### Engineering Science Elective List (3 credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE2700</td>
<td>BIOMEDICAL SIGNALS &amp; SYSTEMS</td>
</tr>
<tr>
<td>CM2110</td>
<td>FUND. OF CHEM ENGRG 1</td>
</tr>
<tr>
<td>CM2200</td>
<td>INTRO TO MINERALS AND MATERIALS</td>
</tr>
<tr>
<td>EE3010</td>
<td>CIRCUITS AND INSTRUMENTATION</td>
</tr>
<tr>
<td>MY2100</td>
<td>INTRO TO MATERIALS SCI &amp; ENGRG</td>
</tr>
<tr>
<td>MEEM2201</td>
<td>THERMODYNAMICS</td>
</tr>
<tr>
<td>MEEM2700</td>
<td>DYNAMICS</td>
</tr>
</tbody>
</table>

### Senior Design (SD) Pre-reqs (complete 7 of the following)

- CEE3101, CEE3202, CEE3331, CEE3332, CEE3401, CEE3503, CEE3620, CEE3810, CEE4213 or CEE4223

### Professional Electives

(UNDERGRADUATE CATALOG: http://www.mtu.edu/catalog/undergraduate/course-descriptions/)

- ANY 3000 OR HIGHER LEVEL COURSE IN CIVIL AND ENVIRONMENTAL ENGINEERING OR IN ANY OTHER ENGINEERING DEPARTMENT
  - AN OVERALL GPA OF 3.00 IS REQUIRED TO TAKE GRADUATE LEVEL COURSES (5000 LEVEL)
  - A MAXIMUM OF TWO (2) GRADUATE LEVEL COURSES MAY BE USED TOWARD YOUR BSCE DEGREE
- ANY 3000 OR HIGHER LEVEL COURSE IN BIOLOGY, CHEMISTRY, COMPUTER SCIENCE, CONSTRUCTION MANAGEMENT, GEOLOGY, FORESTRY, OR PHYSICS
- ANY 3000 OR HIGHER LEVEL COURSE IN MATHEMATICS
- ANY 3000 OR HIGHER LEVEL COURSE IN BUSINESS OR ECONOMICS. (ACC, BUS, EC, FIN, MGT, MIS, MKT, OSM)
- ANY 2000 OR HIGHER LEVEL COURSE IN SURVEYING
- HU3120 – TECHNICAL AND PROFESSIONAL COMMUNICATION

NOTE: OTHER COURSES MAY BE USED TO SATISFY THE PROFESSIONAL ELECTIVES REQUIREMENT IF APPROVED BY THE DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING ACADEMIC ADVISOR.

### Undergraduate Catalog

- http://www.mtu.edu/catalog/undergraduate/course-descriptions/
- GENERAL EDUCATION: http://www.mtu.edu/provost/academic-policies/general-education/programs/
- CO-CURRICULAR LIST & HASS LIST: http://www.mtu.edu/registrar/faculty-staff/advisors/gen-ed/

### General Education Requirements

#### A. Core Courses (12 Credits)

1. **UN1015** (Composition)
2. **UN1025** (Global Issues)
3. **CRITICAL AND CREATIVE THINKING** (Goal 4) *
4. **SOCIAL RESPONSIBILITY AND ETHICAL REASONING** (Goal 8) **

   **GOAL 4 LIST**
   - FA2330
   - EC2001
   - FA2520
   - ED2000
   - FA2720
   - PSY2000
   - FA2820
   - SS2100
   - HU2130
   - SS2200
   - HU2324
   - SS2400
   - HU2501
   - SS2500
   - HU2503
   - SS2501
   - HU2538
   - SS2502
   - HU2700
   - SS2503
   - HU2820
   - SS2504
   - HU2910
   - SS2505
   - SS2300
   - SS2600
   - SS2610
   - SS2700

   **GOAL 8 LIST**
   - FA2520
   - ED2000

#### B. HASS Courses (12 Credits) (General Ed Website, left)

1. COMMUNICATION/COMP (HASS List)
2. HU OR FA COURSE (HASS List)
3. SS OR EC OR PSY COURSE (HASS List)
4. ANY HASS OR HASS RESTRICTED COURSE (HASS List)

   - 6 credits must be upper division 3000-4000 level courses
   - No more than 3 credits from the HASS Restricted list can be used to satisfy HASS requirements.
   - Each course can satisfy only one requirement.

