

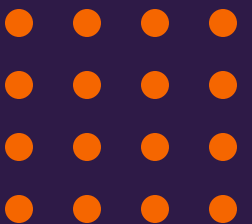


Certificate in Engineering and Science Education

Karen High
Fall 2021



Department of
**ENGINEERING AND
SCIENCE EDUCATION**





ESED Faculty and Staff

Faculty

Jeff Appling

D. Matthew Boyer

Kris Frady

Karen High

Cindy Lee

Bridget Trogden

Lisa Benson

Claire Dancz

Eliza Gallagher

Kelly Lazar

Marisa Orr

Matt Voigt

Staff

Paige Zoltewicz

Barbara Smith



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ESED Certificate Coursework

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
- ESED 8220 Teaching Undergraduate Mathematics

Research Methods (3 credits)

- ESED 8720 Action Research Engineering, Science and Mathematics

Professional Preparation* (3 credits)

choose one of the following:

- ESED 8240 Teaching Postsecondary STEM Through E-learning
- ~~ESED 8250 Student Strategies in Engineering, Science and Mathematics Education~~
- ESED 8300 Professional STEM Communication
- ESED 8880 Preparing for the Professoriate

Practicum (1 credit hour)

- ESED 8610 Practicum in Engineering, Science and Mathematics Education

Course Substitutions for Professional Preparation (3 credits)

(subject to approval by Graduate Coordinator Karen High; khigh@clemson.edu)

11 credit
hours



Planned Course Offerings

Subject to change
see registration system for the most current
details

Spring 2022 (Online)

Requirements

- ESED 8000 Seminar in Engineering, Science and Mathematics Education (F 11:15-12:05)
- ESED 8210 Teaching Undergraduate Science (MW 9:30-10:45)
- ESED 8610 Practicum in Engineering, Science and Mathematics Education (T 9:30-10:45)
- ESED 8720 Action Research Engineering, Science and Mathematics (T 12:30-3:00)

