CURRICULUM MAP

MERRIMACK COLLEGE

Civil Engineering, BS (Calculus Start with Co-op)

YEAR ONE

FALL

Introduction to Engineering - GEN 1001	4 credits	Major Requirement
Calculus I - MTH 1217	4 credits	Major Requirement, FC Core Certificate Requirement
First Year Seminar - FYS 1947	4 credits	FC Core Requirement (FYS)
General Chemistry with Lab - CHM 1110	4 credits	Major Requirement, FC Core Requirement (STEM)

Total Credits - 16

SPRING

Applied Statistics - MTH 1505 OR Probability & Statistics - MTH 2527	4 credits	Major Requirement
MTH 1218 - Calculus II	4 credits	Major Requirement, FC Core Certificate Requirement
PHY 2211 - Physics I + Lab	4 credits	Major Requirement
Engineering Computational Elective (CSC 1611, CSC 1610, MEN 2050, or as approved by advisor)	4 credits	Major Requirement

Total Credits - 16

SUMMER

FC Core Course	4 credits	FC Core Requirement (RTS)

Total Credits - 4

YEAR TWO

FALL

Site Engineering with Lab - CEN 2001	4 credits	Major Requirement
Mechanics I with Recitation - GEN 2010	4 credits	Major Requirement
Calculus III - MTH 2219	4 credits	Major Requirement, FC Core Certificate Requirement
FC Core Course	4 credits	FC Core Requirement (HUM)

Total Credits - 16

SPRING

Mechanics of Materials with Lab - GEN 2012	4 credits	Major Requirement
Fluid Mechanics with Lab - GEN 3040	4 credits	Major Requirement
Differential Equations - MTH 2220	4 credits	Major Requirement, FC Core Certificate Requirement
Introduction to Geology - CEN 2050	2 credits	Major Requirement
Transportation Engineering w/Lab - CEN 3030	4 credits	Major Requirement

Total Credits - 18

YEAR THREE

FALL

Structural Analysis with Lab - CEN 3010	4 credits	Major Requirement
Geotechnical Engineering with Lab - CEN 3020	4 credits	Major Requirement
Water Resources and Hydraulics - CEN 3045	2 credits	Major Requirement
FC Core Course	4 credits	FC Core Requirement (SOSC)
Sci/MTH Elec - Note: Math minor course or pursue science/math interest, as approved by advisor	4 credits	Major Requirement

Total Credits - 18

SPRING – CO-OP SEMESTER

Warriors at Work Co-op - Count credits as “free elective” in the CE curriculum	8 credits	Program Requirement

Total Credits - 8

YEAR FOUR

FALL

Design Elective A **	4 credits	Major Requirement
Design Elective B **	4 credits	Major Requirement
Technical Elective - Any SECS course at 2000 or above, or as approved by advisor	4 credits	Major Requirement
FC Core Course	4 credits	FC Core Requirement (CUS)

Total Credits - 16

SPRING

Senior Design Project - CEN 4901W	4 credits	Major Requirement
Design Elective C - **	4 credits	Major Requirement
Open CE Elec - Any CE 4000 course or above	4 credits	Major Requirement
Environmental Engineering with Lab - CEN 3050	4 credits	Major Requirement
Professionalism and Ethics - CEN 3090	1 credit	Major Requirement

Total Credits - 17

** Design Electives A, B, and C must be from 3 different CE disciplines. Example courses include:

Environmental & Water Resources Engineering
CEN 4030 Environmental Design
CEN 4032 Applied Hydrology

Geotechnical Engineering
CEN 4020 Foundation Engineering
CEN 4022 Earth Slopes & Retaining Structs.

Structural Engineering
CEN 4012 Steel Analysis and Design
CEN 4016 Concrete Analysis & Design

Transportation & Development
CEN 4042 Traffic Engineering
CEN 4044 Trans. Planning & Sys. Analysis

Notes: This is a sample curriculum map. Students may progress toward graduation using alternative pathways. In addition, ‘FC Core Requirement’ signifies that the course is required as part of the Foundations and Connections Core - the College’s general education program. Please be aware that all students must take six FC Core Requirement courses (FYS, CUS, HUM, RTS, SOSC, and STEM) and earn an FC Core Minor or Certificate to satisfy the College's general education requirement.

Students must earn a C- or higher in a prerequisite for another course to enroll in the next course. For example, you must earn a C- or higher in Calculus I in order to enroll in Calculus II.

All students must accumulate 100 experiential education points through various activities such as internships, competitions, study abroad, co-op, and so on.