



ENGINEERING AND SCIENCE EDUCATION **GRADUATE CERTIFICATE**

PREPARING STEM PHD
STUDENTS FOR
EXCELLENCE IN
ACADEMIC CAREERS

Interested in the ESED Graduate Certificate?

Contact Barbara Smith, Graduate
Student Services Coordinator
(esegradinquiries@clemson.edu)
for more information about the
program and details about
upcoming information sessions.

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[http://www.clemson.edu/cecas/
departments/ese/](http://www.clemson.edu/cecas/departments/ese/)

**Cultivating
greatness and
success among our
students since 2006**



Interested in the ESED Graduate Certificate?

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Department of
**ENGINEERING AND
SCIENCE EDUCATION**



Recommended Sequence of Courses

Seminar (1 credit)

- ESED 8000 Seminar in Engineering, Science and Mathematics Education

Pedagogy (3 credits)

choose one of the following:

- ESED 8200 Teaching Undergraduate Engineering
- ESED 8210 Teaching Undergraduate Science

Research Methods (3 credits)

- ESED 8720 Action Research in Engineering, Science and Mathematics

Professional Preparation (3 credits)

choose one of the following:

- ESED 8240 Teaching Post-secondary STEM Through E-Learning
- ESED 8300 Professional STEM Communication
- ESED 8880 Preparing for the Professoriate

Practicum (1 credit hour)

- ESED 8610 Practicum in Engineering, Science and Mathematics Education

TOTAL CREDIT HOURS: 11

About the ESED Certificate Program

OUR MISSION

To prepare doctoral students who will inspire the next generation of engineers, scientists, and mathematicians by creating and communicating new knowledge through robust research in education and teaching at the foundational levels of the STEM disciplines.

OUR VISION

The graduate certificate is open to any PhD student in science (e.g., chemistry, physics, geosciences, biology), engineering (e.g., industrial, chemical, mechanical, electrical), or mathematics. The certificate requires 11 credit hours of coursework that equips the students to teach or provide programming in higher education settings from two-year community college, four-year colleges or universities, and research universities. The certificate provides an advantage that PhD students in the STEM disciplines at most other universities do not have. The ESED certificate gives Clemson graduates a competitive edge.

OUR IMPACT

ESED, which was founded in 2006, is a unique program found nowhere else. No other university offers graduate work in a department that combines engineering, science, and mathematics education research. Alumni who have the certificate are in top-tier positions at colleges and universities throughout the US.