

# Construction Engineering Major

## Major Requirements

Degree Type: B.S. Cons. E.  
Minimum Credits Required: 129

### University Degree Requirements

For complete details on these and other university degree requirements, refer to the Degree and Graduation Requirements (<http://catalog.ndsu.edu/academic-policies/undergraduate-policies/degree-and-graduation/>) section in the University Catalog.

1. Minimum of 120 semester credits (some programs may exceed this minimum).
2. Complete the University General Education requirements.
3. Minimum institutional GPA of 2.00 based on work taken at NDSU.
4. Minimum of 30 credits in resident at NDSU.
5. Minimum of 36 upper level credits (courses numbered 300 or higher).
6. Students with transfer credit must meet the NDSU 30 credits in residence (#4). Of these 30 credits in residence, a minimum of 15 credits must be in courses numbered 300 or above, and 15 credits must be in the student's declared major curricula.

### University General Education Requirements

A list of university approved general education courses along with the administrative policies governing the requirement and the categories is available here (<http://catalog.ndsu.edu/academic-policies/undergraduate-policies/general-education/>).

Code	Title	Credits
<b>Category C: Communication</b>		<b>12</b>
<b>Category R: Quantitative Reasoning</b>		<b>3</b>
<b>Category S: Science and Technology</b>		<b>10</b>
<b>Category A: Humanities and Fine Arts</b>		<b>6</b>
<b>Category B: Social and Behavioral Sciences</b>		<b>6</b>
<b>Category W: Wellness</b>		<b>2</b>
<b>Category D: Cultural Diversity</b>		
<b>Category G: Global Perspectives</b>		
<b>Category L: Digital Literacy</b>		
<b>Total Credits</b>		<b>39</b>

### major requirements

Code	Title	Credits
<b>Construction Engineering Core Requirements</b>		
CM&E 111	Introduction to Construction Management and Engineering	1
CM&E 200	Construction Documents and Codes	3
CM&E 204	Construction Surveying	3
CM&E 212	Construction Graphic Communications	3
CM&E 240	Financial Cost Concepts for Construction Managers	3
CM&E 301	Construction Technology and Equipment	3
CM&E 305	Pre-Construction Management	3
CM&E 315	Specifications and Contracts	3
CM&E 380	Construction Estimating: Quantities and Costs	3
CM&E 403	Scheduling and Project Control	3
CM&E 405	Construction Support Operations	3
CM&E 489	Construction Design Capstone	3
CE 303 & 303L	Civil Engineering Materials and Civil Engineering Materials Laboratory	3
CE 309	Fluid Mechanics	3
CE 316	Soil Mechanics	3

CE 343	Structural Engineering and Analysis	4
CE 400 Level Courses: Select 12 credits from the following:		12
CM&E 431	Sustainable Design and Construction	
CM&E 465	Bridge Engineering and Management	
or CE 425	Bridge Evaluation and Rehabilitation	
CM&E 475	Design of Site Erosion Control	
CE 404	Reinforced Concrete	
CE 408	Water Resources and Supply	
CE 411	Design of Pre-stressed Concrete	
CE 417	Slope Stability and Retaining Walls	
CE 419	Pavement Design	
CE 421	Open Channel Flow	
CE 430	Timber and Form Design	
CE 441	Finite Element Analysis	
CE 444	Structural Steel Design	
CE 461	Foundation Engineering	
CE 462	Designing with Geosynthetics	
CE 478	Water Quality Management	
ME 221	Engineering Mechanics I	3
ME 222	Engineering Mechanics II	3
ME 223	Mechanics of Materials	3
MATH 128	Introduction to Linear Algebra	1
MATH 165	Calculus I	4
MATH 166	Calculus II	4
MATH 259	Multivariate Calculus	3
MATH 266	Introduction to Differential Equations	3
BUSN 431	Business Law I-Contracts, Property and Torts	3
CHEM 121	General Chemistry I	4
& 121L	and General Chemistry I Laboratory	
CHEM 122	General Chemistry II	3
ENGL 320	Business and Professional Writing	3
or ENGL 321	Writing in the Technical Professions	
ENGR 327	Ethics, Engineering, and Technology	3
GEOL 105	Physical Geology	3
or GEOL 106	The Earth Through Time	
PHYS 252	University Physics II	4
STAT 330	Introductory Statistics	3
Select one from the following:		3
ECON 105	Elements of Economics	
or ECON 201	Principles of Microeconomics	
or ECON 202	Principles of Macroeconomics	

**Total Credits****112**

## Degree Requirements and Notes

- A minimum 2.50 cumulative GPA is required for transfer students to be admitted to the B.S. in construction engineering program.