NORTHWESTERN UNIVERSITY MASTERS OF SCIENCE PROGRAM IN STRUCTURAL ENGINEERING 2026-2027

Track	1st Quarter/Fall	2nd Quarter/Winter	3rd Quarter/Spring
Required Courses	**Seminar (CEE 512 – zero units)**	**Stability of Structures (CEE 424)** **Seminar (CEE 512 – zero units)**	**Theory of Plates and Shells (CEE 410)** **Seminar (CEE 512 – zero units)**
Research Track[1]	**The Research Track requires 9 course units + 3 research units (590) in addition to the CAE Seminar.**		
Recommended list of electives	**Mechanics of Continua (CEE 417)[2]** Matrix Analysis of Structures (CEE 423) Finite Elements (CEE 327) Inelastic Structures (CEE 422) Experimental Solid Mechanics (CEE 413) Mechanics of Earthquake Ruptures (CEE 395) Soil Mechanics I (CEE 450) Building Science 1 - Foundation (388)	**Theory of Elasticity (CEE 415)[2]** Advanced Finite Elements-1 (CEE 426-1) Properties of Concrete (CEE 321) Towards a carbon neutral built environment (CEE 395) Building Enclosure Design (CEE 395) Energy geostructures and geosystems (353)	Quasibrittle Fracture (CEE 430) Advanced Finite Elements-2 (CEE 426-2) **Mechanics of Vibrations (ME 363)/ Dynamics of Structures (CEE 320)** High Performance Architectural Design (CEE 386) Reservoir Geomechanics (453) Climate Adaptive Design in the Built Environment (395) Computational Forensics and Failure Analysis (328)
Other approved electives	Independent Study (CEE 499) Uncertainty Analysis (CEE 306) Design of Sustainable Urban Developments (CEE 387) Numerical Solution of Partial Differential Equations (ES-APPM 446-1)	**Reinforced Concrete Design (CEE 325)[3]** Applied Computational Fluid Dynamics and Heat Transfer (ME 377) Independent Study (CEE 499)	**Structural Steel Design (CEE 323)[3]** High Performance Scientific Computing (ES-APPM 444) Independent Study (CEE 499)

Notes:

[1] For the Research track, desire to complete this track is not sufficient: students must identify (1) a research advisor willing to support study and (2) a topic that will result in a scholarly thesis. The Research track will in almost all cases take longer than one academic year to complete. The research work need not begin in fall quarter of the first year and can begin with a CIV_ENV 499 unit of independent study (this unit can count as **one** of the required 590 units. Only **two** 499 courses can count towards overall course requirements).

[2]Either CEE 415 or CEE 417 is required.

[3]Required if not taken at the undergraduate level.