

Learning and Teaching in STEM (PhD): Science Education

Degree Requirements

Code	Title	Hours	Counts towards
College Scholar Leader Core Courses		6	
ED 755	Scholar Leader: Diversity and Equity in Schools and Communities		
ED 756	Scholar Leader: Systemic Change in Education		
College Research Methods Courses		15	
Required Introductory Research Methods Courses		6	
ED 710	Applied Quantitative Methods in Education I		
ED 730	Introduction to Qualitative Research in Education (or equivalent)		
Advanced Research Methods Courses (Select one course from the list below)		3	
ED 711	Applied Quantitative Methods in Education II		
ED 731	Advanced Qualitative Research and Data Analysis in Education ¹		
ED 750	Mixed Methods Research in Education		
Advanced Research Methods Electives		6	
Select two courses from the list above or other advanced research methods courses approved by the student advisor.		6	
Dissertation Research		9	
EMS 895	Doctoral Dissertation Research		

¹ Students may also select from a design-based research course or courses in the Department of Statistics or Psychology at the level 500 or above (e.g., ST 505, PSY 880) approved in conjunction with the academic committee.

Science Education

Code	Title	Hours	Counts towards
Required Learning and Teaching in STEM Education Core Courses		6	
EMS 791	Contemporary Research and Critical Issues in STEM Education		
EMS 794	Special Problems in Science Teaching		
Science Education Specific Courses		12	
EMS 732	Theoretical and Critical Perspectives of Science Education		
EMS 775	Foundations Of Science Education		
EMS 832	Research Applications in Science Education		
EMS 851	Internship In Mathematics and Science Education		
Specialty Courses		12	
Specialty Courses are determined in conjunction with the academic committee ²			
Total Hours		60	

² Science Education PhD requires 18 master's level science courses minimum from all graduate work. This may be waived by the committee if determined to be sufficient based on previous Master's coursework and sufficient hours, and if the total number of required hours are reached. Students will take graduate courses (500 or above level) that deepen or broaden their understanding of issues related to the focus of their research and grade level, and future career interests. Courses should be chosen in consultation with an advisor.