## Civil Engineering

### Freshman Year

<table>
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<tr>
<th>Course</th>
<th>Credits</th>
<th>Fall</th>
<th>Spring</th>
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<tbody>
<tr>
<td>CHMY 141 - College Chemistry I*</td>
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<tr>
<td>M 171Q - Calculus I*</td>
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<tr>
<td>WRIT 101W - College Writing I*</td>
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<tr>
<td>University Seminar - Choose one of the following:</td>
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<tr>
<td>CLS 101US - Knowledge and Community</td>
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<tr>
<td>COMX 111US - Introduction to Public Speaking (formerly COM 110US)</td>
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<tr>
<td>HONR 201US - Texts and Critics: Knowledge &amp; Imagination I</td>
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<tr>
<td>US 101US - First Year Seminar</td>
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<tr>
<td>CLS 201US - Knowledge and Community</td>
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<tr>
<td>University Core</td>
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<tr>
<td>CHMY 143 - College Chemistry II</td>
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<tr>
<td>M 172Q - Calculus II*</td>
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<tr>
<td>PHSX 220 - Physics I with Calculus*</td>
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<td>Choose one of the following:</td>
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<tr>
<td>BMGT 205 - Prof Business Communication</td>
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<td>WRIT 201 - College Writing II</td>
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<td>WRIT 221 - Intermediate Tech Writing</td>
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<tr>
<td>HONR 202IH - Texts and Critics: Knowledge &amp; Imagination II</td>
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<tr>
<td>ECIV 202 - Applied Analysis</td>
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<td>Year Total:</td>
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### Sophomore Year

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<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Fall</th>
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<tbody>
<tr>
<td>SRVY 230 - Intro to Surveying for Engineers</td>
<td>3</td>
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<tr>
<td>EGEN 201 - Engineering Mechanics--Statics*</td>
<td>3</td>
<td></td>
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<tr>
<td>M 273Q - Multivariable Calculus*</td>
<td>4</td>
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<tr>
<td>PHSX 222 - Physics II with Calculus*</td>
<td>4</td>
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<tr>
<td>DDSN 131 - Introduction to Drafting and Design</td>
<td>3</td>
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<tr>
<td>EGEN 205 - Mechanics of Materials*</td>
<td>3</td>
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<tr>
<td>EGEN 350 - Applied Engineering Data Analysis**</td>
<td>2</td>
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<tr>
<td>or STAT 332 - Statistics for Scientists and Engineers</td>
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<tr>
<td>M 274 - Introduction to Differential Equation</td>
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<tr>
<td>Choose one of the following:</td>
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<tr>
<td>BIOM 160 - Principles of Living Systems</td>
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<tr>
<td>BIOM 103IN - Unseen Universe: Microbes</td>
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<tr>
<td>ENSC 245IN - Soils</td>
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<tr>
<td>ERTH 101IN - Earth System Sciences</td>
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<tr>
<td>GPHY 284 - Intro to GIS Science &amp; Cartog</td>
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<tr>
<td>ECIV 337 - Civil Engineering Fluid Mechanics**</td>
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### Junior Year

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<th>Course</th>
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<tbody>
<tr>
<td>EGEN 202 - Engineering Mechanics -- Dynamics**</td>
<td>3</td>
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<tr>
<td>ECIV 312 - Structures I**</td>
<td>3</td>
<td></td>
<td></td>
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<tr>
<td>ECIV 333 - Water Resources Engineering**</td>
<td>4</td>
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<tr>
<td>EGEN 310R - Multidisciplinary Engineering Design**</td>
<td>3</td>
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### University Core

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Fall</th>
<th>Spring</th>
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<tbody>
<tr>
<td>ECIV 308 - Construction Practice**</td>
<td>3</td>
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<tr>
<td>ECIV 315 - Structures II**</td>
<td>3</td>
<td></td>
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<tr>
<td>ECIV 320 - Geotechnical Engineering**</td>
<td>3</td>
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<tr>
<td>ECIV 350 - Transportation Engineering**</td>
<td>3</td>
<td></td>
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<tr>
<td>EENV 340 - Principles of Environmental Engineering**</td>
<td>3</td>
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Choose one of the following:

- EMAT 251 - Materials Structures and Properties
- EELE 250 - Circuits, Devices and Motors
- EGEN 324 - Applied Thermodynamics

Year Total: 16 18

### Senior Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Fall</th>
<th>Spring</th>
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<tbody>
<tr>
<td>ECIV 401 - Civil Eng Practice and Ethics**</td>
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<tr>
<td>ECIV 489R - Civil Engineering Design I**</td>
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<tr>
<td>University Core and Prof. Electives**</td>
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<tr>
<td>EGEN 330 - Business Fundamentals for Technical Professionals**</td>
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<tr>
<td>ECIV 499R - Capstone: Civil Eng Design II**</td>
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<tr>
<td>EGEN 488 - Fundamentals of Engineering Exam**</td>
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<td>University Core and Prof. Electives**</td>
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<td>Year Total:</td>
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Total Program Credits: 128

