Master's Program

Civil Engineering
Master of Science (M.S)

The mission of the Master of Science with Major in Civil Engineering program is to meet the advanced civil engineering educational needs of graduates of undergraduate programs, practicing engineers and those non-engineering professionals wishing to redirect their career paths. Graduates of the program possess these attributes or educational outcomes:

1. Ability to apply knowledge in civil engineering and related subjects significantly beyond the baccalaureate level;
2. Ability to communicate ideas and results professionally in written, oral and graphical forms;
3. Ability to independently conduct research or solve a significant practice-oriented design in civil engineering.

These educational outcomes result from successful completion of a well-planned, rigorous set of courses and a major research or design experience.

Students wishing to continue their education but not pursue a formal academic degree are welcome to take graduate courses with the appropriate technical preparation.

Admission Requirements
All students must comply with the College's admission requirements noted under the Master's Degree Program Information header. Once students meet all College requirements, applications are reviewed on a case-by-case basis. Students are normally admitted to the Master of Science in Civil Engineering program if they meet the following:

1. Possess a baccalaureate degree in Civil Engineering or a closely related engineering field. Students with non-engineering backgrounds are required to take remedial coursework as recommended by the departmental graduate committee. Click here for additional information.
2. Have achieved a 3.0 (on a 4.0 scale) grade point average in the last 60 credits of undergraduate work;
3. Have demonstrated proficiency in both written and spoken English. Students from non-English-speaking countries are required to take an English language proficiency test and are expected to achieve a minimum TOEFL score of 550 on PBT (paper-based test), 79 on IBT (internet-based test) or 213 on CBT (computer-based test); 6.0 on IELTS; or 100 on Duolingo.
4. Agree to abide by the graduate admission requirements of the University as published in the University Catalog.
5. Distance Learning students must comply with the College of Engineering and Computer Science Distance Education guidelines noted under the Master's Degree Program Information header above.

Deleted: remedical

Deleted: Englsh

Degree Requirements
The degree of Master of Science with major in Civil Engineering is awarded to the candidate who has:

1. Complied with University graduate policies and regulations;
2. Satisfied the University's graduate degree requirements; and
3. Completed the appropriate Plan of Study for the degree option selected.

Plan of Study
A Plan of Study is a set of courses and a thesis or project activity chosen and completed in a sequence that meets the needs and interests of the individual student and the degree requirements and other stipulations of the University, College of Engineering and Computer Science and the department. There is no requirement for master's students to be full-time, nor is there an on-campus service requirement. The Plan of Study must be approved by the student's supervisory committee and the department no later than the end of the student's second semester in the program, regardless of the number of credits earned.

Degree Options
There are two degree options: Master of Science with Major in Civil Engineering with thesis and Master of Science with Major in Civil Engineering, courses only.

M.S. Civil Engineering with Thesis
(A total of 30 credits required.)

1. Requires 6 credits of Master's Thesis, and
2. Requires 24 credits of approved coursework (5000 level or higher) with the following constraints:
    a. At least half of the total credits shall be designated as 6000-level courses or above;
    b. At least half of the total credits must be from CEGE courses;
    c. Cross-listed courses are offered at the 4000/5000 and 4000/6000 levels. Students may not enroll in the 5000/6000 level course if they have completed the corresponding 4000 level course.
    d. Successful completion of any remedial course(s) determined by the departmental graduate program committee and/or the thesis supervisory committee.
3. Must complete one semester of CGS 5937, Graduate Seminar (0 credits) with grade of Satisfactory ("S").

M.S. Civil Engineering (courses only)
(A total of 30 credits required.)

1. Requires 30 credits of approved coursework (5000 level or higher) with the following constraints:
    a. At least half of the credits included in any master's degree program shall be designated as 6000-level courses.

b. At least half of the total credits shall be from CEGE courses.

c. Cross-listed courses are offered at the 4000/5000 and 4000/6000 levels. Students may not enroll in the 5000/6000 level course if they have completed the corresponding 4000 level course.

d. Successful completion of any remedial course(s) determined by the departmental graduate program committee.

2. Must complete one semester of CGS 5937, Graduate Seminar (0 credits) with grade of Satisfactory ("S").

Program Concentrations

Areas of concentration include:

- Structural/Geotechnical Engineering
- Transportation/Geomatics Engineering
- Water Resources/Environmental Engineering

Master of Science with Major in Civil Engineering students may complete one concentration, which includes a minimum of two core classes chosen from a list of courses for each concentration. Note: No more than 3 credits of Directed Independent Study may be applied toward the degree. All course selections must be part of an approved plan of study. All Master of Science with Major in Civil Engineering students must complete one semester of a 0-credit graduate seminar course.

Structural/Geotechnical Engineering Core	
Soil Stabilization and Geosynthetics	CEG 6124
Advanced Structural Analysis	CES 6106
Finite Element Methods in Civil Engineering*	CES 6119
Bridge Design	CES 6325
Structural Dynamics	CES 6585
Prestressed Concrete	CES 6715
Advanced Foundation Engineering	CEG 6105
Advanced Steel Structures	CES 6607

* Introduction to Finite Element Methods, (EGM 5351) is an acceptable substitute.

