CIVIL ENGINEERING (ENGINEERING)

Degree Requirements

Master of Engineering (M.Eng.)

Requirements listed here are in addition to Graduate Council policies listed under GCAC-700 Professional Degree Policies (https://gradschool.psu.edu/graduate-education-policies/).

The M.Eng. degree is a non-thesis professional master's degree. The program provides training for advanced professional practice. A minimum of 30 credits (400, 500, or 800) of course work is required. At least 18 credits must be earned in 500-level or 800-level courses, with at least 6 credits at the 500 level. At least 12 credits must be earned in courses with the CE prefix. At least 20 credits must be earned at the campus where the program is approved to be offered. All students are required to take the capstone course CE 835 to fulfill the requirement for a culminating experience. For resident students, the M.Eng. degree is designed as a one-year master's degree program and students are expected to start their degree in the Fall semester. The preferred plan of study for resident students is as follows:

- Fall semester: Fifteen credits of course work
- Spring semester: Fifteen credits of course work, including CE 835

Students entering the resident M.Eng. degree must select and declare an area of specialization, with a number of courses to be selected from the selected area. Students may specialize in:

- Geotechnical and materials engineering
- Structural engineering and mechanics
- Transportation engineering
- Water resources engineering

The M.Eng. degree is also offered online in the Structures area. Credit requirements are the same for online M.Eng. students, with variable time to completion depending on the course enrollment schedule. The plan of study for online M.Eng. students is as follows:

- Required Courses (15 credits)
  - CE 402: Computing Methods for Civil Engineers
  - CE 541: Structural Analysis – FEM
  - CE 544: Design of RC Structures
  - CE 545: Metal Structure Behavior and Design
  - Pick one of the following:
    - WC STAT 500: Applied Statistics
    - WC STAT 501: Regression Methods
    - WC ENGR 501: Engineering Leadership for Corporate Innovation
- Elective Courses (12 credits from department's approved list of technical electives)
  - CE 543: Prestressed Concrete Behavior and Design
  - CE 548: Structural Design for Dynamic Loads
  - CE 549: Bridge Engineering
  - CE 566: Uncertainty and Reliability in Civil Engineering
  - CE 584: Concrete Materials and Properties
- Culminating Experience (3 credits)
  - CE 835: Integrated Project Management for Civil Engineers

Continuous registration is required for all M.Eng. students until the course requirements have been satisfied, but students may reapply if studies are interrupted per GCAC-514 Continuity of Registration and Resume Study (https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-500/gcac-514-continuity-registration-resume-study/).

Master of Science (M.S.)

Requirements listed here are in addition to Graduate Council policies listed under GCAC-600 Research Degree Policies. (https://gradschool.psu.edu/graduate-education-policies/)

The M.S. degree program is strongly oriented toward research. A thesis is required, and at least 6 credits of thesis research (CE 600 or CE 610) must be included in the candidate's academic course plan. A minimum of 30 credits at the 400, 500, 600, or 800 level are required, of which 20 must be earned at the campus where the program is approved to be offered. A minimum of 24 credits of course work are required. A minimum of 12 credits of course work (400 and 500 level) must be completed in the major (courses prefixed CE). At least 18 credits in the 500 and 600 levels, combined, must be included in the program. Specific courses are expected to be included in the plan of study depending on the specialization within the department. The thesis must be accepted by the adviser and/or committee members, the head of the graduate program, and the Graduate School, and the student must pass a thesis defense.

Continuous registration is required for all M.S. students until the thesis has been approved, but students may reapply if studies are interrupted per GCAC-514 Continuity of Registration and Resume Study (https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-500/gcac-514-continuity-registration-resume-study/).

Doctor of Philosophy (Ph.D.)

Requirements listed here are in addition to Graduate Council policies listed under GCAC-600 Research Degree Policies. (https://gradschool.psu.edu/graduate-education-policies/)

Ph.D. students must pass the English proficiency and qualifying examinations, prepare and defend the dissertation proposal as part of the oral comprehensive examination, and pass the final oral examination (dissertation defense). The dissertation must be accepted by the Ph.D. committee, the head of the graduate program, and the Graduate School.

Continuous registration is required for all Ph.D. students until the dissertation has been approved, but students may reapply if studies are interrupted per GCAC-514 Continuity of Registration and Resume Study (https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-500/gcac-514-continuity-registration-resume-study/).