

Master of Engineering (ME) or Master of Science (MS) Degree in  
Civil Engineering with Concentration in Structural Engineering  
ESSIE  
Department of Civil and Coastal Engineering

### *Introduction*

Within the structural engineering area of specialization, employers almost exclusively seek out our graduates with masters degrees. These employers have high expectations regarding the skills and capabilities that our structural engineering masters students bring with them into industry. Consequently, we offer a **concentration in structural engineering** within the Department of Civil and Coastal Engineering. This feature adds value to the master's degree by recognizing the rigorous academic requirements that our students are required to achieve. In addition, it alerts prospective employers that the students they are considering will be able to meet their expectations for training and competence in the field. The following requirements, in addition to the minimum requirements imposed by the UF Graduate School, must be met for a student to receive a concentration in structural engineering.

### *Course Requirements*

Master's students specializing in Structural Engineering are expected to satisfy the following minimum coursework requirements and procedures. Upon admission, a structural engineering faculty member is assigned as your advisor. Regardless of whether you are pursuing a Thesis or Non-Thesis degree, you must complete the coursework requirements portion of the [\*Master's Program Plan of Study\*](#) (PPS), which is posted on the ESSIE website. You must also have it approved by your advisor so that you can register for your first semester. You must request the use of transfer credits toward your degree program on the PPS and obtain approval, as indicated by the advisor's signature on the PPS. Prior to the registration periods of subsequent semesters, contact your advisor for approval of your proposed course selection for the upcoming semester along with any changes in your PPS. Once your course selection has been approved by your advisor, you will then send (via email) your course selection along with your updated and approved PPS to your advisor with a copy to the ESSIE graduate coordinator. Your advising hold will then be removed, allowing you to register.

**All courses in the executed PPS must be completed with the minimum grade noted below for the student to be considered eligible for graduation with a Concentration in Structural Engineering.**

Additional requirements may be imposed by the Department of Civil and Coastal Engineering or the University of Florida Graduate School, therefore, the student should consult the Civil and Coastal Engineering *Graduate Student Handbook* for additional information.

### *Non-thesis Master's degree*

Non-thesis students obtaining a Master's of Science degree must satisfy the final exam requirements by submitting a completed design or analysis term project that earned a grade of B or better from one of the Group A or B courses listed in the coursework requirements. Projects from outside the structures curriculum will not be considered. Projects are to be submitted to the student's advisor for approval and must be comprehensive in nature. Master of Engineering students are not required to complete the final examination per the Graduate Catalog.

### *Thesis Master's degree-seeking students:*

A thesis master's degree-seeking student is required to have a supervisory committee. That committee must consist of a minimum of two members, a chair (usually the advisor) and at least one additional member. The full committee should be formed by the mid-term of the second semester. If a minor is designated, the committee must include one member as the representative for the proposed minor.

### *Grades & Graduation*

In addition to the Department of Civil and Coastal Engineering and the University of Florida Graduate School scholastic standards, students with a concentration in Structural Engineering must make a grade of B or better in the four required group A courses (CES 6106, CES 6706, CES 5607, and CES 6108). Students failing to attain the minimum grade in the group A courses, but otherwise satisfying all other requirements, are eligible to receive a MS or ME without a concentration in Structural engineering. A student may submit to his/her advisor a petition detailing the circumstances that led to inadequate group A grade(s), and request an opportunity to repeat such courses in an effort to meet the requirements for concentration. If the advisor determines that the student's request is legitimate and warrants consideration, the advisor will then ask the Structures faculty to consider the request and finalize a decision. Note that Group A courses are only offered once per academic year (in various terms or all at

the same time). Per the University of Florida Graduate School Policy, students must have an overall GPA of 3.00 (truncated for the courses listed in their executed PPS) to be eligible for graduation with a concentration in Structural engineering. Also, if the student is registered for any of these group A courses during the graduating semester and a grade of a B or better is not obtained, the student will not graduate. The student will have to either repeat the course in a future term (if approved by the faculty), or have the concentration designation removed from their GIMS record in a future term and register for one additional course to be eligible to graduate.

