Environmental Engineering Program – example of a curriculum path – 2015-2016

FRESHMAN
Fall
GEN ENG 205/215-1 (a)
MATH 220
CHEM 101 or 171 (b)
GEN CMN 102 or 103

Winter
GEN ENG 205/215-2 (a)
MATH 224
CHEM 102 or 172 (b)

Spring
GEN ENG 205/215-3 (a)
MATH 230
CHEM 103 (c)

Summer
DSGN/ENG (d) 106-1

Sophomore
Fall
GEN ENG 205/215-4 (a)
MATH 234
CIV ENV 203
CHEM 210-1

Winter
MAT SCI 201 (d)
PHYSICS 135-2
ENVR SCI 202
SSH Elective (see note g)

Spring
MECH ENG 241
CIV ENV 260
ENVR SCI 201
SSH Elective (see note g)

Junior
Fall
CIV ENV 363
CIV ENV 361-1
CIV ENV 306 (e)
SSH Elective (see note g)

Winter
CIV ENV 364
BMD ENG 250
Elective (f)
SSH Elective (see note g)

Spring
CIV ENV 340
Elective (f)
CIV ENV 304
SSH Elective (see note g)

Senior
Fall
Elective (f)
CIV ENV 367
CIV ENV 368 (h)
SSH Elective (see note g)

Winter
CIV ENV 365
CIV ENV 398-1 (h)
Elective (f)
SSH Elective (see note g)

Spring
CIV ENV 382 (senior)
CIV ENV 398-2 (h)
CIV ENV 370 (h)
Elective (f)

Notes:

a. Must register both courses concurrently.
b. Completion of CHEM 171 & 172 meets the req’t of CHEM 101, 102, & 103. Completion of CHEM 101 & 171 meets the req’t of CHEM 101 & 102.
c. If satisfactorily completed CHEM 171 & 172, take CIV ENV 201
d. May be substituted by MAT SCI 301.
e. May choose from Basic Engineering Probability, Statistics, and Quality Control list.
f. May choose from any course offered for credit by the University.
g. Courses must be selected to meet the Social Science-Humanities requirement.
h. Choose courses from the approved list: at least 3 must carry 100% engineering topics; CIV ENV 368 is recommended.
Environmental Engineering Program 2015-2016

Social Science-Humanities Requirement
Seven courses chosen according to either of the following two options:

Option A:  At least two courses must be chosen in each of three areas:
- Social and Behavioral Science (SBS)
- Historical Studies and Values (HSV)
- Fine Arts, Language and Literature (FAL)

Of the seven courses, only three 100-level introductory courses may be presented and three courses must be thematically related to provide depth.

Option B:  Five of the seven courses must clearly have a thematic relatedness. For breadth, no more than five courses may come from a single area.

The courses taken by for a student’s Social Science-Humanities Requirement must be approved in advance by the McCormick Humanities Panel. Foreign language study can be incorporated into the program, but should be started as early as possible, preferably in the freshman year. Complete theme requirement information is available at the McCormick Undergraduate Engineering Office web site, http://www.mccormick.northwestern.edu/undergraduates/curriculum/theme/index.html.

Technical Electives (TE) – choose four courses
At least two(2) courses must be from the list below. A minimum of three(3) of these electives must carry 100% engineering topics\(^1\), only one (1) CIV ENV 399 can be counted towards a technical elective.

- CHEM 210-2\(^2\)  Organic Chemistry II
- BIOL SCI 215, 216\(^2\)  Genetics and Molecular Biochemistry, Cell Biology
- CHEM ENG 367  Quantitative Methods in Life Cycle Assessment – also as MECH ENG 367 -
- CIV ENV 303\(^2\)  Environmental Law and Policy
- CIV ENV 314\(^2\)  Organic Geochemistry
- CIV ENV 317\(^2\)  Biogeochemistry
- CIV ENV 355  Engineering Aspects of Groundwater Flow
- CIV ENV 361-2  Public and Environmental Health
- CIV ENV 368  Sustainability: Issues and Actions, Near and Future
- CIV ENV 370  Environmental Organic Chemistry
- CIV ENV 398-1,2  Community-Based Design
- CIV ENV 440\(^3\)  Environmental Transport Processes
- CIV ENV 442\(^3\)  Processes in Environmental Biotechnology
- CIV ENV 443\(^3\)  Microbial Ecology for Resource Recovery
- CIV ENV 444\(^3\)  Physical/Chemical Processes in Environmental Control
- CIV ENV 468\(^3\)  Chemical Speciation

\(^1\) Any engineering or WCAS (math or science) course 200-level and above not in curriculum requirement.

\(^2\) Not classified as engineering courses

\(^3\) Requires instructor permission and a permission number from the CIV ENV office.