher 3.0 EDUC 236 Early Literacy I 3.0 EDUC 305 [WI] Junior Pedagogy Seminar 1.0 EDUC 306 Assessment of Young Children 3.0	EDUC 107	First Year Seminar: Exploring Pedagogies	1.0
EDUC 121 Child Development II: Atypical Development 3.0 EDUC 123 Adolescent Development 3.0 EDUC 205 Sophomore Pedagogy Seminar 1.0 EDUC 210 Early Language Development 3.0 EDUC 216 Diversity and Today's Teacher 3.0 EDUC 236 Early Literacy I 3.0 EDUC 305 [WI] Junior Pedagogy Seminar 1.0 EDUC 306 Assessment of Young Children 3.0	EDUC 108	First Year Seminar: Designing Learning Spaces	1.0
EDUC 123 Adolescent Development 3.0 EDUC 205 Sophomore Pedagogy Seminar 1.0 EDUC 210 Early Language Development 3.0 EDUC 216 Diversity and Today's Teacher 3.0 EDUC 236 Early Literacy I 3.0 EDUC 305 [WI] Junior Pedagogy Seminar 1.0 EDUC 306 Assessment of Young Children 3.0	EDUC 120	Child Development I: Typical 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 121	Child Development II: Atypical Development	3.0
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 123	Adolescent 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 205	Sophomore Pedagogy Seminar	
EDUC 236 Early Literacy I 3.0 EDUC 305 [WI] Junior Pedagogy Seminar 1.0 EDUC 306 Assessment of Young Children 3.0	EDUC 210	Early Language Development	3.0
EDUC 305 [WI] Junior Pedagogy Seminar 1.0 EDUC 306 Assessment of Young Children 3.0	EDUC 216	Diversity and Today's Teacher	3.0
EDUC 306 Assessment of Young Children 3.0	EDUC 236	Early Literacy I	3.0
		Junior Pedagogy Seminar	
EDUC 308 Creating a Positive Classroom Climate 3.0		Assessment of Young Children	
	EDUC 308	Creating a Positive Classroom Climate	3.0

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 312	Educational Policy, Law & Advocacy	3.0

- UNIV T101, COOP 101 and CIVC 101 are not required for Education transfer students, instead these 3 credits are replaced with ESTM 342.
- ** 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 103, EDLT 201, EDLT 238, EDLT 301, EDLT 353, 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.

Sample Plan of Study

4 year, 1 co-op

On-campus Full-Time Plan of Study

On-campus ru	ii-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 305	1.0 EDUC 210	3.0
CHEM 111	4.0 COOP 101*	1.0 EDUC 236	3.0 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 EDUC 312	3.0
		English (Literature) Elective: ENGL 200 - ENGL 365	3.0 EDUC 324	3.0
		SOC 335	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	

* 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

First Year (Part-Time)				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
EDUC 101	3.0 EDUC 107	1.0 EDUC 108	1.0 ENGL 103 or 113	3.0
EDUC 106	1.0 EDUC 120	3.0 EDUC 121	3.0 EDUC 210	3.0
MATH 171	3.0 ENGL 102 or 112	3.0 EDEX 142	3.0 EDUC 210	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
EDUC 205	1.0 MUSC 130	3.0 EDUC 123	3.0 EDUC 312	3.0
EDEX 344	3.0 BIO 162	3.0 EDUC 236	3.0 EDUC 322	3.0
BIO 161	3.0 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

Special Education PK-12

Major: Special Education PK-12

Degree Awarded: Bachelor of Science (BS)

Calendar Type: Quarter Total Credit Hours: 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.

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

General Education/Content	Requirements	
Art History or Music Elective ((Choose one):	3.0
ARTH 101	History of Art I	
ARTH 102	History of Art II	
ARTH 103	History of Art III	
ARTH 316	African Art	
MUSC 130	Introduction to Music	
BIO 161	General Biology I	3.0
BIO 162	General Biology II	3.0
Science Elective (Choose One	e):	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: S	Select course between ENGL 200 - ENGL 360	3.0
HIST 275	History of Pennsylvania	3.0
MATH 107	Probability and Statistics for Liberal Arts	3.0
MATH 110	Precalculus	3.0
MATH 171	Introduction to Analysis A	3.0
MATH 172	Introduction to Analysis B	3.0
NFS 100	Nutrition, Foods, and Health	2.0
NFS 101	Introduction to Nutrition & Food	1.0
PSY 101	General Psychology I	3.0
PSY 320 [WI]	Educational Psychology	3.0
PSY 330	Cognitive Psychology	3.0
SOC 335	Sociology of Education	3.0
Pedagogy Requirements	J.	
EDLT 325	Design for Learning with Digital Media	3.0
EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 120	Child Development I: Typical Development	3.0
EDUC 106	First Year Seminar: A Case of Schools and Cities	1.0
EDUC 107	First Year Seminar: Exploring Pedagogies	1.0
EDUC 108	First Year Seminar: Designing Learning Spaces	1.0
EDUC 121	Child Development II: Atypical Development	3.0
EDUC 205	Sophomore Pedagogy Seminar	1.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 236	Early Literacy I	3.0
EDUC 305 [WI]	Junior Pedagogy Seminar	1.0
EDUC 308	Creating a Positive Classroom Climate	3.0
EDUC 312	Educational Policy, Law & Advocacy	3.0
EDUC 314	Science Teaching Methods	3.0
EDUC 316	Teaching in Urban Contexts	3.0
EDUC 322	Evaluation of Instruction	3.0
EDUC 324	Current Research in Curriculum & Instruction	3.0
EDUC 336	Early Literacy II	3.0
EDUC 355	Social Studies Teaching Methods	3.0
EDUC 360	English/Language Arts Teaching Methods for the Middle Years	1.5
LD30 300	English Language And Teaching memous for the midule Teals	1.5

EDUC 361	Middle Years Science Methods	1.5
EDUC 362	Middle Years Social Studies Methods	1.5
EDUC 363	Middle Years Mathematics Methods	1.5
EDUC 365	Foundations in Instructing English Language Learners	3.0
EDUC 405	Senior Pedagogy Seminar	1.0
EDUC 411	Family and Community Partnerships	3.0
MTED 417	Mathematics Methods and Content: Early Childhood	3.0
MTED 418	Mathematics Methods and Content	3.0
Special Education Core Courses		
EDEX 142	Special Education Foundations: Referral and Assessment	3.0
EDEX 336	Special Education Law and Processes	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

Sample Plan of Study

EDUC 405

EDUC 409

1.0 EDEX 414

9.0

Sample Flai	1 of Study			
First Year (Part-Time)				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
EDUC 101	3.0 EDUC 120	3.0 EDEX 142	3.0 EDUC 216	3.0
ENGL 101	3.0 EDUC 107	1.0 EDUC 121	3.0 ENGL 103	3.0
EDUC 106	1.0 ENGL 102	3.0 EDUC 108	1.0 HIST 275	3.0
PSY 101	3.0 MATH 171	3.0 MATH 172	3.0	
	10	10	10	9
Second Year (Part-Time)				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
BIO 161	3.0 BIO 162	3.0 EDUC 236	3.0 Art History or Music Elective	3.0
EDEX 344	3.0 EDEX 368	3.0 EDUC 305	1.0 EDEX 336	3.0
EDUC 205	1.0 EDUC 322	3.0 EDUC 308	3.0 EDUC 312	3.0
MATH 107	3.0	EDUC 365	3.0	
	10	9	10	9
Third Year (Part-Time)				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
EDEX 349	3.0 EDEX 355	3.0 EDEX 352	3.0 EDEX 350	3.0
EDEX 375	3.0 EDUC 316	3.0 Literature Elective	3.0 EDLT 325	3.0
MATH 110	3.0 NFS 100	2.0 Science Elective	3.0-4.0 EDUC 355	3.0
	NFS 101	1.0		
	9	9	9-10	9
Fourth Year (Part-Time)				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
EDEX 378	3.0 EDEX 348	3.0 EDEX 388	3.0 EDUC 360	1.5
EDUC 324	3.0 EDUC 314	3.0 EDUC 336	3.0 EDUC 361	1.5
EDUC 411	3.0 PSY 320	3.0 MTED 417	3.0 EDUC 362	1.5
			EDUC 363	1.5
	9	9	9	6
Fifth Year (Part-Time)				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits

9.0 COM 111

ECON 201

3.0 MTED 418

4.0 PSY 330

3.0

3.0

	SOC 335	3.0	
10	9	10	6

Total Credits 181-182

Education Faculty

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

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.

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

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

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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 Total Credit Hours: 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. 46)
- Chemistry (p. 51)
- NEW: Computer Science
- Earth & Space Science (p. 60)
- English (p. 66)
- General Science (p. 71)
- Mathematics (p. 75)
- Physics (p. 80)
- Social Studies (p. 84)

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

Additional Information

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

Teacher Education

44

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Teacher Education: Biology

Major: Teacher Education

Degree Awarded: Bachelor of Science (BS)

Calendar Type: Quarter Total Credit Hours: 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. 43) emphasizes coursework in the biological sciences, including genetics, morphology and physiology, biochemistry, microbiology, and ecology. Candidates may work with their academic advisor to satisfy teacher certification requirements for multiple areas, if desired.

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

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

Additional Information

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Degree Requirements

Degree Requirements		
CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
HIST 289	History of Science: Enlightenment to Modernity	4.0
MATH 121	Calculus I	4.0
MATH 122	Calculus II	4.0
MATH 123	Calculus III	4.0
PHIL 251	Ethics	3.0
PSY 101	General Psychology I	3.0
PSY 320 [WI]	Educational Psychology	3.0
UNIV T101	The Drexel Experience	1.0
Science Requirements		
BIO 131 & BIO 134	Cells and Biomolecules and Cells and Biomolecules Lab	5.0

EDUC 365 EDUC 405 Student Teaching Experience EDUC 409 [WI] EDUC 410 [WI]	Foundations in Instructing English Language Learners Senior Pedagogy Seminar Student Teaching Seminar I Student Teaching	3.0 1.0 9.0 9.0
EDUC 405 Student Teaching Experience	Senior Pedagogy Seminar	1.0
EDUC 405		
EDUC 365	Foundations in instructing English Language Learners	3.0
	Foundations in least esting Facility Logsware Logsware	
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 312	Educational Policy, Law & Advocacy	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 105	Freshman Pedagogy Seminar	3.0
EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDLT 326	Technology Applications for Learning	3.0
EDLT 325	Design for Learning with Digital Media	3.0
or EDEX 366	Literacy and Content Skill Development 7-12	
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		
PHYS 153	Introductory Physics II	4.0
PHYS 152	Introductory Physics I	4.0
ENVS 284	Physiological and Population Ecology	3.0
ENVS 230	General Ecology	3.0
CHEM 245	Organic Chemistry Laboratory II	3.0
CHEM 244	Organic Chemistry Laboratory I	3.0
CHEM 242	Organic Chemistry II	4.0
CHEM 241	Organic Chemistry I	4.0
CHEM 102	General Chemistry II	4.5
CHEM 101	General Chemistry I	3.5
BIO 404	Structure and Function of Biomolecules	4.0
BIO 374	Developmental Biology Lab	2.0
BIO 373	Developmental Biology	3.0
BIO 306	Biochemistry Laboratory	2.0
BIO 228	Evolutionary Biology & Human Health	3.0
BIO 219 [WI]	Techniques in Molecular Biology	3.0
BIO 218	Principles of Molecular Biology	4.0
BIO 215	Techniques in Cell Biology	3.0
BIO 214	Principles of Cell Biology	4.0
BIO 201	Human Physiology I	4.0
& BIO 136	and Anatomy and Ecology Lab	
BIO 133	Physiology and Ecology	5.0
& BIO 135	and Genetics and Evolution Lab	
BIO 132	Genetics and Evolution	5.0

Sample Plan of Study

4 year, 1 co-op

First Year		Year
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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 105	1.0 EDUC 105	1.0 EDUC 105	1.0	
ENGL 101 or 111	3.0 EDUC 113	3.0 EDUC 123	3.0	

