

# CIVIL ENGINEERING

## Transfer Program with UNL

Civil engineers play a crucial role in shaping the built environment, contributing to the development and maintenance of the infrastructure that supports modern society. They design, plan, and oversee the construction, maintenance, and improvement of various projects, such as roads, bridges, buildings, airports, water supply systems, sewage systems, and more. They use engineering principles and software to create detailed plans and specifications. The Civil Engineering program at Wayne State is a guided pathway with the University of Nebraska-Lincoln College of Engineering. You will complete your first years of coursework at Wayne State, then transfer to UNL or UNO to complete your B.S. in Civil Engineering. While at the University of Nebraska, you'll focus on areas including environmental engineering, geotechnical and materials engineering, structural engineer, transportation engineering, and water resources engineering.

## fast facts

**Credit hours:** Up to 80 at Wayne State College; 60 at the University of Nebraska

**Program details:** This is a joint program between Wayne State College and University of Nebraska-Lincoln College of Engineering. You will complete your first years of coursework at Wayne State, then transfer to UNL's College of Engineering in Lincoln or Scott Campus at the University of Nebraska-Omaha, to complete your B.S. in civil engineering.

**Department:** Physical Sciences and Mathematics

**School:** Science, Health, and Criminal Justice

## focus on results

### Skills Learned

- Mechanical design
- Civil design
- Research and development
- Mathematics
- Physical science
- Computer-based measurement and analysis tools
- Organizational, listening, communication, and interpersonal skills
- Critical thinking and problem-solving skills
- Lead and work effectively in teams

### Possible Careers

- Building services engineer
- Project engineer
- Systems engineer
- Water engineer
- Nuclear engineer
- Sustainability consultant
- Geotechnical engineer
- Fire risk assessor
- Patent attorney
- Urban designer
- Control systems specialist

### Types of Employers

- Government – public sector
- Production firms
- Water engineering firms
- Civil engineering firms
- Power plants
- Manufacturing companies
- Research lab
- Transportation companies
- Computer and electronic products companies
- Construction companies

## outside the classroom

### Activities / Opportunities

- Conduct research projects
- Conferences and presentations
- Peer mentoring and tutoring
- Service-Learning
- Study Abroad

### Clubs / Organizations

- Drafting and Design Club



Visit [www.wsc.edu/clubs](http://www.wsc.edu/clubs) to learn more about clubs and organizations on campus.



The following courses are required for the program of study described on this sheet. Every effort is made to ensure this information is current, but please be aware that some content may have changed. To develop a plan for registering and taking these courses, please consult the current academic catalog and your advisor.

## Program courses

The following courses, which include pre-engineering requirements and general education courses, can be taken at Wayne State prior to transferring to the University of Nebraska.

### Pre-Engineering Math Courses

MAT 140 Calculus I .....	5
MAT 180 Applied Probability and Statistics.....	3
MAT 240 Calculus II.....	5
MAT 250 Differential Equations.....	3
MAT 340 Calculus III .....	5

### Pre-Engineering Science Courses

CHE 106 General Chemistry I .....	4
CHE 107 General Chemistry II .....	4
PHY 301 University Physics I.....	4
PHY 302 University Physics II.....	4

### Math and Science Elective Courses

Select one of the following.....	2-4
MAT 410 Probability and Statistics (4)	
PHY 115 Professionalism in Science and Engineering (2)	
PHY 214 Applied Statics (3)	
PHY 215 Applied Dynamics (3)	
Select one of the following.....	3-4
BIO 102 Biology for General Education (3)	
CHE 314 Organic Chemistry I (4)	
CHE 315 Organic Chemistry II (4)	
EAS 120 Intro to Geology (4)	

### General Studies Courses

The following courses will meet ACE (General Education) requirements at UNL or UNO:	
Select one of the following for Humanities.....	3
ENG 150 Topics in Literature (3)	
HIS 150 History of the United States for General Studies (3)	
PHI 101 Introduction to Philosophy (3)	
Select one of the following for Social Sciences .....	3
CJA 105 Introduction to Criminal Justice (3)	
ECO 202 Principles of Macroeconomics (3)	
ECO 203 Principles of Microeconomics (3)	
POS 100 American National Government (3)	
PSY 101 General Psychology (3)	
PSY 316 Social Psychology (3)	
SOC 101 Introduction to Sociology (3)	
SOC 110 Introduction to Anthropology (3)	
SOC 220 Social Problems (3)	
SOC 415 The Family (3)	
Select one of the following for Arts.....	3
ART 110 Drawing Fundamentals (3)	
ART 244 Art History Survey I (3)	
ART 245 Art History Survey II (3)	
CNA 101 Introduction to Theatre (3)	
ENG 202 Poetry Workshop (3)	
ENG 203 Fiction Workshop (3)	
Select one of the following for Ethics .....	3
ECO 202 Principles of Macroeconomics (3)	
ECO 203 Principles of Microeconomics (3)	
PHI 101 Introduction to Philosophy (3)	
PHI 105 Ethics and Values (3)	
POS 100 American National Government (3)	
Select one of the following for Global Awareness.....	3
GEO 120 World Regional Geography (3)	
GEO 300 Human Geography (3)	
HIS 170 World Civilizations I (3)	
HIS 171 World Civilizations II (3)	
PHI 105 Ethics and Values (3)	
POS 110 Introduction to World Politics (3)	
SOC 110 Introduction to Anthropology (3)	
SOC 220 Social Problems (3)	
SOC 415/515 The Family (3)	

## pre-engineering faculty



Visit [www.wsc.edu/physical-sciences-mathematics-department](http://www.wsc.edu/physical-sciences-mathematics-department) to learn more about the Department Physical Sciences and Mathematics.

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