

NORTHWESTERN UNIVERSITY MASTERS OF SCIENCE PROGRAM IN GEOTECHNICAL ENGINEERING

**Note: The recommended program includes 12 courses, in addition to the Geotechnical Engineering Seminar.
The minimum number of courses for an MS is 12 (9 required + 3 electives).**

Track		1 st Quarter/Fall	2 nd Quarter/Winter	3 rd Quarter/Spring
Recommended: 4 Courses/Quarter plus Geotechnical Engineering Seminar		Advanced Soil Mechanics I (450-1)¹	Advanced Soil Mechanics II (450-2)²	Advanced Soil Mechanics III (450-3)
		Underground Construction (495-21)	Soil Dynamics (458)	Constitutive Modeling (495)
		Ground Improvement (495-22)	Unsaturated Soil Mechanics (495)	Geotechnical Earthquake Engineering (495) ² or LRFD in Geotechnical Engineering (495) ³
		4 th Course from Tracks below	4 th Course from Tracks below	
			MS Design Project – pre-requisite course (504) – zero unit, zero cost	MS Design Project (495)
		Seminar in Geotechnical Engineering Civ-Env 515 in winter (515-1) and spring (515-2) quarters		
Tracks Choose 1 Course/Quarter	Design	Uncertainty analysis (306) Advanced Steel Design (495-20) Finite Elements Methods (327)	MS Design Project (495) with a required zero unit pre-requisite course (504) in Winter quarter	
	Earth Science	Introductory (Aqueous) Geochemistry (Earth 310)	Seismology and Earth Structure (Earth 323-0)	
	Structures	Finite Elements Methods (327)	Reinforced Concrete (325)	Steel Design (323)
	Simulation-Driven Geotechnical Engrg.	Finite Elements Methods (327)	Advanced Finite Elements Methods (426-1)	Computational Forensics and Failure Analysis (395)
<p>Note: required courses/projects are in bold face</p> <p>¹ number in parenthesis are Civ-Env courses unless noted otherwise</p> <p>² courses offered in even years</p> <p>³ courses offered in odd years</p>				