Transportation/Geomatics Engineering Core	
Thermal Infrared Remote Sensing	SUR 6387C
Advanced Unmanned Aerial System Mapping	SUR 6502
Maritime Freight Operations	TTE 6508
Sustainable Public Transportation	TTE 6651
Highway Engineering	TTE 6815
Transportation System Analysis	TTE 6501
Terrestrial Laser Scanning	CEG 6304C
Transportation and Supply Chain Systems	TTE 6507

Deleted: Intelligent Transportation Systems ... [1]

Water Resources/Environmental Engineering Core	
Open Channel Hydraulics	CWR 6235
Dynamic Hydrology	CWR 6525
Water Resource System Engineering	CWR 6818
Air Pollution and Control	ENV 6115
Water Supply and Treatment	ENV 6418
Wastewater Engineering	ENV 6507
Sustainability and Pollution Prevention	ENV 6932
Solid Waste Management	ENV 6356

Deleted: **Note:** Credits of Directed Independent Study may be applied toward the degree with the approval of the department. All course selections must be part of an approved plan of study. All Master of Science with Major in Civil Engineering students must complete one semester of a 0-credit graduate seminar course.

Business Minor

Students electing to complete a Business minor must follow the College of Engineering and Computer Science guidelines for the Business minor noted above.

Thesis Supervision

All M.S.C.V. students in the thesis option must select a supervisory committee. The supervisory committee must contain at least three members. The student's advisor will review and approve the student's plan of study. The chair of the committee and at least one of the other members must be chosen from the department faculty with expertise in the area of concentration chosen by the student. The third member may be chosen from the department faculty or from outside the department in accordance with the University guidelines established in the Graduate Governance document. The third

member may be a professional from the practicing engineering community. All members of the committee should have doctoral degrees.

The Thesis
The master's thesis is a comprehensive original work that contributes to the understanding of an engineering problem.

The thesis is presented at an oral defense, the time and date of which must be approved by the supervisory committee. A minimum of two weeks prior to the anticipated defense, the written thesis must be delivered to the supervisory committee in the format described in a document titled, Requirements and Guidelines for Graduate Theses and Dissertations, that is available from the FAU Graduate College.

The supervisory committee determines the format of the defense and, in private consultation at the completion of the oral defense, whether or not the defense was successful and the thesis is acceptable in scope and quality.

Students are expected to provide updates on their progress each semester, both written and oral. A progress report is required to record a satisfactory progress grade for thesis credits. It is expected that, at a minimum, one peer-reviewed paper will be submitted as part of the thesis option. At a minimum, one presentation or poster at a conference is also expected.

Non-Thesis Supervision
M.S.C.V. students in the courses-only option will select a department faculty member with expertise in their chosen area of concentration to be the program supervisor who reviews and approves the student's plan of study.

Transfer Credits
A maximum of 9 credits of graduate-level work earned at FAU as an undergraduate or while in non-degree status at FAU and a maximum of 6 credits transferred from another regionally or nationally accredited institution may be used to satisfy M.S. with Major in Civil Engineering degree requirements subject to the following restrictions:

1. The student must present a transcript identifying the course in which the student earned a grade of "B" or better, along with a catalog/course description.
2. The course must not have been counted toward any other graduate degree awarded or to be awarded to the student.
3. The course is relevant to the student's approved Plan of Study.
4. No credit earned ten or more years before the degree is awarded may be counted toward the M.S. with Major in Civil Engineering degree program. Credits transferred into or applied to the program are considered as earned in the first semester of enrollment.

Professional Licensing

Engineering is a regulated profession, and many civil engineers become licensed Professional Engineers (P.E.) through a process of examination and certification of engineering experience. Since undergraduate experience and training varies considerably among graduate students, students should contact the Florida Board of Professional Engineers for specific information about eligibility to sit for the licensing examinations. Note that completion of a master's degree in Engineering is not sufficient to qualify students from non-engineering backgrounds for licensure in Florida, and such students may not refer to themselves as "engineers" in Florida in accordance with CH 287.055 F.S. Where there are questions, students are asked to contact the Florida Board of Professional Engineers directly. The Florida Board of Professional Engineers' address is:

Florida Board of Professional Engineers
2507 Callaway Road, Suite 200
Tallahassee, Florida 32303-5268
850-521-0500 (Telephone)
850-521-0521 (Fax)
www.fbpe.org/

Financial Aid

Full-time students may be considered for a graduate assistantship, which provides part-time employment in the department. Full or partial tuition waivers may also be awarded to graduate assistants. The number of assistantships is limited, and they are awarded on the basis of the technical area of interest, the student's experience and academic record. Interested students should contact the department. Other financial aid opportunities also may be available through the University. Contact the FAU Financial Aid Office for more information.

Civil, Environmental and Geomatics Engineering

The Department of Civil, Environmental and Geomatics Engineering requires the following remedial coursework for students with non-engineering backgrounds:

1. EGN 3311, Statics;
2. EGN 3331, Strength of Materials;
3. Two civil and/or environmental engineering courses in the relevant concentration area as determined by the departmental graduate program committee or the thesis supervisory committee;
4. Any other course(s) dictated by the departmental graduate program committee or the thesis supervisory committee.

Deleted: graduate

Deleted: graduate