

Civil Engineering Master's

Department Information

- **Program Information:**
ndsu.edu/programs/graduate/civil-and-environmental-engineering (<http://ndsu.edu/programs/graduate/civil-and-environmental-engineering/>)
- **Department Web Site:**
ndsu.edu/ccee/ (<http://ndsu.edu/ccee/>)
- **Application Deadline:**
Fall semester- February 15; Spring semester- September 15
- **Credential Offered:**
M.S.
- **English Proficiency Requirements:**
TOEFL iBT 71, IELTS 6; Duolingo 105

Apply Now (https://ndsugrad.my.site.com/Application/TX_SiteLogin/?startURL=/Application/TargetX_Portal__PB)

The Master of Science degree is a master's thesis or master's paper option. The student and adviser develop a program of study consisting of at least 30 credit hours of graduate level material to meet individual educational goals.

Curriculum for the Accelerated (4+1) program

Code	Title	Credits
*Required Courses		12
Management/Business/Communication		5
MGMT 630	Leadership in Organization	
CE 740	(**)	
CE 757	Pavement Evaluation and Rehabilitation (**)	
CM&E 603	Scheduling and Project Control	
CM&E 660	Infrastructure Management	
COMM 711	Communication Theory	
COMM 782		
MIS 770	Information Technology Audit and Risk Management	
NRM 702	Natural Resources Management Planning	
Engineering Tool		6
CE 641	Finite Element Analysis	
CE 739	Computational Methods for Engineering (**)	
ENGR 729		
GEOG 665	Remote Sensing of the Environment	
IME 661	Quality Assurance and Control	
IME 662	Total Quality In Industrial Management	
IME 663	Reliability Engineering	
IME 765	Data Analysis	
ME 711	Advanced Engineering Analysis	
STAT 661	Applied Regression Models	
STAT 726	Applied Regression and Analysis of Variance	
CE 790		1
CE 798		6
*Focus Area Courses - Select at least 12 credits from one of the following focus areas.		12
Focus Area 1 - Civil Infrastructure		
Structure		
CE 611	Design of Pre-stressed Concrete	2
CE 625	Bridge Evaluation and Rehabilitation	3

CE 630	Timber and Form Design	3
CE 645	Advanced Steel Design	2
CE 646	Basic Dynamics of Structures	3
CE 647	Stability of Structures	3
CE 720	Continuum Mechanics	3
CE 793	(Deep Learning for Engineers)	2
CM&E 665	Bridge Engineering and Management	3
Transportation		
CE 619	Pavement Design	3
CE 652	Fundamentals of Oil & Gas Pipeline: Design, Operation, Inspection & Maintenance	3
CE 654	Geometric Highway Design	3
CE 656	Railroad Planning and Design	3
CE 782	Introduction to Intelligent Infrastructure	3
Geotechnical		
CE 617	Slope Stability and Retaining Walls	3
CE 661	Foundation Engineering	3
CE 662	Designing with Geosynthetics	2
CE 663	Geotechnical Earthquake Engineering	3
CE 664	Advanced Soil Mechanics	2
Focus Area 2 - Water Environmental		
Environmental		
CE 610	Water & Wastewater Engineering	3
CE 671	Environmental Nanotechnology	3
CE 672	Solid and Hazardous Waste Management	3
CE 673		3
CE 679		3
CE 790	(Small Community Water Supply and Sanitation)	3
CE 696	Special Topics (Environmental Engineering Design)	3
Water Resources		
CE 621	Open Channel Flow	3
CE 674	Groundwater Sustainability Design	3
CE 676	Watershed Modeling	3
CE 677	Applied Hydrology	3
CE 776	Ground Water and Seepage	3
CE 793	(Advanced Fluid Mechanics)	3

* The above course list will be updated as new courses are considered or to be offered.

** Courses can be taken either in Category A or B but cannot be double counted.

*** Courses to be developed when the program starts.

Admission and Application Requirements

- Graduate School admission and application requirements are found on the Admission Information (<https://catalog.ndsu.edu/past-bulletin-archive/2025-2026/graduate/admission-information/>) page.