



Sample Course Plan for Coursework MSCE: Infrastructure

Assumed student background

The sample course plan shown below was designed assuming that a student has taken the following:

1. CEE 3332 (Fundamentals of Construction), or equivalent;

The plan will work for:

1. Students who did not receive their BSCE at Michigan Tech
2. Students who received their BSCE at Michigan Tech, and intend to count the courses in item 1) below towards either senior rule, or an accelerated MS program.

The plan leaves space for 3 graduate electives which can be used for Thesis credits for students pursuing the MS Thesis option.

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

Sample Coursework List

	Credits	Semester
1-3) Three of the following:		
- CEE 4020 – Computer Applications (Digital Project Delivery)	3	Fall
- CEE 4213 – Structural Concrete Design	3	Spring
- CEE 4333 – Construction Estimating	3	Fall
- CEE 4344 – Construction Scheduling	3	Spring
- CEE 4401 – Pavement Design	3	Fall
4) CEE 5350 – Life Cycle Engineering	3	Spring
5) Systems Elective	3	
6-7) Two of the following:		
- CEE 5261 – Bridge Design and Construction	3	Fall
- CEE 5402 – Traffic Flow Theory	3	Spring
- CEE 5404 – Transportation Planning	3	Fall
8-10) Three graduate electives	9	

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 5760 – Optimization Methods	3	Spring

Sample CEE Graduate Electives

CEE 4402 – Traffic Engineering	3	Fall
CEE 5102 – Advanced Concrete Materials	3	Fall
CEE 5213 – Concrete and Masonry Building Systems	3	Fall
CEE 5401 – Advanced Pavement Design	3	Spring
CEE 5404 – Transportation Planning	3	Fall
CEE 5411 – Pavement Design	3	Fall
CEE 5414 – Railroad Engineering	3	Fall
CEE 5417 – Transportation Design	3	Spring

CEE 5640 – Stormwater Management and LID	3	Summer
CEE 5730 – Probabilistic Analysis and Reliability*	3	Fall
CEE 5760 – Optimization Methods*	3	Spring
CEE 5800 – Mathematical Modeling of Earth Systems	3	Fall
(*Could be used in place of CEE 5710 or as a graduate elective)		

Sample Non-CEE Graduate Electives

ENG 5520 – Sustainable Futures – II	3	Spring
MEEM 4150 – Intermediate Mechanics of Materials	3	Spring
MEEM 4170 – Failure of Materials in Mechanics	3	Spring
MSE 4430 – Composite Materials	3	Spring
OSM 4700 – Logistics and Transportation Management	3	Spring

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 infrastructure 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.**