

Construction Engineering

Department Information

- **Department Web Site:**
www.ndsu.edu/ccee/ (<http://www.ndsu.edu/ccee/>)
- **Credential Offered:**
B.S.Cons.E.
- **Sample Program Guide:**
catalog.ndsu.edu/programs-study/undergraduate/construction-engineering/#planofstudytext (<http://catalog.ndsu.edu/programs-study/undergraduate/construction-engineering/#planofstudytext>)

Major Requirements

Major: Construction Engineering

Degree Type: B.S.Cons.E.

Minimum Degree Credits to Graduate: 129

University Degree Requirements

1. Satisfactory completion of all requirements of the curriculum in which one is enrolled.
2. Earn a minimum total of 120 credits in approved coursework. Some academic programs exceed this minimum.
3. Satisfactory completion of the general education requirements as specified by the university.
4. A minimum institutional GPA of 2.00 based on work taken at NDSU.
5. At least 30 credits must be NDSU resident credits. Resident credits include credits registered and paid for at NDSU.
6. At least 36 credits presented for graduation must be in courses numbered 300 or higher.
7. Students presenting transfer credit must meet the NDSU residence credits and the minimum upper level credit. Of the 30 credits earned in residence, a minimum of 15 semester credits must be in courses numbered 300 or above, and 15 semester credits must be in the student's curricula for their declared major.

For complete information, please refer to the Degree and Graduation Requirements (<http://catalog.ndsu.edu/past-bulletin-archive/2024-25/academic-policies/undergraduate-policies/degree-and-graduation/>) section of this Bulletin.

University General Education Requirements

A list of university approved general education courses and administrative policies are available here (<http://catalog.ndsu.edu/past-bulletin-archive/2024-25/academic-policies/undergraduate-policies/general-education/#genedcoursestext>).

Code	Title	Credits
Category C: Communication		12
ENGL 110	College Composition I	
ENGL 120	College Composition II	
COMM 110	Fundamentals of Public Speaking	
Upper Division Writing [†]		
Category R: Quantitative Reasoning [†]		3
Category S: Science and Technology [†]		10
Category A: Humanities and Fine Arts [†]		6
Category B: Social and Behavioral Sciences [†]		6
Category W: Wellness [†]		2
Category D: Cultural Diversity ^{*†}		
Category G: Global Perspectives ^{*†}		
Total Credits		39

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Courses for category D & G are satisfied by completing D & G designated courses in another general education category.

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General education courses may be used to satisfy requirements for both general education and the major, minor, and program emphases, where applicable. Students should carefully review major requirements to determine if specific courses can also satisfy these general education categories.

major requirements

Code	Title	Credits
Construction Engineering Core Requirements		
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 or CE 425	Bridge Engineering and Management 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 & 121L	General Chemistry I and General Chemistry I Laboratory	4
CHEM 122	General Chemistry II	3

ENGL 320 or ENGL 321	Business and Professional Writing Writing in the Technical Professions	3
ENGR 327	Ethics, Engineering, and Technology	3
GEOL 105 or GEOL 106	Physical Geology The Earth Through Time	3
PHYS 252	University Physics II	4
STAT 330	Introductory Statistics	3
Select one from the following:		3
ECON 105 or ECON 201 or ECON 202	Elements of Economics Principles of Microeconomics 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.