### Environmental Engineering Program – example of a curriculum path

#### Freshman

- **Fall**: GEN ENG 205-1, MATH 220, CHEM 151 or 171<sup>(a)</sup>
- **Winter**: GEN ENG 205-2, MATH 224, CHEM 152 or 172<sup>(a)</sup>

#### Sophomore

- **Fall**: GEN ENG 205-3, MATH 230, CIV ENV 260
- **Spring**: GEN ENG 205-4, MATH 234, CIV ENV 202
- **Winter**: MAT SCI 201, PHYSICS 135-2, CIV ENV 201

#### Junior

- **Fall**: CIV ENV 355, CIV ENV 361-1, CIV ENV 306
- **Spring**: CIV ENV 364, BMD ENG 250<sup>(b)</sup>, Elective<sup>(c)</sup>
- **Winter**: CIV ENV 340, CIV ENV Tec-Elec, CIV ENV 304

#### Senior

- **Fall**: CIV ENV 367, CIV ENV Tec-Elec, Elective<sup>(c)</sup>
- **Winter**: CIV ENV 365, CIV ENV 398-1<sup>(e)</sup>, Elective<sup>(c)</sup>
- **Spring**: CIV ENV 398-2<sup>(c)(e)</sup>, Elective<sup>(c)</sup>

#### Notes:

- a. These courses have a laboratory requirement CHEM 161, 162, or 181, 182. If no placement in Chemistry then take CHEM 110 in the Fall, and then CHEM 131, 132 with associated laboratories CHEM 141, 142. CIV ENV 260 will then be taken in the Spring of the Sophomore year.
- b. May choose from BME 250 or ChemE 211.
- c. May choose from any course offered for credit by the University.
- d. Courses must be selected to meet the Social Science-Humanities requirement.
- e. Choose courses from the approved list: at least 3 must carry 100% engineering topics; courses listed are recommended.

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**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](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 4 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*(1), only one (1) CIV ENV 399 can be counted towards a technical elective.

### Urban Sustainability
- CIV ENV 368 – Sustainability: The City
- CIV ENV 386 – Design of High Performance Buildings
- CIV ENV 387 – Design of Sustainable Urban Districts
- CIV ENV 395 – Energy Law & Policy *(100% general topic course)*

### Fate of Contaminants in the Environment
- CIV ENV 317 – Biogeochemistry *(100% science)*
- CIV ENV 346 - Ecohydrology
- CIV ENV 361-2 – Public and Environmental Health
- CIV ENV 370 – Emerging Organic Contaminants

### Resource Recovery
- CHEM ENG 367 – Quantitative Methods in Life Cycle Assessment
- CIV ENV 368 – Sustainability: The City
- CIV ENV 442 – Environmental Biotechnology
- CIV ENV 468 – Metals in the Environment

### Design & Analysis of Environmental Systems
- CIV ENV 303 – Environmental Law & Policy *(100% general topic course)*
- CIV ENV 346 - Ecohydrology
- CIV ENV 398-1 – Community Based Design I
- CIV ENV 398-2 – Community Based Design II

**A la carte:** If you do not want to follow any of these tracks, choose courses from the above tracks, CIV ENV 314(1), CIV ENV 440(2), CIV ENV 443(2), CIV ENV 444(2), any engineering or WCAS (mathematics, biology, chemistry, earth science, physics) course 200-level and above not in curriculum requirement. In this case, **at least 2 technical electives must be CIV ENV courses** and you need to receive permission from your advisor/program director for your proposed suite of tech elective courses.

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(1) [https://www.mccormick.northwestern.edu/academics/undergraduate/abet/course-partitioning.html](https://www.mccormick.northwestern.edu/academics/undergraduate/abet/course-partitioning.html)

(2) Requires instructor permission and a permission number from the CIV ENV office.