

CURRICULUM MAP



MERRIMACK COLLEGE

Civil Engineering, BS (Calculus Start)

YEAR ONE

FALL

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

Total Credits - 16

SPRING

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| Applied Statistics - MTH 1505 OR Probability & Statistics - MTH 2527 | 4 credits | Major Requirement |
| Calculus II - MTH 1218 | 4 credits | Major Requirement, FC Core Minor Requirement |
| Physics I with Lab - PHY 2211 | 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

YEAR TWO

FALL

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|--|-----------|-------------------|
| Site Engineering with Lab - CEN 2001 | 4 credits | Major Requirement |
| Mechanics I with Recitation - GEN 2010 | 4 credits | Major Requirement |

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| Calculus III - MTH 2219 | 4 credits | Major Requirement, FC Core Minor Requirement |
| FC Core Course | 4 credits | FC Core Requirement (HUM) |
| Total Credits - 16 | | |

SPRING

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|--|-----------|--|
| 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 Minor Requirement |
| FC Core Course | 4 credits | FC Core Requirement (RTS) |
| Total Credits - 16 | | |

YEAR THREE

FALL

| | | |
|--|-----------|--|
| Structural Analysis - CEN 3010 | 4 credits | Major Requirement |
| Geotechnical Engineering w/Lab - CEN 3020 | 4 credits | Major Requirement |
| Water Resources & Hydraulics - CEN 3045 | 2 credits | Major Requirement |
| FC Core Course | 4 credits | FC Core Requirement (SOSC) |
| Sci/MTH Elective (Math minor course or pursue science/math interest, as approved by advisor) | 4 credits | Major Requirement, FC Core Minor Requirement |
| Total Credits - 18 | | |

SPRING

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|---|-----------|-------------------|
| Environmental Engineering w/Lab - CEN 3050 | 4 credits | Major Requirement |
| Introduction to Geology - CEN 2050 | 2 credits | Major Requirement |
| Transportation Engineering w/Lab - CEN 3030 | 4 credits | Major Requirement |
| Major Elective (Recommend minor course or technical skills) | 4 credits | Major Requirement |

Total Credits - 14

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 (or approved Ethics course) | 4 credits | FC Core Requirement (DPJ) |

Total Credits - 16

SPRING

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|--|-----------|-------------------|
| Senior Design Project - CEN 4901W | 4 credits | Major Requirement |
| Design Elective C ** | 4 credits | Major Requirement |
| CE Elec - Any 4000 level CE course or above | 4 credits | Major Requirement |
| Major Elective (recommended minor/certificate or professional skills course) | 4 credits | Major Requirement |

Total Credits - 16

** 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

Structural Engineering

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

Geotechnical Engineering

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

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, DPJ, HUM, RTS, SOSC, and STEM) and four FC Core Elective courses to satisfy the College's general education requirement.