

# Education/Science, Mathematics and Educational Technology PhD

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COLLEGE OF EDUCATION AND HUMAN DEVELOPMENT

Learn more about the Doctor of Philosophy in Education.

## About the Program

The interdisciplinary PhD program in Education, with a concentration in Science, Mathematics and Educational Technology, prepares students to contribute new knowledge to the fields of science, mathematics and educational technology. The program defines science and mathematics learning very broadly, preparing students to take on a variety of roles in science and mathematics education. Students can focus on any aspect of teaching and learning inclusive of students, teachers and adult learners, with priority in admissions decisions given to those who intend to pursue topics aligned with current faculty research interests. However, because of our strategic location in North Philadelphia, we have a strong and demonstrated commitment to issues of teaching, learning and schooling in urban contexts. The program is grounded in the dual belief that education is a primary mechanism for social justice and that educational research has the capacity to improve the material conditions of people's lives.

The doctoral program in Science, Mathematics and Educational Technology prepares students in two ways: through academic coursework and through an intensive mentoring relationship with various faculty members. Coursework emphasizes a broad knowledge of critical lines of inquiry in science or mathematics education and the development of research and analytic skills, with an emphasis on educational technology. Research opportunities include working alongside prominent faculty on federally funded projects; exposure and presentations at regional and national conferences; and co-authoring papers for publication in top-tiered journals. Practice and research are blended in a program that promotes both teaching and learning.

**Time Limit for Degree Completion:** 7 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** Students may matriculate either full- or part-time. Most courses are offered in the evening to accommodate working professionals. The length of time to complete the doctoral degree program varies depending on the number of courses taken each term.

**Job Prospects:** Graduates are prepared to pursue careers in academic or research-oriented positions as well as leadership positions within science or mathematics education or educational technology within K-16 schools.

**Non-Matriculated Student Policy:** Students may take up to, but not more than, 9 credits of graduate study in the program before being admitted to the program. The credits transfer into the program, if the student is admitted. ***Students completing non-matriculated courses before being admitted to the program are NOT guaranteed admission.***

**Financing Opportunities:** Financial support opportunities may include assistantships, fellowships, scholarships, tuition remission, graduate student employment, and other financial aid such as grants, loans and federal work study.

## Admission Requirements and Deadlines

**Application Deadline:**

*Fall:* December 1

Applications are accepted for the Fall term only. Applicants should submit all required admissions documents by the application deadline to receive priority consideration for admission and financial support.

*APPLY ONLINE to this graduate program.*

**Letters of Reference:**

*Number Required:* 2

*From Whom:* Letters of recommendation should be obtained to provide insight regarding the applicant's academic competence. References from college/university faculty are recommended.

**Master's Degree in Discipline/Related Discipline:** Students who hold a master's degree in a related field may transfer in up to 30 credits as advanced standing, with approval.

**Bachelor's Degree in Discipline/Related Discipline:** A bachelor's degree is required. A minimum GPA of 3.0 on a 4.0 scale is expected.

**Transcripts:** Official undergraduate and graduate transcripts from all accredited institutions attended and/or from which credit was earned must be submitted.

International applicants must also submit an official document, including a course-by-course evaluation conducted by a NACES-accredited organization, that validates completion and conferral of a degree, diploma and/or certificate. While not required, international applicants are encouraged to submit transcript(s) to World Education Services (WES) for evaluation.

**Statement of Goals:** Write a 500- to 1,000-word statement in autobiographical style covering the following areas:

- How have your personal, academic and professional experiences shaped your research interests, and how might a doctoral program in Education help you explore those interests?
- What academic/professional goals would the program help you to achieve following graduation?
- How does the doctoral program at Temple fit your individual interests, needs and future goals? Be certain to identify the faculty member(s) whose research best matches your own interests.

**Standardized Test Scores:**

GRE: Not required, but scores from the general test taken no more than 5 years prior to application may be submitted.

Applicants who earned their baccalaureate degree from an institution where the language of instruction was other than English, with the exception of those who subsequently earned a master's degree at a U.S. institution, must report scores for a standardized test of English that meet these minimums:

- TOEFL iBT: 79
- IELTS Academic: 6.5
- PTE Academic: 68

**Resume:** Current resume required.

**Writing Sample:** The academic writing sample should be a paper written for a class within the last five years. If a recent paper is not available, the applicant should compose an op-ed piece on an educational issue of their choosing. The op-ed should be 400 to 1,200 words in length and of the kind that might appear in *The New York Times* or *Philadelphia Inquirer*.

