Civil and Infrastructure Engineering (M.S.)

Master of Science
http://civil.gmu.edu
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Program Overview
The Department of Civil, Environmental, and Infrastructure Engineering at George Mason University offers the Master of Science in Civil and Infrastructure Engineering degree. The MS is designed for students who have completed the BS in civil engineering, although students with related undergraduate degrees may be considered for provisional admission. The MS educates students in the theory and practice of civil engineering science and design at an advanced level with a technical concentration. The MS degree is increasingly expected for high level practice in civil engineering, and prepares graduates to practice in civil engineering for: federal, state, or local government; engineering design firms; construction firms; public utilities; non-governmental organizations; and local and regional planning firms, among others. The MS serves as a foundation for subsequent study in a PhD program in civil engineering, as well as for graduate studies in architecture, law, business, economics, finance, and public policy and administration.*

Program Requirements
All MS students complete a faculty-approved plan of study with a minimum of 30 credits of graduate work. Full-time students typically complete the degree in one and a half to two years. The degree requires completion of two general core courses, specific CEIE concentration requirements (including concentration core and electives) and a graduate seminar common to all MS students. Students may elect to complete a course-only MS or in consultation with a faculty advisor they may elect to complete a MS thesis (6 credits) or a MS project (3 credits) for their degree. Students complete the following two 3-credit-hour core courses within the first 12 credit hours of MS study. These courses provide a common background for understanding, analyzing, and solving civil and infrastructure engineering problems.

- CEIE 601 – Infrastructure Modeling
- CEIE 605 – Risk and Uncertainty in Civil Engineering

**Seminar Requirement:** MS students are required to register for CEIE 795 Civil Engineering Seminar in every semester of their MS study until they have accumulated five seminar attendance credits.

**Course-only or Project or Thesis:** The MS may be completed with 30 credit hours of approved courses. Alternatively, students may propose to undertake independent study for a project (CEIE 798 for 3 credit hours) or independent research for a thesis (CEIE 799 for 6 credit hours). Projects and theses require a faculty member’s approval to work under his or her direction. Students must complete 21 credit hours of the MS prior to beginning CEIE 798, and completion typically requires one to two semesters. Students undertaking the research thesis typically take 12 to 18 months of full-time study to meet thesis expectations. A thesis is strongly recommended for students considering further study at the PhD level.
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Concentration Requirements:
Students select, in consultation with their faculty advisor, one of the five concentration areas shown below. Each concentration has a core requirement (at least three concentration core courses) and elective requirements approved by a faculty advisor. Please refer to the following website for details, http://civil.gmu.edu/graduate/master-of-science/. No more than three courses that are cross-listed as undergraduate classes may be used for credit toward the MS.
Concentrations:
- Construction project management (CPM)
- Environmental and water resources engineering (EWRE)
- Geotechnical engineering (GEOE)
- Structural engineering (STRE)
- Transportation engineering (TRNE)

Complementary programs:
- Civil and Infrastructure Engineering, PhD

Refer to our website for more information on program course offerings. Classes are scheduled evenings on the Fairfax Campus. Synchronous and asynchronous distance learning access is available for some courses.

Admission Requirements
In addition to meeting general university admission requirements, MS in CIE Program applicants must have completed a baccalaureate degree in engineering, physical sciences, economics, or another engineering-related field from an accredited program with a reputation for high academic standards. They must have earned a GPA of 3.00 or better over their 60 highest-level credits. Applicants with other baccalaureate degrees may be considered for provisional admission based on the completion of additional undergraduate course work in civil and infrastructure engineering.

Required application materials include:
- Online application and non-refundable fee
- Transcripts showing all post-secondary study
- Professional and Educational Goals Statement
- Two letters of recommendation from professors or senior officials at place of employment
- Self-Evaluation
- Resume

Additional application materials, including English proficiency examination scores (e.g., TOEFL, IELTS), are required if the applicant holds a degree from an international institution and/or requires an F-1 or J-1 visa. Visit http://admissions.gmu.edu/grad/ for details.

Special admission programs are available for Volgenau School students and alumni.