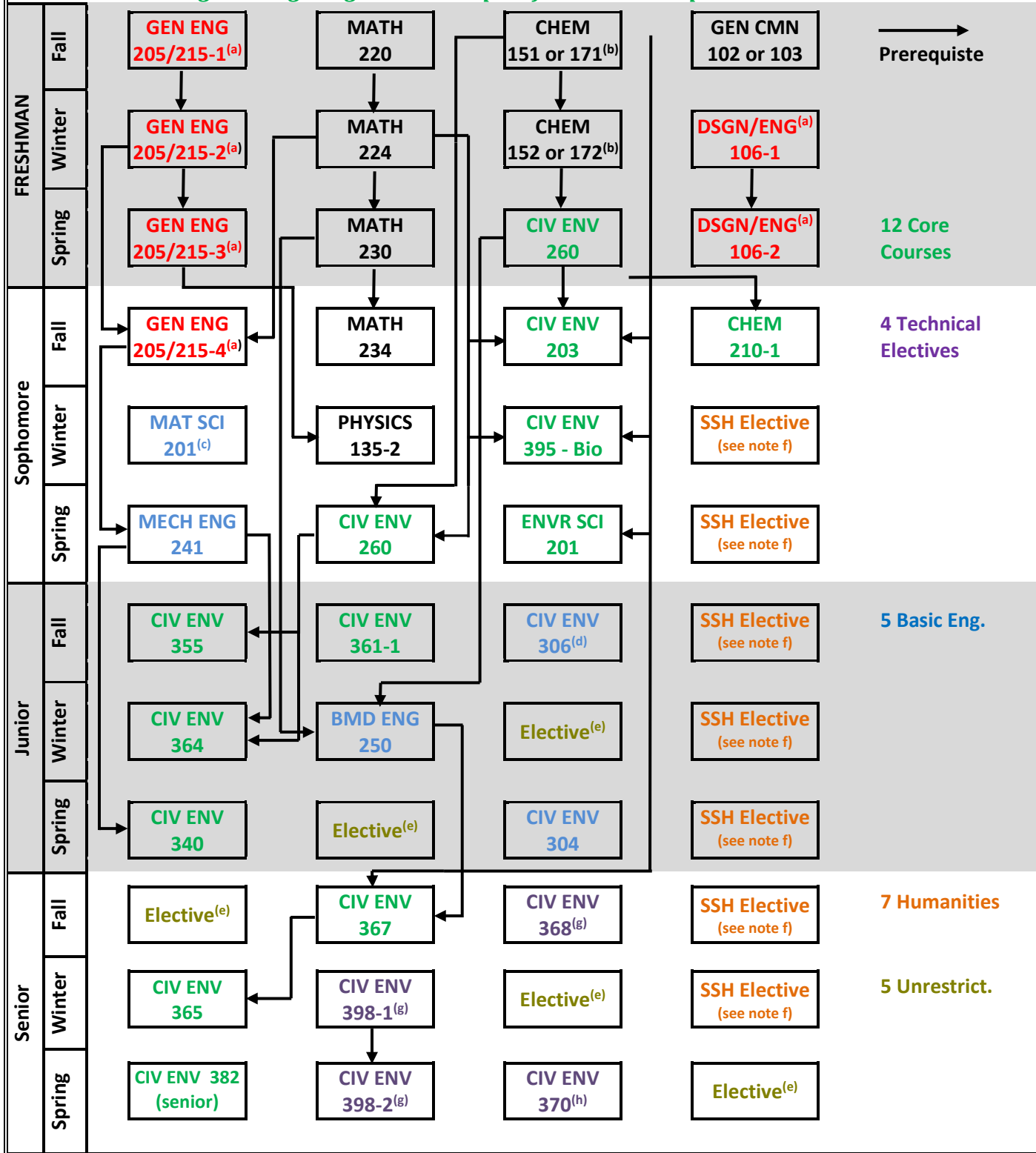


**Environmental Engineering Program - example of a curriculum path - 2017-2018**



**Notes:**

- a. Must register both courses concurrently.
- b. 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.
- c. May be substituted by MAT SCI 301.
- d. May choose from Basic Engineering Probability, Statistics, and Quality Control list.
- e. May choose from any course offered for credit by the University.
- f. Courses must be selected to meet the Social Science-Humanities requirement.
- g. Choose courses from the approved list: at least 3 must carry 100% engineering topics; CIV ENV 368 is recommended.

## ***Environmental Engineering Program 2017-2018***

### **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<sup>(1)</sup>, only one (1) CIV ENV 399 can be counted towards a technical elective.

|                                  |  |
|----------------------------------|--|
| CHEM 210-2 <sup>(2)</sup>        | Organic Chemistry II   |
| BIOL SCI 215, 216 <sup>(2)</sup> | Genetics and Molecular Biochemistry, Cell Biology                      |
| CHEM ENG 367                     | Quantitative Methods in Life Cycle Assessment – also as MECH ENG 367 - |
| CIV ENV 303 <sup>(2)</sup>       | Environmental Law and Policy   |
| CIV ENV 314 <sup>(2)</sup>       | Organic Geochemistry   |
| CIV ENV 317 <sup>(2)</sup>       | 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 <sup>(3)</sup>       | Environmental Transport Processes                                      |
| CIV ENV 442 <sup>(3)</sup>       | Processes in Environmental Biotechnology                               |
| CIV ENV 443 <sup>(3)</sup>       | Microbial Ecology for Resource Recovery                                |
| CIV ENV 444 <sup>(3)</sup>       | Physical/Chemical Processes in Environmental Control                   |
| CIV ENV 468 <sup>(3)</sup>       | Chemical Speciation  |

<sup>(1)</sup> Any engineering or WCAS (math or science) course 200-level and above not in curriculum requirement.

<sup>(2)</sup> Not classified as engineering courses

<sup>(3)</sup> Requires instructor permission and a permission number from the CIV ENV office.