	3.0	3.0 ENGL 103 or 113	4.0 ENGL 102 or 112	MATH 121
	4.0	4.0 MATH 123	1.0 MATH 122	UNIV T101
(19	17	17	
				Second Year
Credits	Credits Summer	Credits Spring	Credits Winter	Fall
4.0	4.0 BIO 218	3.0 BIO 214	4.0 BIO 215	BIO 201
4.0	4.0 CHEM 242	4.5 CHEM 241	3.5 CHEM 102	CHEM 101
3.0	0.0-3.0 EDLT 325	3.0 EDEX 366 or 368	1.0 EDUC 216	COOP 101
3.0	1.0 EDUC 322	3.0 EDUC 305	3.0 PSY 101	EDEX 344
4.0	3.0 PHYS 153	EDUC 308	1.0	EDUC 205
	4.0	PHYS 152	3.0	EDUC 223
			3.0	EDUC 365
18	16-19	13.5	18.5	
				Third Year
Credits	Credits Summer	Credits Spring	Credits Winter	Fall
3.0	3.0 BIO 228	BIO 219	COOP EXPERIENCE	COOP EXPERIENCE
2.0	3.0 BIO 306	3.0 BIO 373	3.0 CHEM 244	EDUC 315
3.0	2.0 EDUC 312	BIO 374		
3.0	3.0 EDUC 324	EDLT 326		
3.0	3.0 ENVS 230	EDUC 316		
14	14	3	3	
				Fourth Year
	Credits	Credits Spring	Credits Winter	Fall
	3.0	9.0 CHEM 245	4.0 EDUC 410	BIO 404
	1.0	3.0 EDUC 405	9.0 ENVS 284	EDUC 409
	4.0	HIST 289		
	3.0	PHIL 251		
	3.0	PSY 320		
	14	12	13	

Total Credits 192-195

4 year, no co-op

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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 ENGL 103 or 113	3.0	
EDUC 101	3.0 ENGL 102 or 112	3.0 EDEX 142	3.0	
EDUC 105	1.0 EDUC 105	1.0 EDUC 105	1.0	
MATH 121	4.0 EDUC 113	3.0 EDUC 123	3.0	
UNIV T101	1.0 MATH 122	4.0 MATH 123	4.0	
	17	17	19	0
Second Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
BIO 201	4.0 BIO 215	3.0 BIO 214	4.0 VACATION	
CHEM 101	3.5 CHEM 102	4.5 CHEM 241	4.0	
EDEX 344	3.0 EDUC 216	3.0 EDEX 366 or 368	0.0-3.0	
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	16-19	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 EDUC 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 192-195

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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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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 Total Credit Hours: 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. 43) emphasizes coursework in areas such as organic chemistry, physical chemistry, biochemistry, analytical chemistry, and inorganic chemistry. Candidates may work with their academic advisor to satisfy teacher certification requirements for multiple areas, if desired.

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

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

Additional Information

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

Degree Requirements

General Education Requirements

CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	

ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	3.0
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	0.0
English elective course between 200-3		3.0
MATH 121	Calculus I	4.0
MATH 122	Calculus II	4.0
MATH 200	Multivariate Calculus	4.0
HIST 289	History of Science: Enlightenment to Modernity	4.0
PHIL 251	Ethics	3.0
PSY 101	General Psychology I	3.0
PSY 320 [WI]	Educational Psychology	3.0
UNIV T101	The Drexel Experience	1.0
Science Requirements		
BIO 107	Cells, Genetics & Physiology	3.0
BIO 108	Cells, Genetics and Physiology Laboratory	1.0
CHEM 101	General Chemistry I	3.5
CHEM 102	General Chemistry II	4.5
CHEM 103	General Chemistry III	4.5
CHEM 230	Quantitative Analysis	4.0
CHEM 231 [WI]	Quantitative Analysis Laboratory	2.0
CHEM 241	Organic Chemistry I	4.0
CHEM 242	Organic Chemistry II	4.0
CHEM 243	Organic Chemistry III	3.0
CHEM 244	Organic Chemistry Laboratory I	3.0
CHEM 245	Organic Chemistry Laboratory II	3.0
CHEM 253	Thermodynamics and Kinetics	4.0
CHEM 357 [WI]	Physical Chemistry Laboratory I	2.5
CHEM 420	Molecular Symmetry and Group Theory Applied Chemistry	3.0
CHEM 421	Inorganic Chemistry I	3.0
ENVS 401	Chemistry of the Environment	3.0
PHEV 145	Weather I: Climate and Global Change	4.0
PHYS 101	Fundamentals of Physics I	4.0
PHYS 102	Fundamentals of Physics II	4.0
PHYS 201	Fundamentals of Physics III	4.0
Pedagogy Requirements		
EDEX 142	Special Education Foundations: Referral and Assessment	3.0
EDEX 344	Inclusive Practices	3.0
EDEX 368 [WI]	Literacy and Content Skill Development PK-12	3.0
EDLT 325	Design for Learning with Digital Media	3.0
EDLT 326	Technology Applications for Learning	3.0
EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 106	First Year Seminar: A Case of Schools and Cities	1.0
EDUC 107	First Year Seminar: Exploring Pedagogies	1.0
EDUC 108	First Year Seminar: Designing Learning Spaces	1.0
EDUC 113	Organizational Structure of Secondary Schools	3.0
EDUC 123	Adolescent Development	3.0
EDUC 205	Sophomore Pedagogy Seminar	1.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 223	Teaching the Middle School Child	3.0
EDUC 305 [WI]	Junior Pedagogy Seminar	1.0
EDUC 308	Creating a Positive Classroom Climate	3.0
EDUC 312	Educational Policy, Law & Advocacy	3.0
EDUC 315	Secondary Science Teaching Methods	3.0
EDUC 316	Teaching in Urban Contexts	3.0
EDUC 322	Evaluation of Instruction	3.0
EDUC 324	Current Research in Curriculum & Instruction	3.0
EDUC 365	Foundations in Instructing English Language Learners	3.0
EDUC 405	Senior Pedagogy Seminar	1.0
Student Teaching Experiences		
EDUC 409 [WI]	Student Teaching Seminar I	9.0
-		

EDUC 410 [WI]	Student Teaching (Chemistry)	9.0
Total Credits		186.0

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
CHEM 230	4.0 EDUC 216	3.0 EDUC 305	1.0 EDUC 322	3.0
COOP 101	1.0 MATH 200	4.0 EDUC 308	3.0 PHEV 145	4.0
EDEX 344	3.0	PHYS 101	4.0 PHYS 102	4.0
EDUC 205	1.0			
EDUC 223	3.0			
EDUC 365	3.0			
	19	13	15	17
Third Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE	COOP EXPERIENCE	CHEM 245	3.0 CHEM 253	4.0
EDUC 315	3.0 CHEM 244	3.0 EDLT 326	3.0 EDUC 312	3.0
		EDUC 316	3.0 EDUC 324	3.0
		PHYS 201	4.0 PHIL 251	3.0
	3	3	13	13
Fourth Year				
Fall	Credits Winter	Credits Spring	Credits	
CHEM 357	2.5 EDUC 410	9.0 CHEM 421	3.0	
EDUC 409	9.0 CHEM 420	3.0 EDUC 405	1.0	
ENGL 200 - ENGL 329	3.0	ENVS 401	3.0	
		HIST 289	4.0	
		PSY 320	3.0	
	14.5	12	14	
Total Cradita 196				

Total Credits 186

Education Faculty

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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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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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

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

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

Emeritus Faculty

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

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

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

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

Teacher Education: Computer Science

Major: Teacher Education

Degree Awarded: Bachelor of Science (BS)

Calendar Type: Quarter Total Credit Hours: 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. 43)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 %7CTWFpbGZsb3d8eyJWljoiMC4wLjAwMDAiLCJQIjoiV2luMzliLCJBTil6lk1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=jvgI5KX1BeChKo %2BaLBJrasq6Yrd7lPxXQ1qpwk5FHG4%3D&reserved=0) website.

Degree Requirements

General Education Requirement	nts	
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	

Biol 124	Total Credits		183.0-186.0
Bit Dit 10	ESTM 335	Teaching Secondary Computer Science	3.0
BO 133 mol Genetics and Reclation Lab BO 138 mol Assaminy and Ecology Lab CASEAL 011 Genetic Alconetiny II A CHEM 102 and Genetic Chemistry II A CHEM 103 discerned Chemistry II A CHEM 103 and Genetic Chemistry II A PIN'S 101 Extraormental of Physica II A PIN'S 201 and Trustmentals of Physica III A PIN'S 201 Computer Selection Physica III Corporative Selection Physical III 30 C ST 27 Computer Selection Physical III C ST 27 Adenosed Computer Programming I 30 C ST 276 Adenosed Computer Programming II 30 C ST 276 Adenosed Computer Programming III 30 C ST 277 AD Denosed Programming III 30 C ST 278 Advisored Programming III 30 C ST 279 AD Denosed Programming III 30 C	EDUC 410 [WI]	Student Teaching	9.0
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8 BO 135 on d'Genetica and Evolution Lab BIO 136 contratt of the properties of t	EDUC 405	Senior Pedagogy Seminar	1.0
8 BIO 135	EDUC 365	Foundations in Instructing English Language Learners	3.0
8 BIO 135	EDUC 324	Current Research in Curriculum & Instruction	3.0
8 BIO 135 and Cerentics and Evolution Lab BIO 136 and Avistory and Ecology Lab CHEM 101 Cereater Chemistry II & CHEM 102 and General Chemistry II A CHEM 103 and General Chemistry II PHYS 101 and General Chemistry II A PHYS 102 and Enderantentate of Physics II A PHYS 103 and Fundamentate of Physics II A PHYS 104 and Fundamentate of Physics II A PHYS 2071 and Fundamentate of Physics II S 171 Computer Science Programmant CS 172 Advanced Computer Physics Physics III or CS 175 Advanced Computer Physics Physics III or CS 176 Advanced Computer Physics Physics III of CS 177 Advanced Computer Physics Physics III of CS 278 Advanced Chemistry III CS 279 Advanced Chemistry III CS 277 Advanced Chemistry III CS 278 Mellemasical Foundations of Computer Science CS 277 Adjustimus and Analys CS 278 Special Explaints Architecture SE 131 Introduction to Software Engineering and Development	EDUC 322	Evaluation of Instruction	
8.8 ID 135 and Camerica and Evolution Lab 8.8 ID 136 cand Antoning and Ecology (ab) 6.0 IEM 101 cand Antoning and Ecology (ab) 6.0 IEM 102 cand Cameral Clemistry (ii) 8. CHEM 103 cand Cameral Clemistry (ii) 8. CHEM 103 cand Cameral Clemistry (ii) 8. CHEM 103 cand Cameral Clemistry (iii) 8. CHEM 103 cand Cameral Clemistry (iii) 8. CHEM 103 cand Cameral Clemistry (iii) 8. CHEM 103 cand Control Clemistry (iii) 8. PHYS 104 cand Turdiamentals of Physics II Computer Science Requirements cand CS 171 Computer Science Principles cand CS 174 Advanced Computer Programming I cand CS 175 Advanced Computer Programming I cand CS 206 Advanced Computer Programming I Cond and Techniques cand CS 276 Advanced Programming I Cond and Techniques cand CS 277 Algorithm and Analysis cand CS 278 Systems Architecture cand CS 278 Systems Architecture cand	EDUC 316	Teaching in Urban Contexts	3.0
BA BIO 135 and Generates and Evolution Lab BBIO 138 Physiology and Ecology Lab CHEM 101 General Chemistry II A CHEM 102 and General Chemistry II PHYS 101 A CHEM 102 A PHYS 102 and General Chemistry II PHYS 101 A PHYS 101 A PHYS 102 and Fundamentals of Physica II Computer Science Requirements Turbus and Fundamentals of Physica II CS 171 Computer Sponce Principles 3.0 C3 171 Computer Sponce Principles 3.0 C3 172 Computer Programming II 3.0 C5 173 Advanced Computer Programming III 3.0 C5 267 A Standersof Computer Programming III 3.0 C5 285 Advanced Computer Sponce 3.0 C5 270 Mathematics Foundations of Computer Sponce 3.0 C5 271 A Sponced Programming Tools and Techniques 3.0 C5 272 A Spontime and Analysis 3.0 C5 275 A Spontime and Analysis 3.0 C5 276 A Spontime and Analysis 3.0	EDUC 312	Educational Policy, Law & Advocacy	3.0
BIO 135 and Germiters and Evolution Lab BIO 136 chem 1019 BIO 137 chem 1019 CHEM 1019 chem 101 A CHEM 1013 chem 101 A CHEM 1013 chem 101 A CHEM 1013 and Germand Chemistry II PHYS 101 per 101 A PHYS 102 and Fundamentation of Physics II A PHYS 101 and Fundamentation of Physics II A PHYS 101 and Fundamentation of Physics III A PHYS 102 and Fundamentation of Physics III CS 177 Computer Programming II A CS 175 Advanced Computer Programming II A CS 176 Advanced Computer Programming II CS 270 Advanced Computer Programming II CS 280 Advanced Computer Programming II CS 280 Advanced Computer Programming II CS 270 Advanced Computer Programming II CS 271 Advanced Computer Programming II CS 281 Advanced Computer Programming II CS 282 Advanced Computer Programming II CS 278 Advanced Programming II CS 278 </td <td>EDUC 308</td> <td>Creating a Positive Classroom Climate</td> <td></td>	EDUC 308	Creating a Positive Classroom Climate	
B.B. 1915 and Genetics and Evolution Lab B.B. 1913 Phylosology and Ecology, and Anatomy and Ecology, ale C-HEM 102 and General Chemistry II B.C. HEM 103 and General Chemistry II B.C. HEM 103 and General Chemistry II B.Y. S. 101 A CHEM 103 B. PHYS 101 and Fundamentals of Physics II B. PHYS 102 and Fundamentals of Physics II B. PHYS 103 and Fundamentals of Physics III CS 175 Computer Science Requirements CS 176 Computer Programming II CS 177 Advanced Computer Programming II CS 280 Data Structures CS 280 Data Structures CS 280 Data Structures CS 281 Methernatical Foundations of Computer Science CS 282 Methernatical Foundations of Computer Science CS 281 Algorithms and Analysis CS 282 Springer April Andread Programming II CS 283 Algorithms and Analysis SE 11ed Inducation to Software Engineering and Development SE 129 Algorithms and Analysis SE 121 </td <td>EDUC 305 [WI]</td> <td>Junior Pedagogy Seminar</td> <td>1.0</td>	EDUC 305 [WI]	Junior Pedagogy Seminar	1.0
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BIO 132 Genetics and Evolution	& BIO 135	and Genetics and Evolution Lab	
	BIO 132	Genetics and Evolution	

