# Learning and Teaching in STEM (PhD): Mathematics and Statistics Education

## Degree Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
<th>Counts towards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>College Scholar Leader Core Courses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ED 755</td>
<td>Scholar Leader: Diversity and Equity in Schools and Communities</td>
<td>6</td>
<td></td>
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<tr>
<td>ED 756</td>
<td>Scholar Leader: Systemic Change in Education</td>
<td>6</td>
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</tbody>
</table>

## College Research Methods Courses

- **Required Introductory Research Methods Courses**
  - ED 710: Applied Quantitative Methods in Education I
  - ED 730: Introduction to Qualitative Research in Education

- **Advanced Research Methods Courses (select one course from the list below)**
  - ED 711: Applied Quantitative Methods in Education II
  - ED 731: Advanced Qualitative Research and Data Analysis in Education
  - ED 750: Mixed Methods Research in Education

- **Advanced Research Methods Electives**
  - Select two courses from the list above or other advanced research courses approved by the student advisor.

- **Dissertation Research**
  - 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.

## Mathematics and Statistics Education

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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Learning and Teaching in STEM Education Core Courses</td>
<td></td>
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<tr>
<td>EMS 791</td>
<td>Contemporary Research and Critical Issues in STEM Education</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>EMS 794</td>
<td>Special Problems in Science Teaching</td>
<td>6</td>
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<tr>
<th>Code</th>
<th>Title</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mathematics and Statistics Education Specific Courses</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>EMS 770</td>
<td>Foundations Of Mathematics Education</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>EMS 792</td>
<td>Special Problems in Math Teaching</td>
<td>3</td>
<td></td>
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</table>

- **Teaching and Learning Course (select one course from the list below)**
  - EMS 711: Research on the Teaching and Learning of Math at Secondary and Early College Levels
  - EMS 712: Teaching Mathematics In Elementary and Junior High School

- **Select two Additional Courses in Mathematics and Statistics Education**
  - EMS 704: Curriculum Development and Evaluation In Science and Mathematics
  - EMS 705: Education and Supervision Of Teachers Of Mathematics and Science
  - EMS 792: Special Problems in Math Teaching
Experiences in Mathematics Education 3

Select one of the following: 3

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>EMS 841</td>
<td>Practicum In Science and Mathematics Education</td>
</tr>
<tr>
<td>EMS 851</td>
<td>Internship In Mathematics and Science Education</td>
</tr>
</tbody>
</table>

Seminars and Preliminary Exam 3

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>EMS 802</td>
<td>Seminar In Mathematics Education ((Intro Seminar in Mathematics Education--1 credit, taken within one of the first two semesters at beginning of program))</td>
</tr>
<tr>
<td>EMS 802</td>
<td>Seminar In Mathematics Education ((Advanced Seminar in Mathematics Education-1 credit, taken near end of program))</td>
</tr>
<tr>
<td>EMS 890</td>
<td>Doctoral Preliminary Exam</td>
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</tbody>
</table>

Specialty Courses 6

Specialty Courses (courses 500 or above level) that deepen or broaden and are determined in conjunction with the academic committee

Total Hours 60

2 Any course not chosen in Foundations or Teaching and Learning categories.

3 These experiences are planned in coordination with an advisor and are meant to enhance a student’s applicable experience in educational settings. This could be one experience of 3 hours or any combination of hours.

Faculty

Full Professors
Margaret R. Blanchard
Sarah J. Carrier
Aaron Catron Clark

Jo-Ann D. Cohen
Karen Flanagan Hollebrands
Carla Johnson
Melissa Gail Jones
Hollylynne Stohl Lee
Soonhye Park
Eric N. Wiebe

Associate Professors
Cesar Delgado
Cameron Denson
Jessica Heather Hunt
Erin Krupa
Temple A. Walkowiak

Assistant Professors
Robin Keturah Anderson
Kirstin Collette Rogis Busch
Sunghwan Byun
Ruby Ellis
Tamecia Raishaun Jones
Daniel Kelly
Jonee Wilson

Practice/Research/Teaching Professors
Cynthia Page Edgington
Matt Reynolds
Kevin Sutton