

Learning and Teaching in STEM

The Department of Science, Technology, Engineering and Mathematics (STEM) Education offers a Doctor of Philosophy (PhD) in Learning and Teaching in STEM with three areas of concentration: Science Education, Engineering and Technology Education, and Mathematics and Statistics Education.

We prepare educators and researchers for positions as teachers, leaders, and university faculty of the highest quality. We are particularly proud of our emphasis on the use of technology to enhance teaching. Students take courses in their educational specialty, in general professional education, and in academic discipline areas including: biological sciences, chemistry, computer science, earth science, engineering, graphic arts, interdisciplinary science, mathematics, physics, or statistics.

Doctoral students are knowledge-seekers and who are eager to pursue educational problems and develop critical thinking skills in a collaborative environment. The programs prepare individuals for positions in their fields of study related to:

- scholarly inquiry and discourse in their discipline,
- preparation of K-12 teachers,
- instruction and development issues in K-16, and
- leadership positions.

Doctoral Degree Requirements

The Ph.D. program in Learning and Teaching in STEM requires a previous master's degree, a minimum of 54 semester hours of coursework, including 9 semester hours of dissertation research beyond the Master's Degree requirements.

*Note: Some programs may allow exceptional applicants to earn a Master's degree en route to a Ph.D., with up to 36 hours counting toward the Ph.D. with continuous enrollment.

Student Financial Support

A small number of teaching and research assistantships are available, and out-of-state tuition remission may be available for one year for students on assistantships. Please discuss these opportunities directly with program area faculty.

More Information

Learning and Teaching in STEM Program Website (<http://ced.ncsu.edu/stem-ed/graduate-programs/>)

Admission Requirements

Applicants must submit a completed application specific to the program concentration. All programs require 3 letters of recommendation, official transcripts, and a 1-2 page statement describing interests, background, and professional goals. Additionally, Science Education requires GRE scores, while both Engineering and Technology Education and Mathematics and Statistics Education will no longer require GRE scores starting with the 2025-2026 applications.

Please see the Learning and Teaching in STEM, PhD website for additional details. The deadlines for submission of an application, and

academic and professional background necessary for admission differ by specific program area of study.

Applicant Information

- **Delivery Method:** On-Campus
- **Entrance Exam:** None
- **Interview Required:** Vary by specific areas of concentration

Application Deadlines

- **Fall (Engineering and Technology Education):** Priority Application Deadline for consideration of funding and assistantships December 1; Final Deadline April 15.
- **Fall (Science Education):** Priority Application Deadline for consideration of funding and assistantships December 1; Final Deadline April 15.
- **Fall (Mathematics and Statistics Education):** Priority Deadline for Fall Admission & Funding December 1; Final Deadline April 15

Degrees

- Learning & Teaching in STEM (PhD) (<http://catalog.ncsu.edu/graduate/education/learning-teaching-stem/learning-teaching-stem-phd/>)
- Learning and Teaching in STEM (PhD): Engineering and Technology Education (<http://catalog.ncsu.edu/graduate/education/learning-teaching-stem/engineering-and-technology-education/>)
- Learning and Teaching in STEM (PhD): Mathematics and Statistics Education (<http://catalog.ncsu.edu/graduate/education/learning-teaching-stem/mathematics-and-statistics-education/>)
- Learning and Teaching in STEM (PhD): Science Education (<http://catalog.ncsu.edu/graduate/education/learning-teaching-stem/science-education/>)

Faculty

Full Professors

Margaret R. Blanchard

Sarah J. Carrier

Aaron Catron Clark

Jo-Ann D. Cohen

Karen Flanagan Hollebrands

Jessica Heather Hunt

Carla Johnson

Melissa Gail Jones

Hollylynne Stohl Lee

Soonhye Park

Associate Professors

Cesar Delgado

Kristin Collette Rogis Busch

Cameron Denson

Erin Krupa

Temple A. Walkowiak

Assistant Professors

Robin Keturah Anderson

Sunghwan Byun

Ruby Ellis

Tamecia Raishaun Jones

Daniel Kelly

Practice/Research/Teaching Professors

Cynthia Page Edgington

Matt Reynolds

Emeritus Faculty

Eric Wiebe