Total Credits 183.0-186.0

Sample Plan of Study 4 year, 1 co-op

First Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CI 101	2.0 CI 102	2.0 CI 103	2.0 VACATION	
CS 150	3.0 CIVC 101	1.0 CS 172	3.0	
EDUC 101	3.0 CS 171	3.0 EDEX 142	3.0	
EDUC 106	1.0 EDUC 107	1.0 EDUC 108	1.0	
ENGL 101 or 111	3.0 EDUC 113	3.0 EDUC 123	3.0	
MATH 121	4.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
UNIV T101	1.0 MATH 122	4.0 MATH 123	4.0	
	17	17	19	0
Second Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP 101	1.0 CS 260	3.0 CS 375	3.0 EDLT 326	3.0
CS 265	3.0 ECON 201	4.0 EDEX 368	3.0 EDUC 322	3.0
CS 270	3.0 EDUC 216	3.0 EDUC 305	1.0 PSY 101	3.0
EDEX 344	3.0 MATH 221	3.0 EDUC 308	3.0 CCI Electives	6.0
EDUC 205	1.0	PHYS 101	4.0	
EDUC 365	3.0	PHIL 311	3.0	
	14	13	17	15
Third Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE	COOP EXPERIENCE	EDUC 316	3.0 EDUC 312	3.0
ESTM 335	3.0	HIST 285	4.0 EDUC 324	3.0
		MATH 311	4.0 PHYS 102	4.0
		PSY 320	3.0 CCI Electives	6.0
	3	0	14	16
Fourth Year				
Fall	Credits Winter	Credits Spring	Credits	
EDUC 223	3.0 EDUC 410	9.0 EDUC 405	1.0	
EDUC 409	9.0 PHYS 201	4.0 CCI Electives	12.0	
	12	13	13	

Total Credits 183

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: Earth and Space Science

Major: Teacher Education

Degree Awarded: Bachelor of Science (BS)

Calendar Type: Quarter Total Credit Hours: 184.0

Co-op Options: One Co-op (Four years); No 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 option within the BS in Teacher Education (p. 43) emphasizes interdisciplinary study involving coursework in biology, chemistry, geology, physics, and atmospheric science. 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
ECON 201	Principles of Microeconomics	4.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
English elective course between 200-	329	3.0
HIST 289	History of Science: Enlightenment to Modernity	4.0
MATH 121	Calculus I	4.0
MATH 122	Calculus II	4.0
MATH 123	Calculus III	4.0
PHIL 251	Ethics	3.0
PSY 101	General Psychology I	3.0
PSY 320 [WI]	Educational Psychology	3.0
UNIV T101	The Drexel Experience	1.0
Science Requirements		
BIO 131 & BIO 134	Cells and Biomolecules and Cells and Biomolecules Lab	5.0
BIO 132 & BIO 135	Genetics and Evolution and Genetics and Evolution Lab	5.0
BIO 133	Physiology and Ecology	5.0
& BIO 136	and Anatomy and Ecology Lab	
CHEM 101	General Chemistry I	3.5
CHEM 102	General Chemistry II	4.5
ENVS 230	General Ecology	3.0
ENVS 260	Environmental Science and Society	3.0
ENVS 284	Physiological and Population Ecology	3.0
ENVS 286	Community and Ecosystem Ecology	3.0
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
PHEV 146	Weather II: Analysis and Forecasting	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		

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
EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 106	First Year Seminar: A Case of Schools and Cities	1.0
EDUC 107	First Year Seminar: Exploring Pedagogies	1.0
EDUC 108	First Year Seminar: Designing Learning Spaces	1.0
EDUC 113	Organizational Structure of Secondary Schools	3.0
EDUC 123	Adolescent Development	3.0
EDUC 205	Sophomore Pedagogy Seminar	1.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 223	Teaching the Middle School Child	3.0
EDUC 305 [WI]	Junior Pedagogy Seminar	1.0
EDUC 308	Creating a Positive Classroom Climate	3.0
EDUC 312	Educational Policy, Law & Advocacy	3.0
EDUC 315	Secondary Science Teaching Methods	3.0
EDUC 316	Teaching in Urban Contexts	3.0
EDUC 322	Evaluation of Instruction	3.0
EDUC 324	Current Research in Curriculum & Instruction	3.0
EDUC 365	Foundations in Instructing English Language Learners	3.0
EDUC 405	Senior Pedagogy Seminar	1.0
Student Teaching Experiences		
EDUC 409 [WI]	Student Teaching Seminar I	9.0
EDUC 410 [WI]	Student Teaching	9.0
Total Credits		184.0

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

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

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

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		
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	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
CHEM 101	3.5 EDUC 216	3.0 EDEX 368	3.0 ECON 201	4.0
COOP 101*	1.0 ENVS 230	3.0 EDUC 305	1.0 EDLT 325	3.0
EDEX 344	3.0 ENVS 286	3.0 EDUC 308	3.0 EDUC 322	3.0
EDUC 205	1.0 GEO 102	4.0 HIST 289	4.0 PSY 101	3.0
EDUC 223	3.0	GEO 207	3.0 ENGL 200 - ENGL 329	3.0
EDUC 365	3.0			
ENVS 284	3.0			
	17.5	13	14	16
Third Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE	COOP EXPERIENCE	EDLT 326	3.0 EDUC 312	3.0
EDUC 315	3.0	EDUC 316	3.0 EDUC 324	3.0
		PHYS 131	3.0 ENVS 260	3.0

		GEO 101	4.0 PHIL 251	3.0
	3	0	13	12
Fourth Year				
Fall	Credits Winter	Credits Spring	Credits	
EDUC 409	9.0 EDUC 410	9.0 CHEM 102	4.5	
PHYS 101	4.0 PHYS 102	4.0 EDUC 405	1.0	
		PHEV 145	4.0	
		PHEV 146	4.0	
		PSY 320	3.0	
	13	13	16.5	

Total Credits 184

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

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

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

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		
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	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
CHEM 101	3.5 EDUC 216	3.0 EDEX 368	3.0 VACATION	
EDEX 344	3.0 EDUC 322	3.0 EDUC 308	3.0	
EDUC 205	1.0 ENVS 230	3.0 EDUC 305	1.0	
EDUC 223	3.0 ENVS 286	3.0 HIST 289	4.0	
EDUC 365	3.0 GEO 102	4.0 GEO 207	3.0	
ENVS 284	3.0			
	16.5	16	14	0
Third Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
ECON 201	4.0 EDLT 326	3.0 EDUC 324	3.0 VACATION	
EDLT 325	3.0 EDUC 316	3.0 EDUC 312	3.0	
EDUC 315	3.0 GEO 101	4.0 ENVS 260	3.0	
PSY 101	3.0 PHYS 131	3.0 PHIL 251	3.0	
ENGL 200 - ENGL 329	3.0			
	16	13	12	0
Fourth Year				
Fall	Credits Winter	Credits Spring	Credits	
EDUC 409	9.0 EDUC 410	9.0 CHEM 102	4.5	
PHYS 101	4.0 PHYS 102	4.0 EDUC 405	1.0	
		PHEV 145	4.0	
		PHEV 146	4.0	
		PSY 320	3.0	
		Free elective*	1.0	
	13	13	17.5	

Total Credits 184

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

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

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

Teacher Education: English

Major: Teacher Education

Degree Awarded: Bachelor of Science (BS)

Calendar Type: Quarter Total Credit Hours: 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. 43) 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	

HIRT 233	HIST 202	United States History, 1815-1900	
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EDUC 305 [WI] Junior Pedagogy Seminar 1.0 EDUC 308 Creating a Positive Classroom Climate 3.0 EDUC 312 Educational Policy, Law & Advocacy 3.0 EDUC 316 Teaching in Urban Contexts 3.0 EDUC 322 Evaluation of Instruction 3.0 EDUC 324 Current Research in Curriculum & Instruction 3.0 EDUC 358 English Teaching Methods 3.0 EDUC 365 Foundations in Instructing English Language Learners 3.0 EDUC 405 Senior Pedagogy Seminar 1.0	EDUC 216	Diversity and Today's Teacher	3.0
EDUC 308 Creating a Positive Classroom Climate 3.0 EDUC 312 Educational Policy, Law & Advocacy 3.0 EDUC 316 Teaching in Urban Contexts 3.0 EDUC 322 Evaluation of Instruction 3.0 EDUC 324 Current Research in Curriculum & Instruction 3.0 EDUC 358 English Teaching Methods 3.0 EDUC 365 Foundations in Instructing English Language Learners 3.0 EDUC 405 Senior Pedagogy Seminar 1.0	EDUC 223	Teaching the Middle School Child	3.0
EDUC 312 Educational Policy, Law & Advocacy 3.0 EDUC 316 Teaching in Urban Contexts 3.0 EDUC 322 Evaluation of Instruction 3.0 EDUC 324 Current Research in Curriculum & Instruction 3.0 EDUC 358 English Teaching Methods 3.0 EDUC 365 Foundations in Instructing English Language Learners 3.0 EDUC 405 Senior Pedagogy Seminar 1.0	EDUC 305 [WI]	Junior Pedagogy Seminar	
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			
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		Educational Policy, Law & Advocacy	
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		Teaching in Urban Contexts	
EDUC 358English Teaching Methods3.0EDUC 365Foundations in Instructing English Language Learners3.0EDUC 405Senior Pedagogy Seminar1.0	EDUC 322	Evaluation of Instruction	
EDUC 365 Foundations in Instructing English Language Learners 3.0 EDUC 405 Senior Pedagogy Seminar 1.0		Current Research in Curriculum & Instruction	
EDUC 405 Senior Pedagogy Seminar 1.0	EDUC 358	English Teaching Methods	
• "	EDUC 365	Foundations in Instructing English Language Learners	3.0
Student Teaching Experiences			1.0
	Student Teaching Experience	S	

Total Credits		182.0-184.0
Free Elective		3.0
EDUC 410 [WI]	Student Teaching	9.0
EDUC 409 [WI]	Student Teaching Seminar I	9.0

Sample Plan of Study

4 year, 1 co-op

First Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CHEM 111 or PHYS 170	3.0-4.0 ARTH 101	3.0 EDEX 142	3.0 VACATION	
EDUC 101	3.0 CHEM 112 or PHYS 175	3.0-4.0 EDUC 108	1.0	
EDUC 106	1.0 CIVC 101	1.0 EDUC 123	3.0	
ENGL 101 or 111	3.0 EDUC 107	1.0 ENGL 103 or 113	3.0	
MATH 171	3.0 EDUC 113	3.0 MATH 173	3.0	
PSY 101	3.0 ENGL 102 or 112	3.0 PHYS 131	3.0	
UNIV T101	1.0 MATH 172	3.0		
	17-18	17-18	16	0
Second Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP 101	1.0 EDUC 216	3.0 COM 230	3.0 ECON 201	4.0
EDEX 344	3.0 ENGL 201	3.0 EDEX 368	3.0 EDLT 325	3.0
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 EDUC 312	3.0
EDUC 358	3.0 ENGL 211	3.0 ENGL 304	3.0 EDUC 324	3.0
		PSY 320	3.0 ENGL 212	3.0
		SOC 335	3.0 ENGL 335	3.0
	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

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

Teacher Education: General Science

Major: Teacher Education

Degree Awarded: Bachelor of Science (BS)

Calendar Type: Quarter Total Credit Hours: 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. 43) is a well-rounded program incorporating biology, chemistry, mathematics, and physics. Candidates may work with their academic advisor to satisfy teacher certification requirements for multiple areas, if desired.

