LEARNING SCIENCES & TECHNOLOGIES, PHD

The Ph.D. in Learning Sciences and Technologies focuses on the preparation of researchers and researcher/developers in education. The program includes formal courses, mentored research, and informal seminars. Ph.D. students are required to hold a master's degree prior to beginning the Ph.D. program, and are expected to have experience in educational practice. You will build a program of study that includes courses in teaching and learning, social foundations, and research methods. The program is designed to draw together coursework, research apprenticeship, and other professional academic activities to build a complete professional program that is tailored to your interests and needs.

For more information: https://www.gse.upenn.edu/academics/programs/learning-sciences-technology-phd (https://www.gse.upenn.edu/academics/programs/learning-sciences-technology-phd/)

Curriculum

Code	Title	Course Units
Foundation Courses		**5**
Required Courses		
EDUC 7132	Doctoral Proseminar on Education Research	
EDUC 6139	Design of Learning Environments	
EDUC 6144	Learning Sciences: Past, Present, Future	
EDUC 7140	Social Foundations of Teaching and Learning	
EDUC 9126	How People Learn: Theoretical Foundations	
Methods Strand		**3**
Required Courses (choose 3, pre-approved courses below) [1]		
EDUC 6130	Introduction to Mixed-Methods Research	
EDUC 7460	Qualitative Research: Concepts, Methods and Design	
EDUC 6191	Core Methods in Educational Data Mining	
EDUC 7464	Advanced Qualitative and Case Study Research	
EDUC 7847	Social and Statistical Network Analysis	
EDUC 7667	Regression and Analysis of Variance	
Application and Design Courses		**3**
Choose 3 from pre-approved courses below:		
EDUC 6108	MaKer Studio	
IPD 5680	Integrative Design Studio: Biological Design	
IPD 5720	Design Thinking	
EDUC 5152	Video Games and Virtual Worlds as Sites for Learning	
EDUC 5150	Educational and Social Entrepreneurship	
EDUC 5388	Digital Literacies in a Networked World	
EDUC 6111	Educational Assessment of and for Learning	
EDUC 6123	Big Data, Education, and Society	
EDUC 5162	Artificial Intelligence for Children and Youth Learning and Creating in K-12 Education	
EDUC 6150	Technologies for Language Learning and Teaching	
Elective [2]		**1**
Select 1 EDUC elective. Advisor approval is required if taking a non-EDUC course. Course must be at the 5000 level or above		
Additional Requirements [3]		
Students must complete all University Milestones for Doctoral Candidates in addition to specific milestones for GSE. These include:		
A Qualifications Evaluation (also known as Program Candidacy)		
A Preliminary Examination (also known as Doctoral Candidacy)		
An Oral Defense of the Dissertation Proposal		
Final Defense of the Dissertation		
Total Course Units		**12**

University PhD Benchmarks

In addition to Program requirements, the following milestones must be completed:

Code	Title	Course Units
Qualifying Evaluation		
Candidacy Examination		
Dissertation Defense/Oral Exam		
Dissertation Deposit		

For more information view the University's Academic Rules for PhD Programs (http://catalog.upenn.edu/pennbook/academic-rules-phd/).

[1] Chosen in consultation with an advisor.

[2] Elective may be taken outside of GSE with advisor approval. Courses must be at the 5000 level or above.

[3] Required GSE Milestones

Qualifications Evaluation (Also known as Program Candidacy): A Qualifications Evaluation of each student is conducted after the completion of 6 but not more than 8 course units. The evaluation is designed by the specialization faculty and may be based on an examination or on a review of a student's overall academic progress.

Preliminary Examination (Also known as Doctoral Candidacy): A Candidacy Examination on the major subject area is required. The candidacy examination is a test of knowledge in the student's area of specialization, requiring students to demonstrate knowledge and reasoning in the key content areas in their specialization as defined by their academic division. This examination is normally held after the candidate has completed all required courses.

Oral Proposal: All doctoral candidates must present their dissertation proposals orally and in person to the dissertation committee.

Final Defense of the Dissertation: The final dissertation defense is approximately two hours in length and is based upon the candidate's dissertation.

[4] A non-credit bearing Research Apprenticeship Course is required from second semester of first year forward in the Professional Experiences Strand.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2025 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.