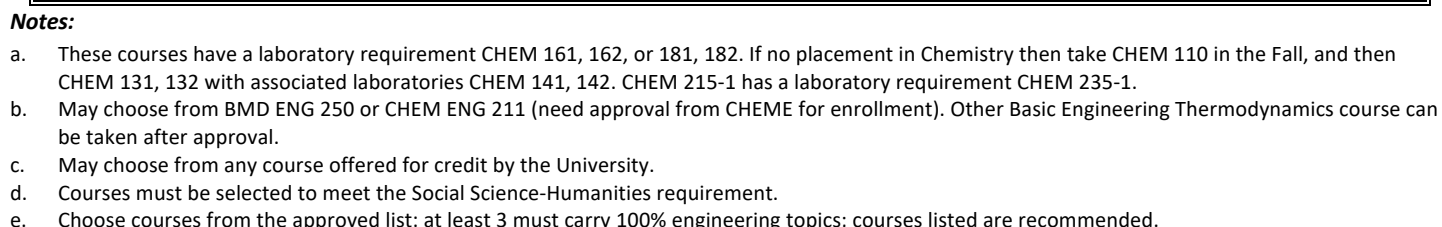


**2025-2026**



# Environmental Engineering Program 2025-2026

## Social Science-Humanities Requirement (7 units)

Seven courses are required to satisfy the requirements of this subgroup. The seven courses must meet the following criteria.

- Maximum of 5 units from either social science or humanities category
- At least 3 units must be thematically related
- No more than 3 units of 100-level courses
- AP credits allowed

Foreign language study can be incorporated into the program, but should be started as early as possible, preferably in the freshman year.

Courses taken for a student's Social Science/Humanities requirement must be approved in advance by the McCormick Humanities Panel. Complete requirement information is at the McCormick Undergraduate Engineering Office web site, <http://www.mccormick.northwestern.edu/students/undergraduate/social-science-humanities-theme/index.html>. You must submit your theme form via McCormick Advising System (MAS).

## Technical Electives (TE) – choose four courses

Technical Electives must be taken from the lists below. We are suggesting 3 different tracks based on sets of courses organized around specific themes. **General rule:** *a minimum of three (3) of these electives must carry 100% engineering topics<sup>(1)</sup>, only one (1) CIV\_ENV 399 can be counted towards a technical elective.*

### Urban Sustainability

CIV_ENV 395 - Indoor Air Quality
CIV_ENV 387 - Design of Sustainable Urban Districts
CIV_ENV 353 – Energy Geostructures and Geosystems
CIV_ENV 309 – Climate and Energy - Law & Policy - (100% general topic cc

### Fate of contaminants in the Environment

CIV_ENV 361-2 – Public and Environmental Health
CIV_ENV 370 – Emerging Organic Contaminants
CIV_ENV 317 – Biogeochemistry (100% MTS)
CIV_ENV 395 - Redox and Electrochemical Processes in Water

### Resource Recovery

CIV_ENV 353 – Energy Geostructures and Geosystems
CIV_ENV 309 – Climate and Energy - Law & Policy - (100% general topic cc
CIV_ENV 442/443 - Environmental Biotechnology/Microbial Ecology for
CIV_ENV 399 - Research project (100% Eng.)

**A la carte:** If you do not want to follow any of these tracks you need to take 3 courses that count towards 100% engineering content with at least 2 from {CIV\_ENV 361-2, 370, 395-Indoor Air Quality} and any engineering 300 level - or higher - course counting towards 100% engineering content, and then one<sup>(1)</sup> 300 level course choose that you can choose from {CIV\_ENV: 303; 314; 317; 395-20,23,25; EARTH 340; 343; 361; 370}. You can also choose courses at the graduate-level courses such as CIV\_ENV 440<sup>(2)</sup>, CIV\_ENV 442/443<sup>(2)</sup>. Only 1 CIV\_ENV 399 can be counted towards a technical elective. In addition, the GEN-ENG 220-1,2 sequence can count towards 1 technical elective.

<sup>(1)</sup> 100 % MTS: <https://www.mccormick.northwestern.edu/academics/undergraduate/abet/course-partitioning.html>

<sup>(2)</sup> Requires instructor permission and a permission number from the office of the Department.

## BS in Environmental Engineering Curriculum - at a Glance (48 units)

### McCormick Requirements (32 units)

Mathematics (4 units)	
1	Math 220: Differential Calculus of One Variable Functions
2	Math 224: Integral Calculus of One Variable Functions
3	Math 230: Differential Calculus of Multivariable Functions
4	Math 234: Multiple Integration and Vector Calculus

Engineering Analysis (4 units)	
5	EA1 (Programming and Linear Algebra)
6	EA2 (Statics and Dynamics)
7	EA3 (Systems Dynamics Analysis)
8	EA4 (Differential Equations)

Basic Science (4 units)	
8	Chemistry 131, 151, 171
9	Chemistry 132, 152, 172
10	Physics 135-2

Basic Engineering (5 units)	
12	MAT SCI 201: Material Science
13	ME 241: Fluid Mechanics I
14	BME 250, or ChemE 211: Thermodynamics
15	CIV ENV 304 - Civil and Environmental Engineering Analysis
16	CIV ENV 306: Uncertainty Analysis

Design and Communication (3 units)	
17	DSN 106-1,2: Design Thinking & Communication
18	ENG 106-1,2: Writing
19	GEN_ENG 220 - CAD (modified to satisfy speaking req)

Humanities Theme (7 units)	
21	
22	
23	
24	
25	
26	
27	

Unrestricted Electives (5 units)	
28	CIV ENV 301-1 Professional Development (0.3 units)
29	
30	
31	
32	

### Environmental Eng Major Requirements (16 units)

Gateway Courses (3 units)	
	CIV_ENV 201 – Engineering Possibilities: Decision Science in the Age of Smart Technologies
	CIV_ENV 202 – Biological & Ecological Principles
	CIV_ENV 203 – Earth in the Anthropocene

ENV ENG Core Courses (9 units)	
	CHEM 215-1/235-1 – Organic Chemistry I
	CIV_ENV 260 – Environmental Systems and Processes
	CIV_ENV 346 – Ecohydrology
	CIV_ENV 361-1 – Environmental Microbiology
	CIV_ENV 364 – Sustainable Water Systems
	CIV_ENV 365 – Environmental Laboratory
	CIV_ENV 366 – Dynamics in Chemical Transport and Reaction
	CIV_ENV 367 – Chemical Processes in Aquatic Systems
	CIV_ENV 382 -1,2 – Capstone Design

Technical Electives (4 units) - See tracks below and the approved list of courses*	

\* At least 3 units must be 100% Engg Topic & only 1 399 can count as Tech Elective

#### Urban Sustainability

CIV\_ENV 395 - Indoor Air Quality  
 CIV\_ENV 387 - Design of Sustainable Urban Districts  
 CIV\_ENV 353 – Energy Geosystems and Geosystems  
 CIV\_ENV 309 – Climate and Energy - Law & Policy - (100% general topic course)

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 CIV\_ENV 309 – Climate and Energy - Law & Policy - (100% general topic course)  
 CIV\_ENV 442/443 - Environmental Biotechnology/Microbial Ecology for Resource Recovery  
 CIV\_ENV 399 - Research project (100% Eng.)