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

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

Additional Information

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

Degree Requirements

General Education Require	ements	
CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development	1.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
English (ENGL) course between	een 200-329	3.0
HIST 283	Technology and Identity	4.0
HIST 285	Technology in Historical Perspective	4.0
HIST 289	History of Science: Enlightenment to Modernity	4.0
MATH 121	Calculus I	4.0
MATH 122	Calculus II	4.0
MATH 123	Calculus III	4.0
PHIL 251	Ethics	3.0
PSY 101	General Psychology I	3.0
PSY 320 [WI]	Educational Psychology	3.0
UNIV T101	The Drexel Experience	1.0
Free Electives		6.0
Science Requirements		
BIO 107	Cells, Genetics & Physiology	3.0
BIO 108	Cells, Genetics and Physiology Laboratory	1.0
BIO 109	Biological Diversity, Ecology & Evolution	3.0
BIO 110	Biological Diversity, Ecology and Evolution Laboratory	1.0
CHEM 101	General Chemistry I	3.5
CHEM 102	General Chemistry II	4.5

CHEM 103	General Chemistry III	4.5
ENVS 284	Physiological and Population Ecology	3.0
ENVS 286	Community and Ecosystem Ecology	3.0
GEO 101	Physical Geology	4.0
GEO 102	History of the Earth	4.0
GEO 207	Introduction to Oceanography	3.0
PHEV 145	Weather I: Climate and Global Change	4.0
PHYS 101	Fundamentals of Physics I	4.0
PHYS 102		4.0
	Fundamentals of Physics II	
PHYS 131	Survey of the Universe	3.0
Pedagogy Requirements EDEX 142	Cassial Education Foundations, Deferral and Assessment	3.0
	Special Education Foundations: Referral and Assessment	
EDEX 344	Inclusive Practices	3.0
EDEX 368 [WI]	Literacy and Content Skill Development PK-12	
EDLT 325	Design for Learning with Digital Media	3.0
EDLT 326	Technology Applications for Learning	3.0
EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 106	First Year Seminar: A Case of Schools and Cities	1.0
EDUC 107	First Year Seminar: Exploring Pedagogies	1.0
EDUC 108	First Year Seminar: Designing Learning Spaces	1.0
EDUC 113	Organizational Structure of Secondary Schools	3.0
EDUC 123	Adolescent Development	3.0
EDUC 205	Sophomore Pedagogy Seminar	1.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 223	Teaching the Middle School Child	3.0
EDUC 305 [WI]	Junior Pedagogy Seminar	1.0
EDUC 308	Creating a Positive Classroom Climate	3.0
EDUC 312	Educational Policy, Law & Advocacy	3.0
EDUC 315	Secondary Science Teaching Methods	3.0
EDUC 316	Teaching in Urban Contexts	3.0
EDUC 322	Evaluation of Instruction	3.0
EDUC 324	Current Research in Curriculum & Instruction	3.0
EDUC 365	Foundations in Instructing English Language Learners	3.0
EDUC 405	Senior Pedagogy Seminar	1.0
Student Teaching Experiences		
EDUC 409 [WI]	Student Teaching Seminar I	9.0
EDUC 410 [WI]	Student Teaching	9.0
Total Credits		181.5

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	16	16	18	0
Second Year Fall	16 Credits Winter	16 Credits Spring	18 Credits Summer	0 Credits
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
Fall CHEM 101	Credits Winter 3.5 CHEM 102	Credits Spring 4.5 CHEM 103	Credits Summer 4.5 EDLT 325	Credits
Fall CHEM 101 COOP 101	Credits Winter 3.5 CHEM 102 1.0 EDUC 216	Credits Spring 4.5 CHEM 103 3.0 EDEX 368	Credits Summer 4.5 EDLT 325 3.0 EDUC 322	Credits 3.0 3.0
Fall CHEM 101 COOP 101 EDEX 344	Credits Winter 3.5 CHEM 102 1.0 EDUC 216 3.0 ENVS 286	Credits Spring 4.5 CHEM 103 3.0 EDEX 368 3.0 EDUC 305	Credits Summer 4.5 EDLT 325 3.0 EDUC 322 1.0 PHIL 251	Credits 3.0 3.0 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 EDUC 312	3.0
EDUC 315	3.0	EDUC 316	3.0 EDUC 324	3.0
		PSY 320	3.0 HIST 285	4.0
		PHYS 101	4.0 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 ENGL 200 - ENGL 329	3.0	
		GEO 207	3.0	
		HIST 289	4.0	
		PHEV 145	4.0	
	12	12	15	

Total Credits 181.5

Education Faculty

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^{*} Students must take ENVS 286 no later than Third Year, Winter term. Course is offered every other year.

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Teacher Education: Mathematics

Major: Teacher Education

Degree Awarded: Bachelor of Science (BS)

Calendar Type: Quarter Total Credit Hours: 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. 43) 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

Degree Requirer	nents	
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-	•	3.0
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	Austract Algebra 1	4.0
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
PHYS 101	Fundamentals of Physics I	4.0
PHYS 102	Fundamentals of Physics II	4.0
Pedagogy Requirements	i uluamentais oi rhysics 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
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 108	* * * * *	3.0
EDUC 123	Organizational Structure of Secondary Schools Adolescent Development	3.0
EDUC 205	Adolescent Development Sophomore Pedagogy Seminar	1.0
	Sophomore Pedagogy Seminar	
EDUC 216 EDUC 223	Diversity and Today's Teacher Teaching the Middle School Child	3.0
	Teaching the Middle School Child	
EDUC 305 [WI]	Junior Pedagogy Seminar	1.0

Student Teaching	9.0
Student Teaching Seminar I	9.0
Cultural and Historical Significance of Mathematics	3.0
Teaching Secondary Mathematics	3.0
Senior Pedagogy Seminar	1.0
Foundations in Instructing English Language Learners	3.0
Current Research in Curriculum & Instruction	3.0
Evaluation of Instruction	3.0
Teaching in Urban Contexts	3.0
Educational Policy, Law & Advocacy	3.0
Creating a Positive Classroom Climate	3.0
	Educational Policy, Law & Advocacy Teaching in Urban Contexts Evaluation of Instruction Current Research in Curriculum & Instruction Foundations in Instructing English Language Learners Senior Pedagogy Seminar Teaching Secondary Mathematics Cultural and Historical Significance of Mathematics Student Teaching Seminar I

First Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
EDUC 101	3.0 CIVC 101	1.0 BIO 107	3.0 VACATION	
EDUC 106	1.0 EDUC 107	1.0 BIO 108	1.0	
ENGL 101 or 111	3.0 EDUC 113	3.0 EDEX 142	3.0	
MATH 121	4.0 ENGL 102 or 112	3.0 EDUC 108	1.0	
PSY 101	3.0 MATH 122	4.0 EDUC 123	3.0	
UNIV 101	1.0 PHIL 251	3.0 ENGL 103 or 113	3.0	
		MATH 123	4.0	
	15	15	18	0
Second Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP 101*	1.0 ECON 201	4.0 CHEM 101	3.5 BIO 109	3.0
EDEX 344	3.0 EDUC 216	3.0 EDEX 368	3.0 BIO 110	1.0
EDUC 205	1.0 INFO 108 or CS 150	3.0 EDUC 305	1.0 CHEM 102	4.5
EDUC 223	3.0 MATH 201	4.0 EDUC 308	3.0 EDLT 325	3.0
EDUC 365	3.0	MATH 205	3.0 EDUC 322	3.0
HIST 289	4.0	MATH 210	4.0 MTED 428	3.0
MATH 200	4.0			
	19	14	17.5	17.5
Third Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE	COOP EXPERIENCE	EDLT 326	3.0 EDUC 312	3.0
MTED 419	3.0	EDUC 316	3.0 EDUC 324	3.0
		MATH 220	3.0 MATH 221	3.0
		PHYS 101	4.0 PHYS 102	4.0
	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 ENGL 200 - ENGL 395	3.0	
		ENVS 260	3.0	
		MATH 312	4.0	
		PSY 320	3.0	
	13	13	14	

Total Credits 185

^{*} 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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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 (*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: Physics

Major: Teacher Education

Degree Awarded: Bachelor of Science (BS)

Calendar Type: Quarter Total Credit Hours: 188.0

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. 43) 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 200-3	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 123	Calculus III	4.0
MATH 200	Multivariate Calculus	4.0

Total Credits		188.0
EDUC 410 [WI]	Student Teaching	9.0
EDUC 409 [WI]	Student Teaching Seminar I	9.0
Student Teaching Experiences		
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 312	Educational Policy, Law & Advocacy	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
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		
PHYS 326	Quantum Mechanics I	4.0
PHYS 321	Electromagnetic Fields I	4.0
PHYS 311	Classical Mechanics I	4.0
PHYS 217	Thermodynamics	4.0
PHYS 201	Fundamentals of Physics III	4.0
PHYS 131	Survey of the Universe	3.0
PHYS 115	Contemporary Physics III	5.0
PHYS 114	Contemporary Physics II	5.0
PHYS 113	Contemporary Physics I	5.0
PHEV 145	Weather I: Climate and Global Change	4.0
ENVS 260	Environmental Science and Society Weather It Climate and Clobal Change	3.0
CHEM 102	General Chemistry II	4.5
CHEM 101	General Chemistry I	
	Biological Diversity, Ecology and Evolution Laboratory	3.5
BIO 109 BIO 110	Biological Diversity, Ecology & Evolution	1.0
BIO 108		3.0
BIO 107 BIO 108	Cells, Genetics and Physiology Laboratory	1.0
BIO 107	Cells, Genetics & Physiology	3.0
Science Requirements	The blevel Experience	1.0
UNIV T101	The Drexel Experience	1.0
PSY 320 [WI]	Educational Psychology	3.0
PSY 101	General Psychology I	3.0
PHIL 251	Ethics	3.0
MATH 210	Differential Equations	4.0
MATH 201	Linear Algebra	4.0

First	Year	
Fall		

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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 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
ENGL 101 or 111	3.0 EDUC 107	1.0 MATH 123	4.0	

		PHYS 201	4.0	
		DI IV (0.004	4.0	
		PHYS 326	4.0	
PHYS 321	4.0	PHEV 145	4.0	
PHYS 217	4.0 PHYS 311	4.0 ENGL 200 - ENGL 329	3.0	
EDUC 409	9.0 EDUC 410	9.0 EDUC 405	1.0	
Fall	Credits Winter	Credits Spring	Credits	
Fourth Year				
	3	0	13	13
		PSY 320	3.0 PHYS 131	3.0
		MATH 201	4.0 MATH 210	4.0
EDUC 315	3.0	EDUC 316	3.0 EDUC 324	3.0
COOP EXPERIENCE	COOP EXPERIENCE	EDLT 326	3.0 EDUC 312	3.0
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
Third Year				
	19.5	16.5	15	13
PHYS 113	5.0			
EDUC 365	3.0			
EDUC 223	3.0	PSY 101	3.0	
EDUC 205	1.0 PHYS 114	5.0 PHYS 115	5.0 HIST 289	4.0
EDEX 344	3.0 MATH 200	4.0 EDUC 308	3.0 ENVS 260	3.0
COOP 101*	1.0 EDUC 216	3.0 EDUC 305	1.0 EDUC 322	3.0
CHEM 101	3.5 CHEM 102	4.5 EDEX 368	3.0 EDLT 325	3.0
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
Second Year				
	16	16	17	0
UNIV 101	1.0 MATH 122	4.0		
MATH 121	4.0 EDUC 113	3.0 PHIL 251	3.0	

Total Credits 188

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.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Emeritus Faculty

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

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

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

Teacher Education: Social Studies

Major: Teacher Education

Degree Awarded: Bachelor of Science (BS)

Calendar Type: Quarter Total Credit Hours: 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. 43) 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 Require	ements	
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 Red	quirments:	
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

Fourth Year				
	3	0	12	14
		SOC 335	3.0 SOC 210	4.0
		PSY 320	3.0 PSCI 150	4.0
EDUC 356	3.0	EDUC 316	3.0 EDUC 324	3.0
COOP EXPERIENCE	COOP EXPERIENCE	EDLT 326	3.0 EDUC 312	3.0
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
Third Year				
	14	18	19	16
EDUC 365	3.0	PSCI 140	4.0	
EDUC 223	3.0 PSY 150	3.0 HIST 203	4.0 SOC 101	3.0
EDUC 205	1.0 PSCI 110	4.0 HIST 202	4.0 PSCI 375	4.0
EDUC 112	3.0 HIST 214	4.0 EDUC 305	1.0 HIST 275	3.0
EDEX 344	3.0 HIST 201	4.0 EDUC 308	3.0 EDUC 322	3.0
COOP 101*	1.0 EDUC 216	3.0 EDEX 368	3.0 EDLT 325	3.0
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
Second Year				
	18	18	16	0
UNIV T101	1.0 MATH 172	3.0		
PSY 101	3.0 HIST 162 or 163	4.0 MATH 173	3.0	
HIST 161	4.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
MATH 171	3.0 EDUC 113	3.0 EDUC 123	3.0	
ENGL 101 or 111	3.0 EDUC 107	1.0 EDUC 108	1.0	
EDUC 106	1.0 CIVC 101	1.0 EDEX 142	3.0	
EDUC 101	3.0 ANTH 101	3.0 ANTH 110	3.0 VACATION	
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
First Year				

 Fall
 Credits Winter
 Credits Spring
 Credits

 EDUC 409
 9.0 ECON 201
 4.0 ECON 202
 4.0

PSCI 220	4.0 EDUC 410	9.0 EDUC 405	1.0
		HIST 212	4.0
		PSCI 240	4.0
	13	13	13

Total Credits 187

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

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

Education Faculty

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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.

