Civil Engineering (CVEG)

Faculty
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Degrees Conferred:
M.S.C.E. in Civil Engineering (CVEG)
M.S.En.E. in Environmental Engineering (ENEG) (See Environmental Engineering)
M.S.E., Ph.D. in Engineering (ENGR) (See Engineering)

The Master of Science in Civil Engineering program is intended primarily for students possessing the Bachelor of Science in Civil Engineering degree. Students with degrees from other engineering disciplines may be admitted to the program but will be required to complete some undergraduate civil engineering courses as preparation for their graduate studies. The specific courses required will depend on the emphasis of their graduate studies.

The objectives of the M.S.C.E. program are to provide a greater depth of understanding of civil engineering topics for the practice of engineering and to serve as preparation for doctoral studies. Students are allowed a great deal of flexibility in designing their course of study. Students desiring to develop a deeper understanding of one sub-discipline area may select courses solely concentrated in that area while those desiring a broader-based education may select courses from several sub-disciplines including courses from other disciplines.

Primary Areas of Faculty Research: The Department of Civil Engineering has ongoing research programs in the environmental/water resources, geotechnical, structural, and transportation areas. The following is a more detailed listing of topics currently being studied in each of these areas:

Environmental/Water Resources Area: Water and wastewater treatment; decentralized collection and treatment systems; soil and groundwater remediation; surface and ground water quality; storm water pollution prevention; environmental and hydrologic modeling; water quality studies.

Geotechnical Area: Aggregates and base materials; geosynthetic reinforcement; embankment and slope stability; field instrumentation and measurement of soil properties; soil and groundwater remediation using geosynthetics; GIS application to geotechnical engineering; foundation design.

Structural Area: High performance concrete; structural materials; bridge deck rehabilitation; computational mechanics; computational wind engineering and tornado modeling; structural earthquake analysis and modeling; structural steel design and analysis.

Transportation Area: Facility design; roadway geometrics; traffic operations and safety; pavement design and rehabilitation; asphalt concrete mixture design; construction materials characterization; construction quality control; geosynthetic reinforced flexible pavements; transportation management systems; high-speed pavement condition data acquisition; and transportation and land development.

In addition to these core areas, the Department of Civil Engineering is also actively pursuing research in the areas of alternative energy sources, infrastructure security, nanotechnology, and sustainability.

Requirements for the Master of Science in Civil Engineering Degree:
Minimum 30 semester hours of graduate-level credit (thesis); 33 semester hours of graduate-level credit (report).

1. Candidates for the degree who present a thesis are required to complete a minimum of 24 semester hours of course work and a minimum of six semester hours of thesis.
2. Candidates for the degree who do not present a thesis are required to complete a minimum of 30 semester hours of graduate-level course work plus three semester hours credit of CVEG 562V culminating in a written Master’s Report completed under the direction of the candidate’s major adviser.
3. Candidates for the degree must present a cumulative grade point average of 3.00 on all graduate courses. The minimum acceptable grade for any course is “C.”
4. Upon admission to the Graduate School and acceptance in a program of study, the candidate will be assigned to a major adviser, who in consultation with the department head, will select a graduate committee. With guidance from the Committee, the candidate will develop a plan of study and a research project to be completed by the candidate. The Committee will serve as the examination committee for the final oral and/or written examination and for the thesis/report.
5. All graduate students in the Department of Civil Engineering must successfully complete one semester of CVEG 5100 Graduate Seminar in Civil Engineering.

Requirements for the Doctor of Philosophy (Ph.D.) degree with emphasis in Civil Engineering: Minimum 72 semester hours of graduate-level credit beyond the baccalaureate degree; minimum 42 semester hours of graduate-level credit beyond the master’s degree.

1. Candidates for the degree are required to complete a minimum of 48 semester hours of graduate-level course work and a minimum of 18 semester hours of dissertation. Graduate-level course work comprising an earned master’s degree may be included in the minimum course work credit hours for the Ph.D. degree.
2. Candidates for the degree must present a cumulative grade point average of 3.00 on all graduate courses. The minimum acceptable grade for any course is “C.”

3. All graduate students in the Department of Civil Engineering must successfully complete one semester of CVEG 5100 Graduate Seminar in Civil Engineering.