

**Sample Course Plan for Coursework MSCE: Structures****Assumed student background**

The sample course plan shown below was designed assuming that a student has taken (at a minimum) both of the following:

1. CEE 3202 (Structural Analysis), or equivalent; and
2. *at least* one of: CEE 4213 (Structural Concrete Design) or CEE 4223 (Steel Design I), or equivalent, as an undergraduate.

The sample course plan has room for one Graduate Elective course assuming the student has taken all of the following:

1. CEE 4201 (Matrix Structural Analysis), or equivalent; **and**
2. CEE 4213 (Structural Concrete Design), or equivalent; **and**
3. CEE 4223 (Steel Design I), or equivalent.

Requirements: 30 credits *minimum* (12 maximum credits at 3000-4000 level; 18 credits at 5000 level)

Sample Coursework List

	Credits	Semester
1) CEE 4233 – Structural Timber Design	3	Spring
2) CEE 4820 – Foundation Engineering	3	Fall
3) CEE 5202 – Finite Element Analysis	3	Spring
4) CEE 5212 – Prestressed Concrete Design	3	Fall
5) CEE 5213 – Concrete and Masonry Building Systems	3	Fall
6) CEE 5223 – Steel Design II	3	Spring
7) CEE 5241 – Structural Dynamics	3	Fall
8) CEE 5242 – Advanced Structural Dynamics	3	Spring
9) Systems Elective	3	
10) Graduate Elective	3	

Systems Elective (Must take at least one of these courses.)

CEE 5710 – Modeling and Simulation Applications	3	Fall
CEE 5730 – Probabilistic Analysis and Reliability	3	Fall
CEE 5740 – Introduction to System Identification	3	Spring
CEE 5760 – Optimization Methods	3	Spring

Sample CEE Graduate Electives

CEE 4020 – Computer Applications	3	Fall
CEE 4244 – Loads for Civil Structures	3	Spring
CEE 5102 – Advanced Concrete Materials	3	Fall
CEE 5201 – Advanced Structural Analysis	3	Fall (alt)
CEE 5233 – Advanced Structural Timber Design	3	Fall (alt)
CEE 5250 – Special Topics in Structural Engineering	1-3	Fall/Spr/Sum
CEE 5261 – Bridge Design and Construction	3	Fall

CEE 5350 – Infrastructure Life Cycle Engineering	3	Spring
CEE 5800 – Mathematical Modeling of Earth Systems	3	Fall
CEE 6213 – Advanced Structural Concrete Design	3	Spring (alt)

Sample Non-CEE Graduate Electives

EE 5500 – Probability and Stochastic Processes	3	Fall
GE 5100 – Advanced Geomorphology and Glacial Geology	3	Fall (alt)
MA 4515 – Introduction to Partial Differential Equations	3	Spring
MA 4535 – Nonlinear Dynamics and Chaos	3	Fall
MA 4610 – Numerical Linear Algebra	3	Spring
MA 4620 – Numerical Methods for Partial Differential Eqns.	3	Fall
MA 4710 – Regression Analysis	3	Fall
MA 5565 – Partial Differential Equations	3	Fall (alt)
MEEM 4150 – Intermediate Mechanics of Materials	3	Spring
MEEM 4170 – Failure of Materials in Mechanics	3	Spring
MEEM 5110 – Continuum Mechanics/Elasticity	3	Fall
MEEM 5150 – Advanced Mechanics of Materials	3	Fall
MEEM 5160 – Experimental Stress Analysis	3	Fall
MEEM 5180 – Mechanics of Composite Materials	3	Spring (alt)
MEEM 5700 – Dynamic Measurement/Signal Analysis	4	Fall
MSE 4320 – Corrosion and Environmental Effects	3	Fall
MSE 4430 – Composite Materials	3	Spring
MSE 5140 – Mechanical Behavior of Materials	3	Fall

Disclaimer: This course plan is meant to serve as a sample for a student interested in pursuing a coursework-only MSCE degree with a focus on structural engineering. This plan may not be appropriate for all students, nor is it necessary for a student to follow this schedule to earn a coursework-only degree. Student-specific goals and prior education must be considered and consultation with faculty members is required. Consult with instructors before enrolling in courses that are outside of the Department to ensure that the course will be consistent with your goals and background since sometimes other courses may provide more value to the student. **All MSCE degree requirements and rules set forth by the Department and the Graduate School must be met in order for a student to finish the program.**