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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.

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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

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 Total Credit Hours: 225.0

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

Classification of Instructional Programs (CIP) code: 13.1202 Standard Occupational Classification (SOC) code: 25-2031

About the Program

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

This BS/MS Education and Creativity & Innovation program attracts pre-service teachers who envision preparing their students for the new economy(s) and jobs, as well as for the challenges and adventures that will continue to unfold throughout the 21st century.

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

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

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

Admission Requirements

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

Degree Requirements

General Education/Content Requirements

BIO 100	Applied Cells, Genetics & Physiology	3.0
or BIO 161	General Biology I	
BIO 101	Applied Biological Diversity, Ecology & Evolution	3.0
or BIO 162	General Biology II	
CHEM 111	General Chemistry I	4.0
CIVC 101	Introduction to Civic Engagement	1.0
COM 111	Principles of Communication	3.0
COOP 101	Career Management and Professional Development *	1.0
ECON 201	Principles of Microeconomics	4.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
ENVS 260	Environmental Science and Society	3.0
HIST 275	History of Pennsylvania	3.0
MATH 171	Introduction to Analysis A	3.0
MATH 172	Introduction to Analysis B	3.0

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MATH 173	Introduction to Analysis C	3.0
or MATH 107	Probability and Statistics for Liberal Arts	0.0
MUSC 130	Introduction to Music	3.0
NFS 100 NFS 101	Nutrition, Foods, and Health Introduction to Nutrition & Food	2.0
PHYS 151		1.0 3.0
PSY 101	Applied Physics	3.0
PSY 320 [WI]	General Psychology I	3.0
PSY 330 [WI]	Educational Psychology Cognitive Revolution	3.0
SOC 335	Cognitive Psychology	3.0
UNIV T101	Sociology of Education The Drexel Experience	1.0
English (Literature) elective: Select con	•	3.0
Free electives	and between ENGL 200 - LINGE 000	10.0
Pedagogy Requirements		10.0
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
EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
EDUC 120	Child Development I: Typical Development	3.0
EDUC 106	First Year Seminar: A Case of Schools and Cities	1.0
EDUC 107	First Year Seminar: Exploring Pedagogies	1.0
EDUC 108	First Year Seminar: Designing Learning Spaces	1.0
EDUC 121	Child Development II: Atypical Development	3.0
EDUC 205	Sophomore Pedagogy Seminar	1.0
EDUC 210	Early Language Development	3.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 236	Early Literacy I	3.0
EDUC 305 [WI]	Junior Pedagogy Seminar	1.0
EDUC 306	Assessment of Young Children	3.0
EDUC 308	Creating a Positive Classroom Climate	3.0
EDUC 312	Educational Policy, Law & Advocacy	3.0
EDUC 314	Science Teaching Methods	3.0
EDUC 316	Teaching in Urban Contexts	3.0
EDUC 324	Current Research in Curriculum & Instruction	3.0
EDUC 326 [WI]	Language Arts Processes	3.0
EDUC 335	Engaging the Learner	3.0
EDUC 336	Early Literacy II	3.0
EDUC 338	Expressive Arts for PK-4	3.0
EDUC 355	Social Studies Teaching Methods	3.0
EDUC 365	Foundations in Instructing English Language Learners	3.0
EDUC 405	Senior Pedagogy Seminar	1.0
EDUC 411	Family and Community Partnerships	3.0
ESTM 342	Teaching Engineering Concepts to Children	3.0
MTED 417	Mathematics Methods and Content: Early Childhood	3.0
MTED 418	Mathematics Methods and Content	3.0
Student Teaching Experience		
EDUC 409 [WI]	Student Teaching Seminar I	9.0
EDUC 410 [WI]	Student Teaching	9.0
MS in Creativity & Innovation Core		
CRTV 501	Foundations in Creativity	3.0
CRTV 502	Tools and Techniques in Creativity	3.0
CRTV 503	Creativity in the Workplace	3.0
CRTV 615	Neuroscience, Creativity and Innovation	3.0
CRTV 650	Current Trends in Creativity & Innovation	3.0
CRTV 660	Diagnostic Creative Intervention	3.0
EDCR 510	Leadership in Educational Contexts and Systems	3.0
EDCR 514	Diversity, Equity, and Social Justice in Education	3.0
MS in Creativity & Innovation Capst		
EDU 780	Capstone Research	3.0
EDUL 780	Lesson Study Capstone Course I	3.0
or EDUT 780	Thesis Capstone Course I	

Drostitioner Constant Course I

er EDLID 700

or EDUP 780	Practitioner Capstone Course I	
EDUL 781	Lesson Study Capstone Course II	3.0-4.5
or EDUT 780	Thesis Capstone Course I	
or EDUP 780	Practitioner Capstone Course I	
Concentration Course Option	ns (Select one concentration from the options below)	12.0
Human Resource Develop	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	lucation	
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	
EDLT 551	Instructional Design Methods	
ELL 501	The Purpose and Business of E-Learning	
Learning in Game-Based	Environments	
EDLT 541	Foundations of Game-Based Learning	
EDLT 543	Play & Learning in a Participatory Culture	
EDLT 554	Learning with Social Media and Mobiles	
ELL 504	Learning Technologies & Disabilities	
Custom-Designed Concentra	ation	
A custom-designed concentration choose to declare a Gradua	ntration will consist of 12.0 professional electives that will be selected in consultation with the Program Director and/or Advisor. You may also ate Minor.	

Total Credits 225.0-226.5

Sample Plan of Study

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

Students complete undergraduate requirements in four years, then convert to graduate status in the fifth and final year.

First Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
EDUC 106	1.0 BIO 100 or 161	3.0 EDEX 142	3.0 VACATION	
EDUC 101	3.0 CIVC 101*	1.0 EDUC 108	1.0	
EDUC 120	3.0 COM 111	3.0 ENGL 103 or 113	3.0	
ENGL 101	3.0 EDUC 107	1.0 MATH 173 or 107	3.0	
MATH 171	3.0 EDUC 121	3.0 MUSC 130	3.0	
UNIV T101	1.0 ENGL 102 or 112	3.0 PSY 101	3.0	
	MATH 172	3.0		
	14	17	16	0
Second Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CHEM 111	4.0 BIO 101 or 161	3.0 EDUC 236	3.0 EDUC 210	3.0
EDEX 344	3.0 COOP 101*	1.0 EDUC 326	3.0 EDUC 306	3.0
EDUC 205	1.0 EDEX 368	3.0 EDUC 336	3.0 EDUC 312	3.0
EDUC 308	3.0 EDUC 216	3.0 EDUC 365	3.0 EDUC 335	3.0
PSY 330	3.0 EDUC 314	3.0 NFS 100	2.0 HIST 275	3.0
	EDUC 316	3.0 NFS 101	1.0 MTED 417	3.0

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

		PSY 320	3.0	
	14	16	18	18
Third Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE	COOP EXPERIENCE	ECON 201	4.0 EDLT 325	3.0
		EDUC 305	1.0 EDUC 324	3.0
		ESTM 342	3.0 EDUC 338	3.0
		PHYS 151	3.0 EDUC 355	3.0
		(UG) English (Literature) Elective: ENGL 200 - ENGL 360	3.0 MTED 418	3.0
		CRTV 501	3.0 CRTV 502	3.0
	0	0	17	18
Fourth Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
EDUC 405	1.0 EDUC 410	9.0 ENVS 260	3.0 Student classified as Graduate Student	
EDUC 409	9.0 SOC 335	3.0 (UG) Free electives	10.0 CRTV 615	3.0
EDUC 411	3.0 (GR) MS Concentration Course	3.0 CRTV 503	3.0 CRTV 650	3.0
			(GR) MS Concentration Course	3.0
	13	15	16	9
Fifth Year				
Fall	Credits Winter	Credits Spring	Credits	
EDCR 510	3.0 EDCR 514	3.0 CRTV 660	3.0	
EDU 780	3.0 EDUL 780, EDUT 780, or EDUP 780	3.0 EDUL 781, EDUT 780, or EDUP 780	3.0-4.5	
(GR) MS Concentration	3.0 (GR) MS Concentration	3.0		
Course	Course			
	9	9	6-7.5	

Total Credits 225-226.5

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 Total Credit Hours: 225.0 Co-op Options: One Co-op

Classification of Instructional Programs (CIP) code: 13.1202 Standard Occupational Classification (SOC) code: 25-2022

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

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

- 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 Require	ments	
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	urse between ENGL 200 - ENGL 360	3.0
Free electives		10.0
Pedagogy Requirements		
EDEX 142	Special Education Foundations: Referral and Assessment (MS in TLC Core)	3.0
EDEX 344	Inclusive Practices	3.0
EDEX 368 [WI]	Literacy and Content Skill Development PK-12	3.0
EDLT 325	Design for Learning with Digital Media	3.0
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 312	Educational Policy, Law & Advocacy	3.0
EDUC 314	Science Teaching Methods	3.0
EDUC 316	Teaching in Urban Contexts	3.0
EDUC 324	Current Research in Curriculum & Instruction	3.0
EDUC 326 [WI]	Language Arts Processes	3.0
EDUC 335	Engaging the Learner	3.0
EDUC 336	Early Literacy II	3.0
EDUC 338	Expressive Arts for PK-4	3.0
EDUC 355	Social Studies Teaching Methods	3.0
EDUC 365	Foundations in Instructing English Language Learners	3.0
EDUC 405	Senior Pedagogy Seminar	1.0
EDUC 411	Family and Community Partnerships	3.0
ESTM 342	Teaching Engineering Concepts to Children	3.0
MTED 417	Mathematics Methods and Content: Early Childhood	3.0
MTED 418	Mathematics Methods and Content	3.0
Student Teaching Experienc	e	
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	3.0
EDLT 532	Designing Virtual Communities for Staff Development - Non-Field Experience	3.0
EDUC 524	Current Research in Curriculum & Instruction (or 500-800 level Professional Elective) **	3.0
EDUC 530	Advanced Techniques in Instruction & Assessment	3.0
EDUC 609	Language & Culture in Education	3.0
Policy, Law & Organization (Courses (Choose 2)	6.0
EDPO 620	Education Policy: Concepts, Issues, and Applications	
or EDAM 705	School Law and Politics	
or EDUC 804	Program Evaluation in Organizations	
MS in TLC Capstone Sequen	ice Transfer of the second of	
EDU 780	Capstone Research	3.0
EDUL 780	Lesson Study Capstone Course I	3.0
or EDUP 780	Practitioner Capstone Course I	
or EDUT 780	Thesis Capstone Course I	
EDUL 781	Lesson Study Capstone Course II	3.0
or EDUP 781	Practitioner Capstone Course II	
or EDUT 781	Thesis Capstone Course II	
Professional or Concentration	on Electives ^T	15.0
Total Credits		225.0

- COOP 101, CIVC 101 and UNIV T101 are not required for Education transfer students, instead these 3.0 credits are replaced with free
- ** BS/MS ELEM students who took EDUC 324 will take graduate-level professional electives instead of EDUC 524.
- *** Capstone Sequence I & II: Choose one sequence EDUL 780 & EDUL 781, EDUP 780 & EDUC 781 or EDUT 780 & EDUT 781
- † Complete 15.0 graduate elective credits (500-799) in EDUC, EDEX, EDGI, EDAM, EHRD, EDHE, CRTV, MTED, EDLT, EDLS, ELL, ABA, EDPO, SCL, ENTP, or ESTM.

