

NORTHWESTERN UNIVERSITY MASTERS OF SCIENCE PROGRAM IN ADVANCED STRUCTURAL DESIGN

The MS in SEIM requires 12 course units (7 core courses + 5 electives) in addition to the STR Seminar. The recommended program includes 16 courses + summer internship, in addition to the Structural Seminar.

Track	1 st Quarter/Fall	2 nd Quarter/Winter	3 rd Quarter/Spring	Optional 4 th Quarter/Fall
Recommended: 4 Courses/Quarter plus STR Seminar	Dynamics of Structures (320)¹	Theory of Structures II (319)	Pre-stressed Concrete Structures (421)	select courses from approved list below [†]
	Finite Elements Methods (327)	Theory of Plates and shells structures (495)	2 nd Course from approved list below [†]	
	Mechanics of Continua I (417)	Theory of Elasticity (415)	3 rd Course from approved list below [†]	
	4 th Course from approved list below [†]	4 th Course from approved list below [†]	4 th Course from approved list below [†]	
	STR Seminar (512) – no tuition zero credit seminar			
†Approved list of electives	Architecture Engineering & Design I (385-1), F Experimental Solid Mechanics (413), F Stability of Structures (424), F Method of Applied Math (ES311) ⁵ Soil Mechanics 1 (450-1), F Forensic Engineering (395), V Advanced Steel Design (495), V Independent Project/Study (499) ³	Architecture Engineering & Design II (385-2), W Concrete Design (325) ² , W Cohesive Fracture and Scaling (430), W Mechanics of Composite Materials I (414-1), W Soil mechanics 3 (450-3), W Foundation Design (352), W(O) Independent Project/Study (499) ³	Architecture Engineering & Design III (385-3), S Steel Design (323) ² , S Structural System and Optimization, V Behavior of RC Structure (425), V Mechanics of Composite Materials II (414-2), S Independent Project/Study (499) ³	Architecture Engineering & Design I (385-1), F Differential Geometry (MATH 342) Uncertainty Analysis (306), F Independent Project/Study (499) ³ Structural Reliability, V
Thesis option	Research (590) ⁴	Research (590) ⁴	Research (590) ⁴	
Non-thesis option		MS Design Project (495) with a required zero unit pre-requisite course (504) in Winter quarter		

Note: required courses shown in **bold** face and shaded cells and are **required** for students who choose post MS plan of Engineering Practice. Failure to satisfactorily meet the required course may delay your graduation. If you want to waive the required course requirement, you must submit a letter to MS SEIM Coordinator from the instructor of the course indicating you have satisfactorily meet the content associated with the course. For students who choose the thesis option, your curriculum plan may deviate from above and must be approved by your thesis advisor.

¹ numbers in parentheses are Civ_Env course numbers unless otherwise stated

² must take these courses in the appropriate quarters if not taken as an undergraduate

³ maximum of 1 CivEnv 499 may be used in M.S. program; must submit petition form to CEE

⁴ A thesis is required for Civ_Env 590, min 2 units and max 3 units. Grading is P/N.

⁵ To prepare for 424 and 422