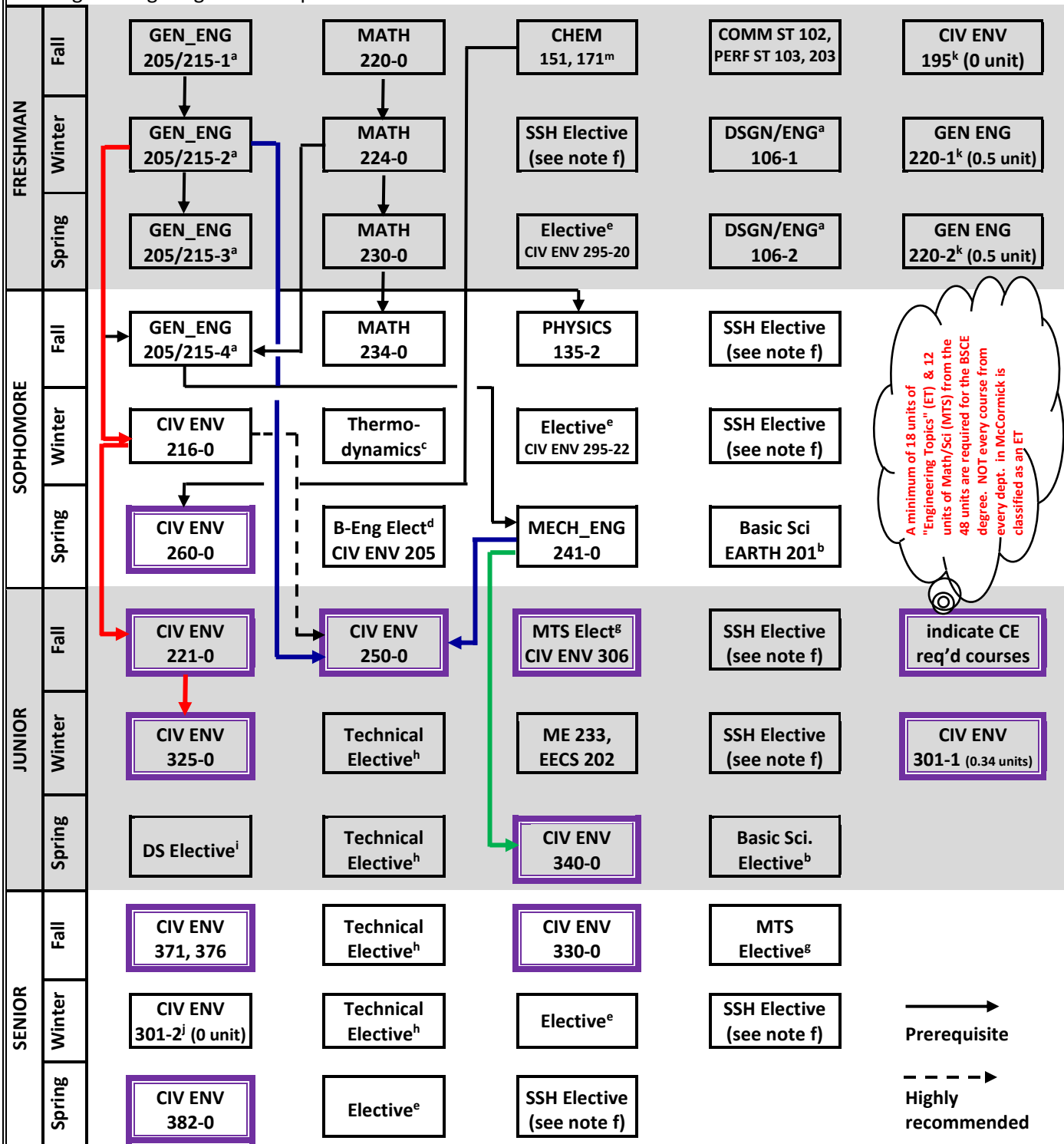


Civil Engineering Program – sample flow chart

2017-2018



- Notes:**
- Must register both courses concurrently.
 - At least ONE MUST from BIO SCI or EARTH 201, 202; the other can be any course except ASTRON and EARTH 203 listed in Basic Sciences.
 - May choose among MECH_ENG 222 (offers in winter quarter only), BMD_ENG 250 (offers in winter quarter only), and CHEM_ENG 211 (offers in winter and spring quarters only).
 - CivEnv 205 is recommended or choose from material science, systems engrg. & analysis, computer architecture & numerical analysis, & computer programming lists in Basic Engrg.
 - May choose from any course offered for credit by the University. CivEnv 295-20, 21, 22 (offers in spring, fall, and winter quarters, respectively) recommended.
 - Courses must be selected to meet the Social Science-Humanities theme requirement.
 - Choose courses from the approved list (see next page). One must be Civ_Env 306 (50% math).
 - Must choose from an APPROVED list. A minimum of 12 units of Math/Science and 18 units of Engineering Topics (ET) from 48 units are required for BSCE. Consult with your academic advisor and the partitioning table at <http://www.mccormick.northwestern.edu/academics/undergraduate/abet/course-partitioning.php>. These partitions are valid only for the academic year the course is taken.
 - Choose from Civ_Env 323, 336, 352, 395 (must be design class), 399 (must be design project approved by ABET Coordinator)
 - Fundamental of Engineering Exam Review – all seniors are highly recommended to take.
 - CIV ENV 195 (zero unit) and GEN ENG 220-1,2 for a total of 1 credit sequence is HIGHLY recommended for freshman and sophomores. Skills acquired from these courses are necessary for summer internship in civil and environmental engineering profession.
 - If no placement in Chemistry, then take CHEM 110 & 131 sequence.

Civil Engineering Program 2017-2018

Civil Engineering Core Courses (7 units)

CivEnv 221	Theory of Structures I	CivEnv 250	Introductory Soil Mechanics
CivEnv 260	Fundamental of Environmental Engineering	CivEnv 325	Reinforced Concrete
CivEnv 330	Construction Management	CivEnv 340	Fluid Mechanics II
CivEnv 371 or 376	Introduction to Transportation Planning & Analysis or Transportation System Operations		

The following courses must be taken in sequence: **205-2→216→221→325**; **205-2→ME 241→250**; **ME 241→340** to be in compliance with ABET accreditation criteria.

Social Science-Humanities Requirement

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).