## Program Requirements

**General Program Requirements:**

*Number of Credits Required Beyond the Master's: 48*

*Required Courses:*

Code	Title	Credit Hours
<b>Core Courses</b>		
EDUC 5262	Introduction to Qualitative Research	3
EDUC 8401	Philosophical Foundations of Educational Research	3
EDUC 8404	Quantitative Analysis, Part I	3
EDUC 8405	Quantitative Analysis, Part II	3
EDUC 9987	Teaching Apprenticeship	3
EDUC 9991	Research Apprenticeship	3
EPSY 8627	Introduction to Research Design and Methods	3
Advanced Methods Elective		3
<b>Science, Mathematics and Educational Technology Concentration Courses</b>		
EDUC 8501	Motivation in Education	3
EDUC 8502	Social Contexts of Learning	3
EDUC 8504	Problem Solving and Reasoning in STEM Education	3
EDUC 8506	Cognition and Learning in Education	3
EDUC 9255	Research Seminar in Science, Mathematics, and Educational Technology	3
EDUC 9991	Research Apprenticeship <sup>1</sup>	3
<b>Culminating Courses<sup>2</sup></b>		<b>6</b>
EDUC 9998	Dissertation Proposal Design	
EDUC 9999	Doctor of Education Dissertation	

**Total Credit Hours**

**48**

<sup>1</sup> An elective may be selected in lieu of repeating EDUC 9991.

<sup>2</sup> Of the 6 credits overall, a minimum of 2 credits of EDUC 9999 must be taken.

**Internship:** An internship in the form of a research apprenticeship is required.

### **Culminating Events:**

#### *Preliminary Examination:*

The purpose of the preliminary examination is for students to demonstrate their development in the three core areas of a faculty member's life: research, teaching and service. The exam requires students to undertake an integrative analysis of research; to demonstrate that they can bring research and theory into effective practice in their teaching; and to exhibit their ability to provide professional service. Preliminary exams are evaluated by a committee of faculty in the concentration. Evaluators look for a breadth and depth of understanding of research and theory; a critical application of that knowledge to specific phenomena and to teaching; integrative reasoning ability; and an ability to write technical prose.

#### *Proposal with Oral Defense:*

The dissertation proposal demonstrates the student's knowledge of and ability to conduct the proposed research. The proposal should consist of the context and background surrounding a particular research problem; an exhaustive survey and review of literature related to the problem; and a detailed methodological plan for investigating the problem. The proposal should be completed and approved no more than one year after completing coursework.

The proposal is defended in an open hearing attended by the student's Doctoral Advisory Committee, which is formed to oversee the student's doctoral research and is comprised of at least three Graduate Faculty members. Two members, including the Chair, must be from, or affiliated with, Math and Science Education. The Chair is responsible for overseeing and guiding the student's progress, coordinating the responses of the committee members, and informing the student of their academic progress. Upon approval of the proposal by the Doctoral Advisory Committee, a timeline for completing the investigation and writing process is established.

#### *Dissertation with Oral Defense:*

The doctoral dissertation is an original study that makes a significant contribution to the field. It should expand the existing knowledge and demonstrate the student's knowledge of both research methods and a mastery of their primary area of interest. Dissertations should be rigorously investigated; uphold the ethics and standards of the field; demonstrate an understanding of the relationship between the primary area of interest and the broader field of business; and be prepared for publication in an academic journal.

The Dissertation Examining Committee evaluates the student's dissertation and oral defense. This committee is comprised of the Doctoral Advisory Committee and at least two additional faculty members, one of whom must be from outside Math and Science Education. The Dissertation Examining Committee evaluates the student's ability to express verbally their research question, methodological approach, primary findings and implications. The committee votes to pass or fail the dissertation and the defense at the conclusion of the public presentation.

Students who are preparing to defend their dissertation should confirm a time and date with their Dissertation Examining Committee and register with the Shimada Resource Center at least 10 days before the defense is to be held. After the time, date and room for the defense have been established, the completed "Announcement of Dissertation Defense" form, found in TUportal under the Tools tab within "University Forms," is sent to the Graduate School. A flyer announcing the defense is posted in a public location in the College.

## **Contacts**

### **Program Web Address:**

<https://www.temple.edu/academics/degree-programs/education-phd-ed-educ-phd>

### **Department Information:**

Science, Mathematics and Educational Technology PhD Program  
College of Education and Human Development  
1301 Cecil B. Moore Avenue  
Philadelphia, PA 19122-6091  
[educate@temple.edu](mailto:educate@temple.edu)  
215-204-0999

### **Submission Address for Application Materials:**

<https://apply.temple.edu/CEHD>

### **Department Contacts:**

#### *Admissions:*

Office of Enrollment Management  
[educate@temple.edu](mailto:educate@temple.edu)  
215-204-0999

#### *Graduate Advising:*

College of Education and Human Development  
gradcehd@temple.edu

*Program Coordinator:*

Dr. Janelle Bailey

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