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 EDUC 210	3.0
EDEX 344	3.0 COOP 101	1.0 EDUC 326	3.0 EDUC 312	3.0
EDUC 205	1.0 EDEX 368	3.0 EDUC 365	3.0 EDUC 335	3.0
EDUC 308	3.0 EDUC 216	3.0 NFS 100	2.0 EDUC 306	3.0
PSY 330	3.0 EDUC 314	3.0 NFS 101	1.0 HIST 275	3.0
(UG) ENGL (Literature) elective: ENGL 200- ENGL 360	3.0 EDUC 316	3.0 PSY 320	3.0	
	17	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
		(GR) MS Professional Elective	3.0 MTED 418	3.0
			(GR) MS Professional Elective	3.0
	3	3	14	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 524 (or 500-800 level Professional Elective)***	3.0
EDUC 411	3.0 EDLT 532	3.0 EDAM 714	3.0 EDUC 530	3.0
EDPO 620 or EDUC 804	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 EDUT 780, EDUP 780, or EDUL 780	3.0 EDUT 781, EDUP 781, or EDUL 781	3.0	
EDUC 609	3.0 (GR) MS Professional Elective	3.0 (GR) MS Professional Elective	3.0	
(GR) MS Professional Elective	3.0			
	9	6	6	

Total Credits 225

- * COOP 101, CIVC 101 and UNIV T101 are not required for Education transfer students, instead these 3.0 credits are replaced with free electives.
- ** Accelerated Degree Level Conversion form (https://drexel.edu/graduatecollege/forms-policies/forms/) must be submitted to the Graduate College in Spring Term.
- *** BS/MS ELEM students who took EDUC 324 will take graduate level professional elective instead of EDUC 524

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 & Spec Ed) BS / Teaching, Learning & Curriculum MS

Major: Elementary Education, PK-4 and Special Education; Teaching, Learning and Curriculum

Degree Awarded: Bachelor of Science (BS) and Master of Science (MS)

Calendar Type: Quarter Total Credit Hours: 233.0 Co-op Options: One Co-op

Classification of Instructional Programs (CIP) code: 13.1202 Standard Occupational Classification (SOC) code: 25-2022

About the Program

The BS/MS in Elementary Education (PK-4 and Special Education) 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 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

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 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

Conoral	Education/Content	Doquiromonte
General	Education/Content	Reduirements

General Education/Content Require	ments	
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		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	The Brown Experience	
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 120	Child Development I: Typical Development	3.0
EDUC 121	Child Development II: Atypical Development	3.0
EDUC 205	Sophomore Pedagogy Seminar	1.0
EDUC 216	Diversity and Today's Teacher	3.0
EDUC 236	Early Literacy I	3.0
EDUC 305 [WI]	Junior Pedagogy Seminar	1.0
EDUC 306	Assessment of Young Children	3.0
EDUC 308	Creating a Positive Classroom Climate	3.0
EDUC 312	Educational Policy, Law & Advocacy	3.0
EDUC 312	Science Teaching Methods	3.0
EDUC 314	Teaching in Urban Contexts	3.0
EDUC 316	Current Research in Curriculum & Instruction	3.0
		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
MS in TLC Core		
EDAM 714	Instructional and Curriculum Leadership	3.0
EDLT 532	Designing Virtual Communities for Staff Development - Non-Field Experience	3.0
EDUC 524	Current Research in Curriculum & Instruction	3.0
EDUC 530	Advanced Techniques in Instruction & Assessment	3.0
EDUC 609	Language & Culture in Education	3.0
Policy, Law & Organization Course	es (Choose 2)	6.0
EDAM 705	School Law and Politics	
EDPO 620	Education Policy: Concepts, Issues, and Applications	
EDUC 804	Program Evaluation in Organizations	
MS in TLC Capstone Sequence		
EDU 780	Capstone Research	3.0
EDUL 780	Lesson Study Capstone Course I	3.0
or EDUT 780	Thesis Capstone Course I	
or EDUP 780	Practitioner Capstone Course I	
EDUL 781	Lesson Study Capstone Course II	3.0
or EDUT 780	Thesis Capstone Course I	
or EDUP 780	Practitioner Capstone Course I	
Professional or Concentration Elec	ctives	15.0
Total Credits		233.0

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

First Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
EDUC 101	3.0 BIO 100 or 161	3.0 EDEX 142	3.0 VACATION	
EDUC 106	1.0 CIVC 101	1.0 ENGL 103 or 113	3.0	
EDUC 120	3.0 COM 111	3.0 EDUC 108	1.0	
ENGL 101 or 111	3.0 EDUC 107	1.0 MATH 173 or 107	3.0	
MATH 171	3.0 EDUC 121	3.0 MUSC 130	3.0	
UNIV T101	1.0 ENGL 102 or 112	3.0 PSY 101	3.0	
	MATH 172	3.0		
	14	17	16	0
Second Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
EDEX 344	3.0 BIO 101 or 162	3.0 EDUC 236	3.0 EDEX 350	3.0
EDEX 349	3.0 COOP 101*	1.0 EDUC 326	3.0 EDUC 306	3.0

EDUC 205	1.0 EDEX 348	3.0 EDUC 365	3.0 EDUC 312	3.0
EDUC 308	3.0 EDEX 368	3.0 NFS 100	2.0 EDUC 324	3.0
English (Literature) elective: ENGL 200 - ENGL 360	3.0 EDUC 216	3.0 NFS 101	1.0 HIST 275	3.0
	EDUC 314	3.0 PSY 320	3.0	
	EDUC 316	3.0		
	13	19	15	15
Third Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE	COOP EXPERIENCE	EDEX 378	3.0 EDUC 335	3.0
MTED 417	3.0 EDUC 336	3.0 EDEX 388	3.0 EDUC 338	3.0
		EDUC 305	1.0 EDUC 355	3.0
		EDUC 411	3.0 ENVS 260	3.0
		PHYS 151	3.0 MTED 418	3.0
		PSY 330	3.0 (GR) MS Professional Elective	3.0
		(GR) MS Professional Elective	3.0	
	3	3	19	18
Fourth Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
EDEX 336	3.0 EDEX 355	3.0 CHEM 111	4.0 EDAM 705	3.0
EDUC 405	1.0 EDEX 414	9.0 ECON 201	4.0 EDUC 530	3.0
EDUC 409	9.0 SOC 335	3.0 EDEX 352	3.0 EDUC 524	3.0
EDPO 620 or EDUC 804	3.0 EDLT 532	3.0 EDLT 325	3.0	
		EDAM 714	3.0	
		Student converts to Grad status at the end of the Spring term		
	16	18	17	9
Fifth Year				
Fall	Credits Winter	Credits Spring	Credits	
EDU 780	3.0 EDUL 780, EDUT 780, or EDUP 780	3.0 EDUL 781, EDUT 780, or EDUP 780	3.0	
EDUC 609	3.0 (GR) MS Professional Elective	3.0 (GR) MS Professional Elective	3.0	
(GR) MS Professional Elective	3.0			
-	9		6	

Total Credits 233

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.

^{*} 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.

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 Total Credit Hours: 226.0 Co-op Options: One Co-op

Classification of Instructional Programs (CIP) code: 13.1305 Standard Occupational Classification (SOC) code: 25-2021

About the Program

The Teacher Education, English BS and MS in Teaching, Learning and Curriculum offers a flexible, innovative curriculum with a unique emphasis on creative problem solving and the application of the latest technologies to learning. This accelerated degree program allows candidates to pursue a BS in Education (Secondary/English) with Pennsylvania initial state teacher certification and continue for a fifth graduate year to complete the MS in Teaching, Learning and Curriculum (Advanced Track).

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

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

Admission Requirements

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

Degree Requirements

General Education Requirements

ARTH 101	History of Art I	3.0
CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development	1.0
COM 230	Techniques of Speaking	3.0
ECON 201	Principles of Microeconomics	4.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0

PAME	or ENGL 113	English Composition III	
Mart 701			3.0
Hist 724			
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NF 9101 Introduction to National Food 10 PRYS 101 General Psychology 30 PSY 2010/IV Security Psychology 30 SOS 355 Sociational Psychology 30 WRT 2019/IV Creative Writing 30 WRT 2019/IV Creative Writing 30 UN TUT 10 Creative Security 30 Security 10 Creative Security 30 Selective Signate 10 Creative Security 30 <t< td=""><td>NFS 100</td><td>Nutrition, Foods, and Health</td><td></td></t<>	NFS 100	Nutrition, Foods, and Health	
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EDUC 324 Current Research in Curriculum & Instruction 3.0		Teaching in Urban Contexts	
	EDUC 322	Evaluation of Instruction	
EDUC 358 English Teaching Methods 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 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	3.0
EDLT 532	Designing Virtual Communities for Staff Development - Non-Field Experience	3.0
EDUC 524	Current Research in Curriculum & Instruction	3.0
EDUC 530	Advanced Techniques in Instruction & Assessment	3.0
EDUC 609	Language & Culture in Education	3.0
Policy, Law & Organization	Policy, Law & Organization Courses (Choose 2)	
EDPO 620	Education Policy: Concepts, Issues, and Applications	3.0
or EDAM 705	School Law and Politics	
or EDUC 804	Program Evaluation in Organizations	
MS in TLC Capstone Seque	ence	
EDU 780	Capstone Research	3.0
EDUL 780	Lesson Study Capstone Course I	3.0
or EDUT 780	Thesis Capstone Course I	
or EDUP 780	Practitioner Capstone Course I	
EDUL 781	Lesson Study Capstone Course II	3.0
or EDUT 780	Thesis Capstone Course I	
or EDUP 780	Practitioner Capstone Course I	
Professional or Concentrati	ion Electives	15.0
Total Credits		224.0-226.0

4 year, 1 co-op

First Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
CHEM 111 or PHYS 170	3.0-4.0 ARTH 101	3.0 EDEX 142	3.0 VACATION	
EDUC 101	3.0 CHEM 112 or PHYS 175	3.0-4.0 EDUC 108	1.0	
EDUC 106	1.0 CIVC 101	1.0 EDUC 123	3.0	
ENGL 101 or 111	3.0 EDUC 107	1.0 ENGL 103 or 113	3.0	
MATH 171	3.0 EDUC 113	3.0 MATH 173	3.0	
PSY 101	3.0 ENGL 102 or 112	3.0 PHYS 131	3.0	
UNIV T101	1.0 MATH 172	3.0		
	17-18	17-18	16	0
Second Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP 101	1.0 EDUC 216	3.0 COM 230	3.0 ECON 201	4.0
EDEX 344	3.0 ENGL 201	3.0 EDEX 368	3.0 EDLT 325	3.0
ENGL 200	3.0 INFO 101	3.0 EDUC 308	3.0 EDUC 322	3.0
EDUC 205	1.0 LING 101	3.0 EDUC 305	1.0 HIST 201, 202, or 203	4.0
EDUC 223	3.0 NFS 100 & NFS 101	3.0 ENVS 260	3.0	
EDUC 365	3.0 WRIT 301	3.0		
WRIT 225	3.0			
	17	18	13	14
Third Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP EXPERIENCE	COOP EXPERIENCE	EDUC 316	3.0 EDUC 312	3.0
EDUC 358	3.0 ENGL 211	3.0 ENGL 304	3.0 EDUC 324	3.0
		PSY 320	3.0 ENGL 212	3.0
		SOC 335	3.0 ENGL 335	3.0
		(GR) MS Professional Elective	3.0 (GR) MS Professional Elective	3.0
	3	3	15	15

	9	6	6	
(GR) MS Professional Elective	3.0			
EDUC 609	3.0 (GR) MS Professional Elective	3.0 (GR) MS Professional Elective	3.0	
EDU 780	3.0 EDUL 780, EDUT 780, or EDUP 780	3.0 EDUL 781, EDUT 780, or EDUP 780	3.0	
Fall	Credits Winter	Credits Spring	Credits	
Fifth Year				
	15	15	16	9
		Student converts to Grad status at the end of the Spring term		
		EDAM 714	3.0	
		MUSC 130	3.0	
		ENGL 325	3.0	
EDPO 620 or EDUC 804	3.0 EDLT 532	3.0 ENGL 206	3.0 EDUC 524	3.0
ENGL 204	3.0 ENGL 335	3.0 ENGL 205	3.0 EDUC 530	3.0
EDUC 409	9.0 EDUC 410	9.0 EDUC 405	1.0 EDAM 705	3.0
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
Fourth Year				

Total Credits 224-226

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 Total Credit Hours: 230.0 Co-op Options: One Co-op

Classification of Instructional Programs (CIP) code: 13.1205 Standard Occupational Classification (SOC) code: 25-2031

About the Program

The Teacher Education, Secondary Mathematics (7-12) BS and Teaching, Learning and Curriculum MS (Advanced Track) offers a flexible, innovative curriculum with a unique emphasis on creative problem-solving and the application of the latest technologies to learning. This accelerated degree program allows candidates to pursue a BS in Education (Secondary Mathematics 7-12) with Pennsylvania initial state teacher certification and continue for a fifth graduate year to complete the MS in Teaching Learning and Curriculum (Advanced Track).

