

CIVIL ENGINEERING MASTER OF SCIENCE

Leading to a Master of Science Degree in Civil Engineering

Program Description

The Master of Science in Civil Engineering (MSCV) program is designed to provide advanced experience with post-graduate civil engineering principles and skills. The program has a thesis and non-thesis options with 30 required credit hours. The thesis option has students undertake an individualized engineering development experience as a two-course Thesis. In the non-thesis option, the students have an option of taking a one-course Master Project. Students may be either full-time or part-time. All graduate classes in the School of Engineering will be offered full-time in person as well as synchronous online. The expected background of the students is a bachelor's degree in civil engineering or a closely related field. Full-time students may complete the program in two or three semesters. Part-time students may complete the program in two to four years.

Program Educational Outcomes

- The Master of Science in Civil Engineering emphasizes real-world engineering problems as a practicing professional engineer, while addressing the American Society of Civil Engineers (ASCE) recommended body of knowledge for future civil engineers. Per the recommendation of the ASCE (www.asce.org) and as required by state regulations, civil
- The Master of Science in Civil Engineering program is designed to meet criteria outlined by ASCE regarding post-baccalaureate education by addressing current and future local, national, and global needs, and is widely supported by representatives of the private, public, and academic sectors of the civil engineering profession.

Student Learning Outcomes

Graduates of the Master of Science in Civil Engineering will be able to:

- Demonstrate competence in computer simulation in civil engineering.
- Demonstrate competence in sustainable engineering design.
- Identify, evaluate, and apply project management tools and techniques to engineering issues as they pertain to intra-disciplinary and inter-disciplinary teams.
- Research, analyze, and communicate information related to advanced topics and designs.
- Demonstrate the knowledge, tools and techniques associated with advanced topics and designs.

Total credits required: 30 credits

The program has both thesis and non-thesis option with 30 required credit hours.

Thesis Option

Course	Title	Credits
Select 24 credits from the following list of CIVE courses		
CIVE7000	CONSTRUCTION ENGINEERING MANAGEMENT	3
CIVE7200	SUSTAINABLE INFRASTRUCTURE	3

Course	Title	Credits
CIVE7275	ENVIRONMENTAL BIOLOGICAL SYSTEMS	3
CIVE7300	TRAFFIC ANALYSIS & SAFETY	3
CIVE7375	CONTAMINANT FATE AND TRANSPORT	3
CIVE7500	ADVANCED FOUNDATION ENGINEERING	3
CIVE7575	PHYSICAL & CHEMICAL TREATMENT PROCESSES	3
CIVE7600	ADVANCED STEEL DESIGN	3
CIVE8100	ENGINEERING MODELING & ANALYSIS	3
CIVE8250	ENGINEERING ESTIMATING & SCHEDULING	3
CIVE8400	HIGHWAY DESIGN & TRANSPORTATION PLANNING	3
CIVE8550	SITE PLANNING & DEVELOPMENT	3
CIVE8700	BRIDGE DESIGN	3

And complete the following two courses:

ENGR7100	THESIS I	3
ENGR7200	THESIS II	3

Non-Thesis Option

Course	Title	Credits
Select 30 credits from the following list of CIVE courses		
CIVE7000	CONSTRUCTION ENGINEERING MANAGEMENT	3
CIVE7200	SUSTAINABLE INFRASTRUCTURE	3
CIVE7275	ENVIRONMENTAL BIOLOGICAL SYSTEMS	3
CIVE7300	TRAFFIC ANALYSIS & SAFETY	3
CIVE7375	CONTAMINANT FATE AND TRANSPORT	3
CIVE7500	ADVANCED FOUNDATION ENGINEERING	3
CIVE7575	PHYSICAL & CHEMICAL TREATMENT PROCESSES	3
CIVE7600	ADVANCED STEEL DESIGN	3
CIVE8100	ENGINEERING MODELING & ANALYSIS	3
CIVE8250	ENGINEERING ESTIMATING & SCHEDULING	3
CIVE8400	HIGHWAY DESIGN & TRANSPORTATION PLANNING	3
CIVE8550	SITE PLANNING & DEVELOPMENT	3
CIVE8700	BRIDGE DESIGN	3
ENGR7000	MASTER PROJECT	3

Note: Other graduate courses may be substituted with the approval of an associate dean from the School of Engineering.