* Key courses
** Advanced courses
+ Design Intensive Course (Minimum of 2 courses required)

Additional requirements: 15 credits of approved professional electives at the 300 level or above. A minimum of 2 courses in civil engineering (i.e., ECIV, EENV, SRVY, EGEN) and not more than 3 courses in any one civil engineering sub-area are required. A maximum of 4 credits total from Individual Problems, Internships and Undergraduate Research may be counted toward professional electives. The professional electives program must contain a minimum of 2 design intensive courses (+) (see the CE flow chart). Students must successfully complete all key courses (*) prior to taking any professional electives. A maximum of 3 credit-hours may be included from a completed MSU minor, a prior or completed MSU Honors Program, or Internship (max. 3 credits). A student may petition to include other senior or graduate level courses consistent with the degree program but not listed here (requires Academic Adviser and Department Head approval).

A minimum of 128 credits is required for graduation; 42 of these credits must be in courses numbered 300 and above.

### Professional Elective Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Fall</th>
<th>Spring</th>
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<tbody>
<tr>
<td>DDSN 245 - Civil Drafting</td>
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<tr>
<td>ECIV 307 - Construction Estimating and Bidding</td>
<td>3</td>
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<tr>
<td>ECIV 309 - Building Information Modeling in Construction</td>
<td>3</td>
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<tr>
<td>ECIV 311 - Construction Project Documentation</td>
<td>2</td>
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<tr>
<td>ECIV 334 - Heavy Civil Construction Planning and Estimating</td>
<td>3</td>
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<tr>
<td>ECIV 404 - Heavy Const Equip and Methods</td>
<td>3</td>
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<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
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<tr>
<td>ECIV 405</td>
<td>Construction Project Planning and Scheduling</td>
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<td>ECIV 406</td>
<td>Sustainability Issues in Construction</td>
<td>3</td>
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<td>ECIV 414</td>
<td>Steel Design</td>
<td>3</td>
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<td>ECIV 415</td>
<td>Design of Masonry Structures</td>
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<tr>
<td>ECIV 416</td>
<td>Design of Wood and Timber Structures</td>
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<tr>
<td>ECIV 417</td>
<td>Heavy Civil Construction Practices</td>
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<td>ECIV 420</td>
<td>Earth and Foundation Engr</td>
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<td>ECIV 425</td>
<td>Geotechnical Structures</td>
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<td>ECIV 431</td>
<td>Open Channel Hydraulics</td>
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<td>ECIV 435</td>
<td>Closed-Conduit Hydraulics</td>
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<td>ECIV 451</td>
<td>Highway Pavements</td>
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<tr>
<td>ECIV 452</td>
<td>Traffic Engineering and ITS</td>
<td>3</td>
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<tr>
<td>ECIV 454</td>
<td>Transportation Planning</td>
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<tr>
<td>ECIV 456</td>
<td>Highway Geometric Design</td>
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<tr>
<td>ECIV 484</td>
<td>Reinforced Concrete Design</td>
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<td>ECIV 490R</td>
<td>Undergraduate Research</td>
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<td>ECIV 492</td>
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<td>ECIV 498</td>
<td>Internship</td>
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<td>EENV 432</td>
<td>Advanced Engineering Hydrology</td>
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<tr>
<td>EENV 434</td>
<td>Groundwater Supply/Remediation</td>
<td>3</td>
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<td>EENV 436</td>
<td>Stormwater Management and Engineering</td>
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<td>EENV 440</td>
<td>Water Chemistry for Envr Engr</td>
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<td>EENV 443</td>
<td>Air Pollution Control</td>
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<td>EENV 445</td>
<td>Hazardous Waste Treatment</td>
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<tr>
<td>EGEN 415</td>
<td>Advanced Mechanics of Solids</td>
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<td>EGEN 420</td>
<td>Ice and Snow Mechanics</td>
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<td>EGEN 435</td>
<td>Fluid Dynamics</td>
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<td>SRVY 355</td>
<td>Surveying Calculations</td>
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<td>SRVY 361</td>
<td>Intro Legal Princ in Surveying</td>
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<td>SRVY 362</td>
<td>Public Land Survey System</td>
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<td>SRVY 375</td>
<td>Analytic Photogrammetry and Remote Sensing</td>
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<td>Project Design in Surveying</td>
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Font Notice

This document should contain certain fonts with restrictive licenses. For this draft, substitutions were made using less legally restrictive fonts. Specifically:

Times was used instead of Adobe Garamond Pro.

The editor may contact Leepfrog for a draft with the correct fonts in place.