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

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

Admission Requirements

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

Degree Requirements

General Education Requirements		
CIVC 101	Introduction to Civic Engagement	1.0
COOP 101	Career Management and Professional Development	1.0
CS 150	Computer Science Principles	3.0
ECON 201	Principles of Microeconomics	4.0
ENGL 101	Composition and Rhetoric I: Inquiry and Exploratory Research	3.0
or ENGL 111	English Composition I	
ENGL 102	Composition and Rhetoric II: Advanced Research and Evidence-Based Writing	3.0
or ENGL 112	English Composition II	
ENGL 103	Composition and Rhetoric III: Themes and Genres	3.0
or ENGL 113	English Composition III	
English elective course between 200-3	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 162 General Chemistry II 6.5. NNS 200 Environmental Science and Society 2.0. PIN'S 161 Fundamentals of Physics II 4.0. PRVIS 162 Fundamentals of Physics II 4.0. PROPERTY SCIENCE AND	CUEM 404	Canada Chamista I	3.5
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EDUC 410 [Wi] Student Teaching 9.0 MS in TLC Core EDAM 714 Instructional and Curriculum Leadership 3.0 EDLT 532 Designing Virtual Communities for Staff Development - Non-Field Experience 3.0 EDLC 524 Current Research in Curriculum & Instruction & Assessment 3.0 EDUC 530 Advanced Techniques in Instruction & Assessment 3.0 EDUC 609 Language & Culture in Education 3.0 POlicy, Law & Organization Courses (Choose 2) 3.0 EDPO 620 Education Policy: Concepts, Issues, and Applications 3.0 or EDAM 705 School Law and Politics 3.0 or EDUR 804 Program Evaluation in Organizations 3.0 MS in TLC Capstone Sequence EDU 780 Capstone Research 3.0 EDUL 780 Lesson Study Capstone Course I 3.0 or EDUL 780 Thesis Capstone Course I 3.0 or EDUP 780 Practitioner Capstone Course II 3.0 or EDUL 781 Lesson Study Capstone Course II 3.0 or EDUL 780 Thesis Capstone Course I 3.0 or EDUL 780	Student Teaching Experien	nce	
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or EDAM 705 School Law and Politics or EDUC 804 Program Evaluation in Organizations MS in TLC Capstone Sequence EDU 780 Capstone Research 3.0 EDUL 780 Lesson Study Capstone Course I 3.0 or EDUT 780 Thesis Capstone Course I or EDUP 780 Practitioner Capstone Course I EDUL 781 Lesson Study Capstone Course II or EDUT 780 Thesis Capstone Course II or EDUT 780 Thesis Capstone Course II or EDUT 780 Practitioner Capstone Course II or EDUT 780 Thesis Capstone Course II or EDUT 7	Policy, Law & Organization	Courses (Choose 2)	3.0
or EDUC 804 Program Evaluation in Organizations MS in TLC Capstone Sequence EDU 780 Capstone Research 3.0 EDUL 780 Lesson Study Capstone Course I 3.0 or EDUT 780 Thesis Capstone Course I 5.0 er EDUP 780 Practitioner Capstone Course II 3.0 er EDUT 781 Lesson Study Capstone Course II 3.0 or EDUT 780 Thesis Capstone Course II 3.0 or EDUP 780 Practitioner Capstone Course I 3.0 Professional or Concentration Electives 15.0	EDPO 620	Education Policy: Concepts, Issues, and Applications	3.0
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or EDUP 780 Practitioner Capstone Course I Professional or Concentration Electives 15.0	EDUL 781	Lesson Study Capstone Course II	3.0
Professional or Concentration Electives 15.0	or EDUT 780	Thesis Capstone Course I	
	or EDUP 780	Practitioner Capstone Course I	
Total Credits 230.0	Professional or Concentrat	tion Electives	15.0
	Total Credits		230.0

Sample Plan of Study 4 year, 1 co-op

First	Year

Fall	Credits Winter	Credits Spring	Credits Summer	Credits
EDUC 101	3.0 CIVC 101	1.0 BIO 107	3.0 VACATION	
EDUC 106	1.0 EDUC 107	1.0 BIO 108	1.0	

	9	6	6	
(GR) MS Professional Elective	3.0			
EDUC 609	3.0 (GR) MS Professional Elective	3.0 (GR) MS Professional Elective	3.0	
EDU 780	3.0 EDUL 780, EDUT 780, or EDUP 780	3.0 EDUL 781, EDUT 780, or EDUP 780	3.0	
Fall	Credits Winter	Credits Spring	Credits	
Fifth Year				
	16	of the Spring term	17	
		Grad status at the end		
		Student converts to		
		EDAM 714	3.0	
		PSY 320	3.0	
or EDUC 804		MATH 312	4.0	
EDPO 620, EDAM 705,	3.0 EDLT 532	3.0 ENVS 260	3.0 EDUC 530	3
MATH 331	4.0 MATH 311	4.0 ENGL 200 - ENGL 395	3.0 EDUC 524	3
EDUC 409	9.0 EDUC 410	9.0 EDUC 405	1.0 EDAM 705	3
Fall	Credits Winter	Credits Spring	Credits Summer	Credi
Fourth Year				
	3	0	16	
		(GR) MS Professional Elective	3.0 (GR) MS Professional Elective	3
		PHYS 101	4.0 PHYS 102	4
		MATH 220	3.0 MATH 221	3
MTED 419	3.0	EDUC 316	3.0 EDUC 324	3
COOP EXPERIENCE	COOP EXPERIENCE	EDLT 326	3.0 EDUC 312	3
Fall	Credits Winter	Credits Spring	Credits Summer	Credi
Third Year				
	19	14	17.5	17
MATH 200	4.0			
HIST 289	4.0	MATH 210	4.0 MTED 428	3
EDUC 365	3.0	MATH 205	3.0 EDUC 322	3
EDUC 223	3.0 MATH 201	4.0 EDUC 308	3.0 EDLT 325	3
EDUC 205	1.0 INFO 108 or CS 150	3.0 EDUC 305	1.0 CHEM 102	4
EDEX 344	3.0 EDUC 216	4.0 CHEM 101 3.0 EDEX 368	3.0 BIO 110	1
COOP 101	1.0 ECON 201	Credits Spring	3.5 BIO 109	Gredi 3
Second Year Fall	Credits Winter	Credite Spring	Credits Summer	Credi
	15	15	18	
		MATH 123	4.0	
UNIV 101	1.0 PHIL 251	3.0 ENGL 103 or 113	3.0	
PSY 101	3.0 MATH 122	4.0 EDUC 123	3.0	
MATH 121	4.0 ENGL 102 or 112	3.0 EDUC 108	1.0	
ENGL 101 or 111	3.0 EDUC 113	3.0 EDEX 142	3.0	

Total Credits 230

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 Total Credit Hours: 232.0 Co-op Options: One Co-op

Classification of Instructional Programs (CIP) code: 13.1205 Standard Occupational Classification (SOC) code: 25-2031

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

Admission Requirements

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

Degree Requirements

General Education Requirements

ANTH 101	Introduction to Cultural Diversity	3.0
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 Requirment	ds:	
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
MS in TLC Core		
EDAM 714	Instructional and Curriculum Leadership	3.0

Total Credits		232.0
Professional or Concentra	ation Electives	15.0
or EDUP 780	Practitioner Capstone Course I	
or EDUT 780	Thesis Capstone Course I	
EDUL 781	Lesson Study Capstone Course II	3.0
or EDUP 780	Practitioner Capstone Course I	
or EDUT 780	Thesis Capstone Course I	
EDUL 780	Lesson Study Capstone Course I	3.0
EDU 780	Capstone Research	3.0
MS in TLC Capstone Sequ	ience	
EDUC 804	Program Evaluation in Organizations	
EDPO 620	Education Policy: Concepts, Issues, and Applications	
EDAM 705	School Law and Politics	
Policy, Law & Organization	n Courses (Choose 2)	6.0
EDUC 609	Language & Culture in Education	3.0
EDUC 530	Advanced Techniques in Instruction & Assessment	3.0
EDUC 524	Current Research in Curriculum & Instruction	3.0
EDLT 532	Designing Virtual Communities for Staff Development - Non-Field Experience	3.0