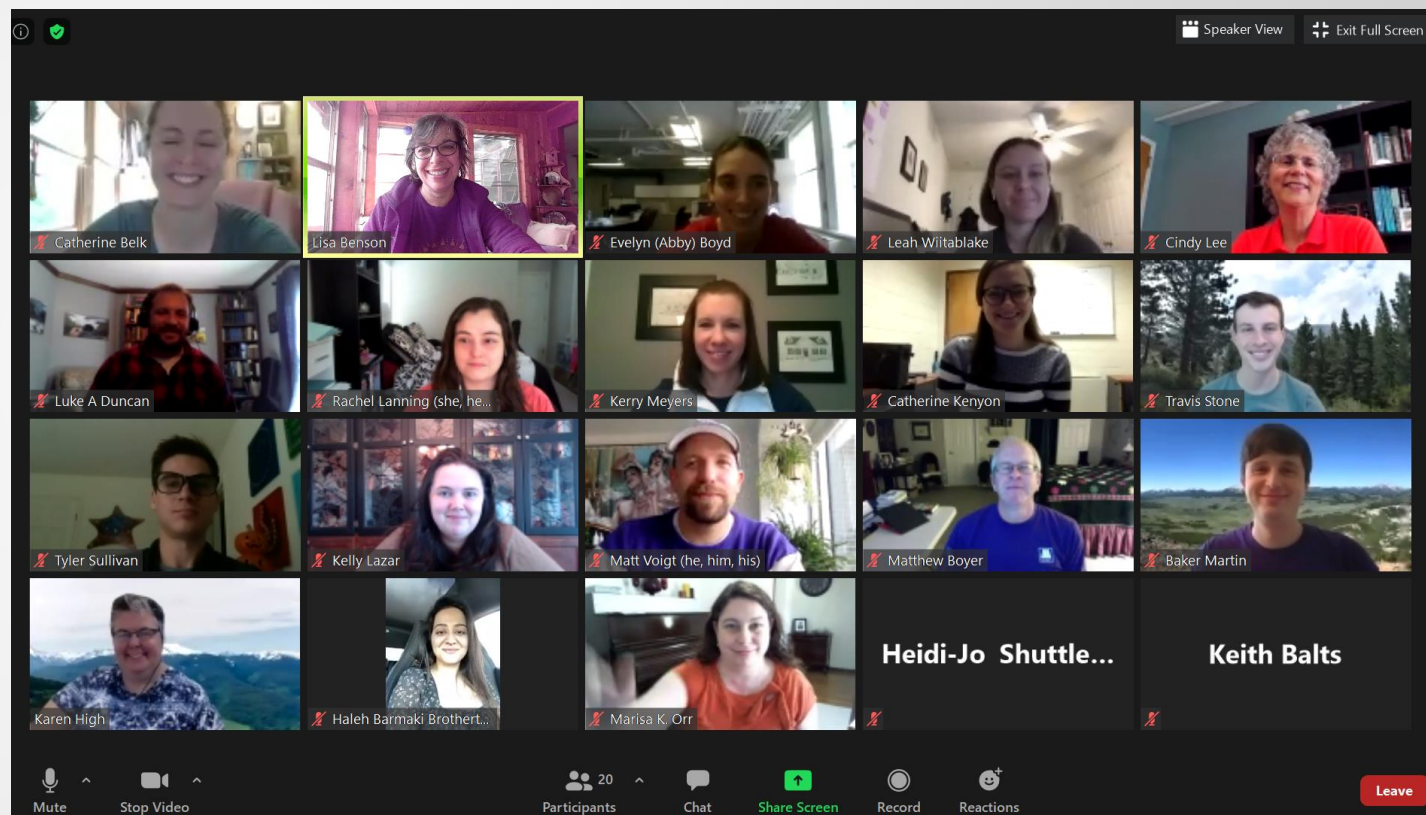
Electives

- ESED 8240 Teaching Post Secondary STEM Through E-Learning (Asynchronous)
- ESED 8250 Student Strategies in Engineering, Science and Mathematics Education (TR 11-12:15)
- ESED 8500 Professional STEM Communication (T 3:30-6:00)
- ESED 8880 Preparing for the Professoriate (F 2:30-4:00)



ESED Seminar Series

- Weekly during academic year (Fall and Spring)
- Readings provided by speakers or seminar coordinator
- Invited speakers; local and nationally renowned experts
- Student exchange; Ph.D. students from other institutions
- Required (1 cr) for certificate students





ESED Lunch and Learn

- Weekly gathering of ESED faculty, grad students and guests
- Grad student organizers
- Readings (selected by organizers or provided by seminar speakers)
- Students and faculty can suggest papers and topics
- Pose questions, share ideas, listen to different perspectives





ESED Certificate Program Highlights



Department of
ENGINEERING AND
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ACADEMICS PEOPLE ABOUT RESEARCH NEWS/EVENTS STEM/FAC/DEV

Academics Home
PhD Program
Certificate Program

Certificate in Engineering and Science Education

The Department of Engineering and Science Education offers graduate students enrolled in STEM disciplines the opportunity to earn a Certificate in Engineering and Science Education. This educational experience is designed for graduate students who seek formal experience in preparation for an academic career, who wish to further their understanding of the education process in STEM disciplines, or who are interested in furthering their knowledge of discipline-based education research.

The ESED Certificate gives a competitive edge by requiring students to teach and provide programming for higher education.

The Certificate program includes a range of courses that address specific aspects of engineering and science education including training on education research methods, exposure to current best practices in post-secondary STEM education, and practical experience in teaching in engineering and science. Past students who have participated in the Certificate program include graduate students from many STEM disciplines including astronomy, bioengineering, mathematics, mechanical engineering, and physics. Upon completion of the course requirements, students will receive an official Certificate from the Clemson University Graduate School, and a record will appear on the student's official transcripts.

Enrollment

Once your coursework is complete, ESED will forward the information to Enrolled Student Services. Enrolled Student Services will confirm the completed coursework and prepare the certificate. The certificate will be listed on your official transcript. Information on program contacts and coordinators can be found on the [ESE Graduate School page](#).

How to Apply

- Create an account in [CollegeNET](#) if you do not already have one.
- Submit an [Online Graduate Application](#). This is required for degree-seeking, non-degree, and certificate applicants.

[ESE CERTIFICATE PDF](#)

RESOURCES

For all inquiries, questions, and further information, please contact us at the following:

ESE Department

104 Holtzendorff Hall
Clemson, SC 29634
864-656-2031

esegradinquiries@clemson.edu

- [Certificate Handbook](#)
- [ESE Faculty & Staff](#)
- [Graduate School](#)

Next steps

We appreciate your interest in the ESED Certificate program! Interested in taking the next steps?

1. Contact Student Services Coordinator Barbara Smith (barbar2@clermson.edu) for reduced fee code (\$20 for current students)
2. Complete certificate registration through Admit; use reduced fee code
3. Register for courses



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ESED Student Services Coordinator: Barbara Smith
(barbar2@clermson.edu)

Questions and Answers



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