Approved list of DS, MTS, and Technical Electives

Design and Synthesis (DS) – choose two courses

- One course must be **Civ_Env 382 – Capstone Design** (pre-req. 325, 250, 330, 371/376, co-req. 340), plus
- Choose one course from below
 - CivEnv 323 Structural Steel Design, *pre-req. 221*
 - CivEnv 336 Project Scheduling, *pre-req. 330*
 - CivEnv 352 Foundation Engineering, *pre-req. 250 (offer winter odd year)*
 - CivEnv 395 Special Topics (must be design class)
 - CivEnv 399 Projects (must be design project approved by ABET Coordinator)

Note: You must meet pre-requisite requirements to be in compliance with ABET accreditation criteria.

Mathematical Techniques and Science (MTS) – choose two courses and no 399 course

- One course must be Civ_Env 306 (50% math); plus
- One course (*must have at least 50% MTS*) from below
 - Any course 300 level or above from the Math Department.
 - Any course 200 level or above in Biological Sciences, Chemistry, Earth except Earth 203, or Physics; plus CHEM 132, 152, 172 and PHYSICS 135-3.
 - Any course 300 level or above from Engineering Science and Applied Mathematics.

ABET requires min. of 12 units of math/science from 48 units for BSCE degree. To ensure compliance to this requirement, please consult with your academic advisor and the partition table at <http://www.mccormick.northwestern.edu/academics/undergraduate/abet/course-partitioning.php> on courses offered by McCormick before registering. These partitions are valid only for the academic year the course is taken.

Technical Electives (TE) – choose five courses from an APPROVED list

ABET requires a min. of 18 units of "Engineering Topics" from 48 units for the BSCE degree. To ensure compliance to this requirement, please consult with your academic advisor and the partition table at <http://www.mccormick.northwestern.edu/academics/undergraduate/abet/course-partitioning.php> on courses offered by McCormick before registering. These partitions are valid only for the academic year the course is taken.

Professionalism and Life-Long Learning

All juniors are required to take CivEnv 301-1 – Professional Development Seminar I (0.34 units). This course discusses the civil and environmental engineering business, engineering ethics, and life-long learning. The 0.34 units may use to meet the unrestricted elective requirement. All seniors are highly recommended to take CivEnv 301-2 – Professional Development Seminar II. This is a no credit, no tuition course on the review for Fundamental of Engineering Exam.