Sample Plan of Study

4 year, 1 co-op

First Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
EDUC 101	3.0 ANTH 101	3.0 ANTH 110	3.0 VACATION	
EDUC 106	1.0 CIVC 101	1.0 EDEX 142	3.0	
ENGL 101 or 111	3.0 EDUC 107	1.0 EDUC 108	1.0	
MATH 171	3.0 EDUC 113	3.0 EDUC 123	3.0	
HIST 161	4.0 ENGL 102 or 112	3.0 ENGL 103 or 113	3.0	
PSY 101	3.0 HIST 162 or 163	4.0 MATH 173	3.0	
UNIV T101	1.0 MATH 172	3.0		
	18	18	16	0
Second Year				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
COOP 101	1.0 EDUC 216	3.0 EDEX 368	3.0 EDLT 325	3.0
EDEX 344	3.0 HIST 201	4.0 EDUC 305	1.0 EDUC 322	3.0
EDUC 112	3.0 HIST 214	4.0 EDUC 308	3.0 HIST 275	3.0
EDUC 205	1.0 PSCI 110	4.0 HIST 202	4.0 PSCI 375	4.0
EDUC 223	3.0 PSY 150	3.0 HIST 203	4.0 SOC 101	3.0
EDUC 365	3.0	PSCI 140	4.0	
	14	18	19	16
Third Year				
Tillia Teal				
Fall	Credits Winter	Credits Spring	Credits Summer	Credits
	Credits Winter COOP EXPERIENCE	Credits Spring EDLT 326	Credits Summer 3.0 EDUC 312	Credits 3.0
Fall		• •		
Fall COOP EXPERIENCE	COOP EXPERIENCE	EDLT 326	3.0 EDUC 312	3.0
Fall COOP EXPERIENCE	COOP EXPERIENCE	EDLT 326 EDUC 316	3.0 EDUC 312 3.0 EDUC 324	3.0 3.0
Fall COOP EXPERIENCE	COOP EXPERIENCE	EDLT 326 EDUC 316 PSY 320 SOC 335 (GR) MS Professional	3.0 EDUC 312 3.0 EDUC 324 3.0 PSCI 150 3.0 SOC 210 3.0 (GR) MS Professional	3.0 3.0 4.0
Fall COOP EXPERIENCE	COOP EXPERIENCE 3.0	EDLT 326 EDUC 316 PSY 320 SOC 335 (GR) MS Professional Elective	3.0 EDUC 312 3.0 EDUC 324 3.0 PSCI 150 3.0 SOC 210 3.0 (GR) MS Professional Elective	3.0 3.0 4.0 4.0 3.0
Fall COOP EXPERIENCE EDUC 356	COOP EXPERIENCE	EDLT 326 EDUC 316 PSY 320 SOC 335 (GR) MS Professional	3.0 EDUC 312 3.0 EDUC 324 3.0 PSCI 150 3.0 SOC 210 3.0 (GR) MS Professional	3.0 3.0 4.0 4.0
Fall COOP EXPERIENCE EDUC 356 Fourth Year	COOP EXPERIENCE 3.0	EDLT 326 EDUC 316 PSY 320 SOC 335 (GR) MS Professional Elective	3.0 EDUC 312 3.0 EDUC 324 3.0 PSCI 150 3.0 SOC 210 3.0 (GR) MS Professional Elective	3.0 3.0 4.0 4.0 3.0
Fall COOP EXPERIENCE EDUC 356 Fourth Year Fall	COOP EXPERIENCE 3.0 3 Credits Winter	EDLT 326 EDUC 316 PSY 320 SOC 335 (GR) MS Professional Elective 0 Credits Spring	3.0 EDUC 312 3.0 EDUC 324 3.0 PSCI 150 3.0 SOC 210 3.0 (GR) MS Professional Elective 15 Credits Summer	3.0 3.0 4.0 4.0 3.0 17
Fall COOP EXPERIENCE EDUC 356 Fourth Year Fall EDUC 409	COOP EXPERIENCE 3.0 3 Credits Winter 9.0 ECON 201	EDLT 326 EDUC 316 PSY 320 SOC 335 (GR) MS Professional Elective 0 Credits Spring 4.0 ECON 202	3.0 EDUC 312 3.0 EDUC 324 3.0 PSCI 150 3.0 SOC 210 3.0 (GR) MS Professional Elective 15 Credits Summer 4.0 EDAM 705	3.0 3.0 4.0 4.0 3.0 17 Credits
Fall COOP EXPERIENCE EDUC 356 Fourth Year Fall EDUC 409 PSCI 220	COOP EXPERIENCE 3.0 3 Credits Winter 9.0 ECON 201 4.0 EDUC 410	EDLT 326 EDUC 316 PSY 320 SOC 335 (GR) MS Professional Elective 0 Credits Spring 4.0 ECON 202 9.0 EDUC 405	3.0 EDUC 312 3.0 EDUC 324 3.0 PSCI 150 3.0 SOC 210 3.0 (GR) MS Professional Elective 15 Credits Summer 4.0 EDAM 705 1.0 EDUC 530	3.0 3.0 4.0 4.0 3.0 17 Credits 3.0 3.0
Fall COOP EXPERIENCE EDUC 356 Fourth Year Fall EDUC 409	COOP EXPERIENCE 3.0 3 Credits Winter 9.0 ECON 201	EDLT 326 EDUC 316 PSY 320 SOC 335 (GR) MS Professional Elective 0 Credits Spring 4.0 ECON 202	3.0 EDUC 312 3.0 EDUC 324 3.0 PSCI 150 3.0 SOC 210 3.0 (GR) MS Professional Elective 15 Credits Summer 4.0 EDAM 705	3.0 3.0 4.0 4.0 3.0 17 Credits
Fall COOP EXPERIENCE EDUC 356 Fourth Year Fall EDUC 409 PSCI 220 EDPO 620 or EDUC	COOP EXPERIENCE 3.0 3 Credits Winter 9.0 ECON 201 4.0 EDUC 410	EDLT 326 EDUC 316 PSY 320 SOC 335 (GR) MS Professional Elective 0 Credits Spring 4.0 ECON 202 9.0 EDUC 405	3.0 EDUC 312 3.0 EDUC 324 3.0 PSCI 150 3.0 SOC 210 3.0 (GR) MS Professional Elective 15 Credits Summer 4.0 EDAM 705 1.0 EDUC 530	3.0 3.0 4.0 4.0 3.0 17 Credits 3.0 3.0
Fall COOP EXPERIENCE EDUC 356 Fourth Year Fall EDUC 409 PSCI 220 EDPO 620 or EDUC	COOP EXPERIENCE 3.0 3 Credits Winter 9.0 ECON 201 4.0 EDUC 410	EDLT 326 EDUC 316 PSY 320 SOC 335 (GR) MS Professional Elective 0 Credits Spring 4.0 ECON 202 9.0 EDUC 405 3.0 HIST 212	3.0 EDUC 312 3.0 EDUC 324 3.0 PSCI 150 3.0 SOC 210 3.0 (GR) MS Professional Elective 15 Credits Summer 4.0 EDAM 705 1.0 EDUC 530 4.0 EDUC 524	3.0 3.0 4.0 4.0 3.0 17 Credits 3.0 3.0
Fall COOP EXPERIENCE EDUC 356 Fourth Year Fall EDUC 409 PSCI 220 EDPO 620 or EDUC	COOP EXPERIENCE 3.0 3 Credits Winter 9.0 ECON 201 4.0 EDUC 410	EDLT 326 EDUC 316 PSY 320 SOC 335 (GR) MS Professional Elective 0 Credits Spring 4.0 ECON 202 9.0 EDUC 405 3.0 HIST 212 PSCI 240	3.0 EDUC 312 3.0 EDUC 324 3.0 PSCI 150 3.0 SOC 210 3.0 (GR) MS Professional Elective 15 Credits Summer 4.0 EDAM 705 1.0 EDUC 530 4.0 EDUC 524	3.0 3.0 4.0 4.0 3.0 17 Credits 3.0 3.0

Fifth Year			
Fall	Credits Winter	Credits Spring	Credits
EDU 780	3.0 EDUL 780, EDUT 780, or EDUP 780	3.0 EDUL 781	3.0
EDUC 609	3.0 (GR) MS Professional Elective	3.0 (GR) MS Professional Elective	3.0
(GR) MS Professional Elective	3.0		
	9	6	6

Total Credits 232

Minor in Design of Learning Technologies

Note: Effective Fall 2021, students are no longer being accepted into the Minor in Design of Learning Technologies program.

About the Minor

This minor offers a blended campus-based undergraduate-level, education minor in Design of Learning Technologies (DLT) with a thematic focus in design and technology. The minor in DLT is designed to cultivate the knowledge and skills that students across multiple disciplines will need to design environments to support learning and teaching, typically new and emerging technologies.

The minor will provide an option for students to gain a richer understanding of theories of learning for a wide range of educational contexts (e.g., classrooms, museums, after-school, summer camps, etc.), audiences (e.g., teachers, students, corporations, children, adults, etc.), and learning environments (e.g. digital, non-digital, virtual, face-to-face, etc.). The minor program offers 24.0 core credits of instruction.

Admission Requirements

Student must have a 2.5 cumulative GPA or better.

Program Requirements

EDLT 103	Foundation in Education III: Learning Sciences	3.0
EDLT 238	New Media Literacies	3.0
EDLT 301	Learning, Culture & Technology Workshop III	3.0
EDLT 339	Future Pedagogies	3.0
EDLT 353	Play and Learning in Participatory Cultures	3.0
EDLT 354	Learning In and Out of Schools	3.0
INFO 110	Introduction to Human-Computer Interaction	3.0
INFO 310	Human-Centered Design Process & Methods	3.0
Total Credits		24.0

DragonsTeach Certification Minor

About the Minor

This minor can be coupled with a variety of STEM majors. It will provide an opportunity to explore STEM education and to develop core knowledge and practices in secondary STEM education. Successful STEM Education minor candidates will be prepared to apply for the PA Instructional I teaching certification as a secondary teacher (grades 7-12) in one or more STEM content areas. This minor includes coursework that meets the requirements to be recommended for teacher certification in PA.

Admission Requirements

Must be a STEM major.

Program Requirements

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

Total Credits		34.0
ESTM 409	Student Teaching Seminar	3.0
Student Teaching		
EDUC 365	Foundations in Instructing English Language Learners	3.0

- * Specific course selected in consultation with a School of Education academic advisor and is dependent on student's aspirations for teacher certification.
- ** A Research/Methods/Design course from a student's home department may be substituted in consultation with a School of Education academic advisor.

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

DragonsTeach Math Certification Minor

About the Minor

This minor can be coupled with a variety of STEM majors. It will provide an opportunity to explore STEM education and to develop core knowledge and practices in secondary STEM education. Successful STEM Education minor candidates will be prepared to apply for the PA Instructional I teaching certification as a secondary teacher (grades 7-12) in one or more STEM content areas. This minor includes coursework that meets the requirements to be recommended for teacher certification in PA.

Admission Requirements

Must be a STEM major.

Program Requirements

Introductory Courses		
ESTM 201	DragonsTeach: Step 1	1.5
ESTM 210	DragonsTeach: Step 2	1.5
STEM Education Core Courses		
ESTM 301	Knowing and Learning in Mathematics and Science	3.0
ESTM 302	Classroom Interactions	3.0
ESTM 350	Project-Based Instruction	4.0
History of Science or Mathematic	es Course *	
ESTM 362	Perspectives in Science and Mathematics Education	3.0
or MTED 428	Cultural and Historical Significance of Mathematics	
or HIST 285	Technology in Historical Perspective	
STEM Teaching Methods Course		
MTED 419	Teaching Secondary Mathematics	3.0
or EDUC 315	Secondary Science Teaching Methods	
or ESTM 335	Teaching Secondary Computer Science	
STEM Research Methods **		
ESTM 364	Methods of Research and Inquiry in Science and Mathematics	3.0
Special Education and English La	anguage 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. 122).

Program Requirements

Total Credits		24.0
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 Englis	sh Language Learner Courses	
ESTM 210	DragonsTeach: Step 2	1.5
ESTM 201	DragonsTeach: Step 1	1.5
Introductory Courses		

DragonsTeach Middle Years Certification Minor

About the Minor

This minor can be coupled with a variety of majors and fulfils the coursework that leads to a PA Instructional I teaching certification in grades 4-8. It will provide the opportunity to learn about teaching middle level grades and to develop core knowledge and practices in education. Candidates will select to focus on certification in two middle level content areas. This minor includes coursework that meets the requirements to be recommended for teacher certification in PA.

Program Requirements

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

Minor in Education

About the Minor

The minor in Education provides a structured academic opportunity for students who wish to add a fundamental understanding of the field of education as well as practical knowledge in the art and science of teaching and learning to their undergraduate experience.

Designed for students with a strong interest in education and training, the minor will not necessarily lead to the student being recommended for a state teaching certificate; however, should a student decide to also pursue a teaching certificate as a component of their major—or in post-baccalaureate work—the courses required for the minor are applicable to Pennsylvania state certification.

The following courses (EDEX 368 [WI], EDUC 123, and EDUC 223) require stage 1-2 field experiences. Students must submit current clearances and the appropriate field placement application prior to registering for those courses. For more information regarding stage 1-2 field placements and obtaining clearances, please click on the Field Placement Office website (https://drexel.edu/soe/resources/student-teaching/).

Program Requirements

Total Credits		24.0
or EDUC 365	Foundations in Instructing English Language Learners	
EDUC 324	Current Research in Curriculum & Instruction	3.0
or EDUC 306	Assessment of Young Children	
EDUC 322	Evaluation of Instruction	3.0
EDUC 216	Diversity and Today's Teacher	3.0
or EDUC 223	Teaching the Middle School Child	
or EDUC 123	Adolescent Development	
EDUC 120	Child Development I: Typical Development	3.0
or EDUC 316	Teaching in Urban Contexts	
EDUC 101	Foundations in Education I: A Historical and Philosophical Perspective	3.0
or EDUC 308	Creating a Positive Classroom Climate	
EDLT 325	Design for Learning with Digital Media	3.0
EDEX 368 [WI]	Literacy and Content Skill Development PK-12	3.0
EDEX 142	Special Education Foundations: Referral and Assessment	3.0
Required Courses		

Minor in Sport Coaching Leadership

About the Minor

The minor in Sport Coaching Leadership (SCL), open to all undergraduate students across the University, provides the foundation for the effective coaching and managing of athletes at various levels. The minor is complementary to a variety of degree programs.

Upon completion of the minor, students will have developed the ability to communicate and motivate athletes, enhance the social and emotional growth of athletes, develop sound physical training programs, use sport skills effectively, inform athletes about the principles of good nutrition, reduce injuries by managing roles better, effectively deal with equipment, facilities, scheduling and team logistics and understand the administrative facets of coaching.

Program Requirements

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

SCL 419 Global Coaching Seminar

Total Credits 24.0

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

Total Credits		25.0
or EDUC 365	Foundations in Instructing English Language Learners	
or EDEX 344	Inclusive Practices	
EDEX 142	Special Education Foundations: Referral and Assessment	3.0
Special Education or English	ish Language Learner Elective	
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 C	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 Mathe	nematics 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 Cou	urses	
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: 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.

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 353	Play and Learning in Participatory Cultures	
PRST 450	Creative Leadership for Professionals	
WRIT 220 [WI]	Creative Nonfiction Writing	
WRIT 225 [WI]	Creative Writing	

Total Credits 18.0

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Teacher Education, English BS / Teaching, Learning and Curriculum MS
Teacher Education, Secondary Mathematics BS / Teaching, Learning and Curriculum MS
Teacher Education, Secondary Social Studies BS / Teaching, Learning and Curriculum MS
Teacher Education: Earth and Space Science
The School of Education
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Undergraduate Programs