### *Coursework Requirements*

#### MS or ME with Thesis

Minimum 30 total semester hours; min. 24 hours coursework permitted; min. 27 hours coursework recommended; max. 6 hours Masters Research (CGN6971) permitted; min 3 hours Masters Research (CGN6971) required; written master's thesis; oral defense. Enrollment of 3 credit hours (Fall/Spring) or 2 credit hours (Summer) of Masters Research (CGN 6971) is required during the final/graduating semester.

#### MS or ME with Coursework Only

Minimum 30 total semester hours of coursework; (only available if the student has not received financial aid from the Department of Civil and Coastal Engineering). Students must take all four (4) Group A courses below, and at least four (4) Group B courses. Remaining courses required to reach 30 credit hours can be selected from Group B or Group C.

#### A. Required Courses

CES 6106 Advanced Structural Analysis  
CES 6706 Advanced Reinforced Concrete  
CES 5607 Behavior of Steel Structures  
CES 6108 Structural Dynamics

#### B. Additional structures courses- Students must take **at least four** (4) of the following courses:

CES 5010 Probabilistic and Stochastic Methods in Civil Engineering  
CES 5116 Finite Elements in Civil Engineering  
CES 5325 Design of Highway Bridges  
CES 5606 Topics in Steel Design  
CES 5715 Prestressed Concrete  
CES 5801 Design and Construction in Timber  
CES 5835 Design of Reinforced Masonry Structures  
CES 6585 Wind Engineering  
CES 6588 Protective Structures  
CES 6590 Impact Engineering  
CES 6591 Applied Protective Structures  
CES 6592 Retrofit of Protective Structures  
CES 6593 Advanced Protective Structures

#### C. Other recommended courses

CEG 5115 Foundation Design  
CEG 6116 Advanced Shallow Foundation Design  
CEG 6117 Advanced Deep Foundation Design  
CEG 6515 Earth Retaining Systems and Slope Stability  
CGN 6505 Properties, Design and Control of Concrete  
EGM 5533 Applied Elasticity and Advanced Mechanics of Solids  
EGM 6365 Structural Optimization  
EGM 6611 Continuum Mechanics

\*All courses are three credits

Note: Internships shall not be used to satisfy coursework requirements for either degree.

Master's Program Plan of Study  
Civil Engineering with Concentration in Structural Engineering

Date: \_\_\_\_\_  
7 Term: \_\_\_\_\_

Student Name:

Last)

(First)

(MI)

UF-ID #: \_\_\_\_\_

UF E-Mail: \_\_\_\_\_

@ufl.edu

Select appropriate degree:

- Master of Engineering
- Master of Science

Select option:

- Non-thesis 30 Credit Hrs. only --
- Thesis -- (Committee needed)

*No committee needed, except if a minor is elected, then a minor representative must be submitted. Please designate that a minor has been selected under department name with a (\*).*

Members of Committee:

(if required)

Name of Member  
(typed or PRINTED clearly)

Initialed by  
Member

Department  
of Member

Chair:	_____	_____	_____
Co-Chair: (optional)	_____	_____	_____
Member:	_____	_____	_____
Member:	_____	_____	_____

CCE Certificate(s): If you will be receiving a CCE certificate, which one(s)?

- Critical Infrastructure Protection Certificate
- Other certificate(s) - (list below):

Plan of Study:

\_\_\_\_\_

	Course Number and Title	Source:					# of Credits	Type Choose	
		UF Grad Course as Undergrad	UF-4/1	UF-Non-degree or Post-bac	Transfer	UF		Year	Term
Group A	CES 6106 Advanced Structural Analysis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	3		
	CES 6706 Advanced Reinforced Concrete	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	3		
	CES 5607 Behavior of Steel Structures	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	3		
	CES 6108 Structural Dynamics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	3		
Group B		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
Other (Type in Course)		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			

*\*Suggested courses and terms are contingent upon availability.*

TOTAL Credit Hours: \_\_\_\_\_

Advisor/Chair's Signature \_\_\_\_\_

Date \_\_\_\_\_

Student Signature \_\_\_\_\_

Date \_\_\_\_\_