ENVIRONMENTAL ENGINEERING MINOR

Description
This minor is for engineering majors ONLY.

The Department of Civil & Environmental Engineering (https://engineering.unl.edu/cee/) offers a minor in environmental engineering. The environmental engineering minor provides students an opportunity to demonstrate a concentration of courses in environmental engineering. Environmental engineering is a branch of civil engineering focused on the application of engineering principles for the protection of human health from adverse environmental factors, protection of the environment, and improvement of environmental quality. Environmental engineering encompasses topics including wastewater treatment, water treatment, air pollution control, ground and surface water resources, environmental chemistry, environmental biotechnology, and solid and hazardous waste management.

College Requirements

College Admission

College Entrance Requirements
Students must have high school credit for (one unit is equal to one high school year):

1. Mathematics – 4 units: 2 of algebra, 1 of geometry, and 1 of precalculus and trigonometry
2. English – 4 units
3. Natural sciences – 3 units that must include 1 unit of physics and 1 unit of chemistry (chemistry requirement waived for students in construction management)
4. Foreign language – 2 units of a single foreign language
5. Social studies – 3 units
6. Students having a composite ACT score of 28 or greater (or equivalent SAT score) will be admitted to the College of Engineering even if they lack any one of the following: trigonometry, chemistry, or physics.
7. Students having an ACT score of 19 or less in English (or equivalent SAT score) must take ENGL 150 Writing and Inquiry or ENGL 151 Writing and Argument.

A total of 16 units is required for admission.

Students must have an ACT (enhanced) score of 24 or greater (or equivalent SAT). Students who lack entrance requirements may be admitted based on ACT scores, high school rank and credits, or may be admitted to pre-engineering status in the Exploratory and Pre-Professional Advising Center. Pre-engineering students are advised within the Exploratory and Pre-Professional Advising Center.

Students for whom English is not their language of nurture must meet the minimum English proficiency requirements of the University.

Students who lack entrance units may complete precollege training by Independent Study through the University of Nebraska–Lincoln Office of On-line and Distance Education, in summer courses, or as a part of their first or second semester course loads while in the Exploratory and Pre-Professional Advising Center or other Colleges at Nebraska.

Students should consult their advisor, their department chair, or Engineering Student Services if they have questions on current policies.

Other Admission Requirements

Students who transfer to the University of Nebraska–Lincoln from other accredited colleges or universities and wish to be admitted to the College of Engineering (COE) must meet COE freshman entrance requirements and have a minimum cumulative GPA of 2.5 and be calculus-ready. Students not meeting either of these requirements must enroll in the Explore Center or another University college until they meet COE admission requirements. Students transferring from UNO, UNL, or UNK to the College of Engineering must be in good academic standing with their institution.

The COE accepts courses for transfer for which a C or better grade was received. Although the University of Nebraska–Lincoln accepts D grades from the University of Nebraska at Kearney and at Omaha, not all majors in the COE accept such low grades. Students must conform to the requirements of their intended major and, in any case, are strongly encouraged to repeat courses with a grade of C- or less.

All transfer students must adopt the curricular requirements of the undergraduate catalog current at the time of transfer to the COE—not that in use when they entered the University of Nebraska–Lincoln. Upon admission to Nebraska, students wishing to pursue degree programs in the COE will be classified and subject to the policies defined in the subsequent section.

Students who were previously admitted to COE and are returning to the College of Engineering must demonstrate a cumulative GPA of 2.5 in order to be readmitted to COE.

College Degree Requirements

Grade Rules
Grade Appeals
In the event of a dispute involving any college policies or grades, the student should appeal to his/her instructor and appropriate department chair or school director (in that order). If a satisfactory solution is not achieved, the student may appeal his/her case through the College Academic Appeals Committee on his/her campus.

Catalog Rule
Students must fulfill the requirements stated in the catalog for the academic year in which they are first admitted at the University of Nebraska–Lincoln. In consultation with advisors, a student may choose to follow a subsequent catalog for any academic year in which they are admitted to and enrolled as a degree-seeking student at Nebraska in the College of Engineering. Students must complete all degree requirements from a single catalog year. The catalog which a student follows for degree requirements may not be more than 10 years old at the time of graduation.

Requirements for Minor Offered by Department

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIVE 321 /</td>
<td>Principles to Environmental Engineering</td>
<td>3</td>
</tr>
<tr>
<td>BSEN 321</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIVE 352</td>
<td>Introduction to Water Resources Engineering</td>
<td>3</td>
</tr>
</tbody>
</table>
Environmental Engineering Minor

- or BSEN 350 / AGEN 350  
  Soil and Water Resources Engineering

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIVE 425</td>
<td>Process Design in Water Supply and</td>
<td>3</td>
</tr>
<tr>
<td>BSEN 425</td>
<td>Wastewater Treatment</td>
<td></td>
</tr>
</tbody>
</table>

**Electives I**

Select one or two of the following: 3-6

- CIVE 419  
  Flow Systems Design
- CIVE 424  
  Solid Waste Management Engineering
- CHME 489  
  Air Pollution, Assessment and Control

**Electives II**

Select one or two of the following: 3-6

- CIVE 422 / BSEN 422  
  Pollution Prevention: Principles and Practices
- CIVE 426  
  Design of Water Treatment Facilities
- CIVE 427  
  Design of Wastewater Treatment and Disposal Facilities
- CIVE 430  
  Fundamentals of Water Quality Modeling
- CIVE 431  
  Small Treatment Systems
- CIVE 452  
  Water Resources Development
- CIVE 454  
  Hydraulic Engineering
- CIVE 455 / BSEN 455  
  Nonpoint Source Pollution Control Engineering
- CIVE 458 / BSEN 458  
  Groundwater Engineering
- CIVE 475  
  Water Quality Strategy
- CHME 323  
  Chemical Engineering Thermodynamics and Kinetics
- BSEN 244  
  Thermodynamics of Living Systems
- BSEN 441 / AGEN 441  
  Animal Waste Management
- BSEN 468 / BIOS 458 / NRES 468 / WATS 468  
  Wetlands

**Credit Hours Subtotal:** 18

**Total Credit Hours:** 18

**Grade Rules**

**C- and D Grades**

All courses must be completed with a grade of D- or higher.

**Pass/No Pass Limits**

No course taken Pass/No Pass will be counted toward the minor.