

**Sample Course Plan for Coursework MSCE: Transportation Engineering****Assumed student background**

The sample course plan shown below was designed assuming that a student has taken (as a minimum) CEE 3101 (Civil Engineering Materials), CEE 3401 (Transportation Engineering), CEE 3620 (Water Resources Engineering), CEE 3810 (Soil Mechanics for Engineers), and CEE 3501/ENVE3503 (Environmental Engineering) or equivalents.

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

Sample Coursework List

	Credits	Semester
1) CEE 4402 – Traffic Engineering	3	Fall
2) CEE 5401 – Advanced Pavement Design	3	Spring
3) CEE 5404 – Transportation Planning	3	Fall
4) CEE 5411 – Pavement Design	3	Fall
5) CEE 5414 – Railroad Engineering	3	Fall
6) CEE 5417 – Transportation Design	3	Spring
7) OSM 4700 – Logistics and Transportation Management	3	Spring
8) Systems Elective	3	
9) Graduate 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 Graduate Electives

CEE 4020 – Computer Applications	3	Fall
CEE 4333 – Estimating & Planning of Construction Projects	3	Fall
CEE 4344 – Construction Scheduling	3	Spring
CEE 5101- Bituminous Materials	3	Fall
CEE 5102 – Advanced Concrete Materials	3	Fall
CEE 5350 – Infrastructure Life Cycle Engineering	3	Spring
CEE 5402 – Traffic Flow Theory	3	Spring (alt)
CEE 5408 – Public Transit	3	Fall
CEE 5409 – Railroad Track Engineering and Design	3	Spring
CEE 5490 – Special Topics in Transportation Engineering	1-3	Fall/Spr/Su
CS 4321 – Introduction to Algorithms	3	Spring/Fall
EC 4500 – Public Economics	3	Fall
EC 5000 – Microeconomic Theory	3	Spring
FW 5550 – Geographical Information Systems	4	Fall

FW 5555 – Advanced GIS Concepts & Analysis	3	Spring
FW 5556– GIS Project Management	3	Spring
MA 4330 – Linear Algebra	3	Fall
MA 4710 – Regression Analysis	3	Fall
MA 5630 – Numerical Optimization	3	Spring
MA 5701 – Statistics Methods	3	Fall
SU 3210 – Site Planning and Development	4	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.**