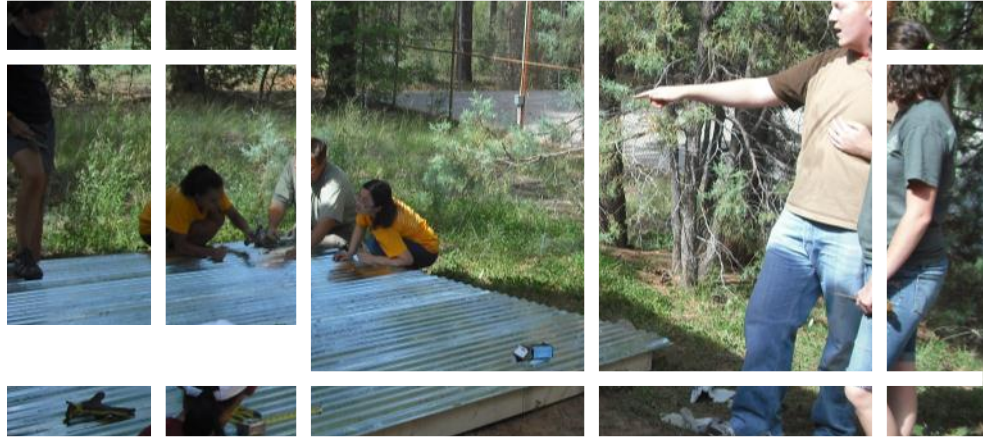


school of sustainable engineering and the built environment

civil, environmental and sustainable



Sustainability Engineering is a revolutionary approach to long-lasting improvement of the human condition. Sustainable engineers recognize that their works are embedded in complex social, environmental, political, and economic systems that require a broader and more integrative approach than has historically been applied. Sustainable engineers are prepared to work across disciplinary boundaries and in teams. They seek a holistic understanding of complex problems that transcend the traditional boundaries of engineering, but are nevertheless amenable to analytic tools such as life cycle assessment, risk analysis and systems engineering.

The graduate curriculum in the Sustainability Engineering specialty area in the School of Sustainable Engineering & the Built Environment (SSEBE) emphasizes flexibility and individuality. Students from many different engineering and physical science backgrounds may enter this specialty area and design a plan of study that supports their original research and professional development goals. Faculty in the Sustainability Engineering specialty area study topics at the intersection of multiple fields, including alternative energy, transportation, earth systems, and the environment.

sustainable
engineering

SUSTAINABILITY ENGINEERING FACULTY

- [Braden Allenby](#), Professor
- [Thomas P. Seager](#), Associate Professor (Specialty Area Coordinator)
- [Mikhail Chester](#), Assistant Professor
- [Matt Fraser](#), Associate Professor
- [Amy Landis](#), Associate Professor
- [Kristen Parrish](#), Assistant Professor
- [Agami Reddy](#), Professor

LIST OF COURSES

Students are required to develop a POS which includes three required core courses:

- CEE 581 Advanced Earth Systems Engineering & Management
- CEE 598 Sustainability Ethics for Engineers & Scientists
- CEE 582 Industrial Ecology and Design for Sustainability

Aspects from civil engineering and related fields are brought together in a holistic approach to understand usage, flows, and management of water, energy, materials, and transportation. Related CEE course work that can be included in a student's POS:

- CEE 598/IEE 598 Sustainable Manufacturing
- CEE 598 Water Policy & Management
- CEE 598 Sustainable Infrastructure
- CEE 598 Sustainable Transportation Systems
- CEE 598 Sustainable Energy
- CEE 598 Life Cycle Assessment for Civil Systems

Related class work in other specialty areas:

Graduate students with an interest or background in environmental or chemical engineering should consider course work in the [Environmental Engineering](#) specialty area, including:

Related class work in other departments:

- CHE 475 Biochemical Engineering
- CHE 533 Mass Transport Processes
- CHE 544 Introduction to Chemical Reactor Design
- CHE 527 Applied Mathematics for Chemical Engineers
- CHM 424 Separation Methods and Quantitative Organic Analysis
- CHM 581 Geochemistry
- ASE 500 Statistics for Engineers
- ERS 485 GIS in Natural Resources
- GLG 598 Chemical Hydrogeology
- GLG 598 Isotope Hydrogeology
- GEO 471 Geographical Information Systems
- IEE 569 Advanced Statistical Methods
- IEE 572 Design of Engineering Experiments
- GPH 412 Physical Climatology
- GPH 414 Climatic Analysis
- GPH 511 Fluvial Processes

It is important for all doctoral

students to read the [Civil,](#)

[Environmental and Sustainable Engineering Ph.D. program manual.](#)

M.S. PROGRAM

During their first semester of enrollment, MS students should identify a faculty Advisor to serve as Chair of a Graduate Supervisory Committee (GSC). The Advisor must be approved by the Graduate College, be a member of the Sustainable Engineering faculty, and (in consultation with the student), establish a GSC composed of a minimum of three faculty, including at least two from the Fulton Schools of Engineering and at least one from the Sustainability Engineering faculty. A majority of the committee shall be tenure-track Fulton Schools of Engineering faculty.

Each student will establish an individual POS for approval by the GSC, in accordance with Graduate College and Civil, Environmental and Sustainable Engineering (CESE) Program requirements. The candidate must complete at least 30 semester hours of approved course and research work (including the required core classes), subject to the following constraints:

1. Not more than three (3) hours may be seminar credit.
2. Six (6) hours must be CEE 599 thesis credits.
3. Not more than three (3) hours may be CEE590 (Reading and Conference) taken under the supervision of any one faculty member serving on the GSC.

The six hours of thesis credits must reflect an acceptable original and independent thesis demonstrating the student's mastery of sustainable engineering science. The student must present the thesis to the GSC and the public, and pass an oral exam in defense of the thesis.

M.S.E. PROGRAM

The Graduate Supervisory Committee (GSC) shall be subject to the same constraints as in the MS program.

The Plan of Study (POS) must be approved by the GSC and be in accordance with Graduate College and Civil, Environmental and Sustainable Engineering (CESE) Program requirements. The candidate must complete at least 30 semester hours of approved course and research work (including the required core classes), subject to the distributed as follows:

Not more than three (3) hours may be seminar credit.

1. Three (3) hours of credit must be related to an independent design project supervised by a Sustainable Engineering faculty member under CEE593 Applied Project.
2. Not more than three (3) hours may be CEE590 (Reading and Conference) under the supervision of any one faculty member serving on the GSC.

A final written comprehensive exam will be administered by the Sustainability Engineering Group twice per year, usually the last Friday of classes during the regular fall and spring semesters. The exam is intended to demonstrate proficiency in the core class subjects. Students will be given four hours to complete the exam. The exam is closed book. The exam will be graded by the Sustainability Engineering faculty and a pass/fail decision made as a collective group. A student who fails the comprehensive exam the first time may petition to retake the exam once more no sooner than 90 days after the first exam and no later than one year. A student must be registered for at least one credit every fall and spring until they are officially completed with their degree and pass the comprehensive exam.