#### C. Co-Curricular Activities (3 Units)

- PE/FA/AR/AF
- PE/FA/AR/AF
- PE/FA/AR/AF
- PE/FA/AR/AF
CIVIL ENGINEERING FLOWCHART

Water Resources

Academic Year 2017-18

NOTE: LINEAR ALGEBRA & DIFFERENTIAL EQUATIONS CAN BE TAKEN DURING THE SAME SEMESTER (MA2321 & MA3521) OR SEPARATE SEMESTERS (MA2320 & MA3520)

This is not an official list of degree requirements. Adjustments may be required due to curriculum changes.

MA1160/1161 CALCULUS I (4/5 CREDITS)
F, S, Su
MA2160 CALCULUS III (4 CREDITS)
F, S, Su

MA1160/1161 Core.

PHI100 (1 CREDIT)
F, S, Su

MA2160 (pre-req or co-req)

CIVIL ENGINEERING FLOWCHART

F = Indicates course is offered fall semester
S = Indicates course is offered spring semester
Su = Indicates course is offered summer semester
(L) = Indicates a course which includes a lab must be scheduled in addition to the lecture

Fall Year 1 Spring

MA2160 CALCULUS III (4 CREDITS)
F, S, Su
MA3160 DIFFERENTIAL EQUATIONS (2 CREDITS)
F, S, Su

MA3200/3221 DIFFERENTIAL EQUATIONS (2 CREDITS)
F, S, Su

MA3220/3231 CALCULUS III (4 CREDITS)
F, S, Su

MA3620 (4 CREDITS)
F, S, Su

MA3710 or CE3710

CE3810 CIVIL ENGINEERING FLOWCHART

Fall Year 2 Spring

MA3160 DIFFERENTIAL EQUATIONS (2 CREDITS)
F, S, Su
MA3200/3221 DIFFERENTIAL EQUATIONS (2 CREDITS)
F, S, Su

MA3620 (4 CREDITS)
F, S, Su

MA3710 or CE3710

CE3810 CIVIL ENGINEERING FLOWCHART

Fall Year 3 Spring

MA3710 STATISTICS (3 CREDITS)
F, S, Su

CE3631 PROFESSIONAL PRACTICE SD (2 CREDITS)
F, S, Su

MA3620 (4 CREDITS)
F, S, Su

MA3710 or CE3710

CE3810 CIVIL ENGINEERING FLOWCHART

Fall Year 4 Spring

MA3710 STATISTICS (3 CREDITS)
F, S, Su

CE3631 PROFESSIONAL PRACTICE SD (2 CREDITS)
F, S, Su

MA3620 (4 CREDITS)
F, S, Su

CE3810 CIVIL ENGINEERING FLOWCHART

SD = Senior Design Pre-requisite

Note: See reverse side for explanation of professional electives, water resources electives, general education and co-curricular courses.

For other senior design options, please visit the advising website: http://www.mtu.edu/cee/undergraduate/capstone/
### Water Resources Requirements

Choose 1 course from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEE3202</td>
<td>Structural Analysis</td>
<td>F, Sp</td>
</tr>
<tr>
<td>CEE3332</td>
<td>Fund. of Construction</td>
<td>F, Sp</td>
</tr>
<tr>
<td>CEE3401</td>
<td>Transportation Engrg</td>
<td>F, Sp</td>
</tr>
</tbody>
</table>

**WATER RESOURCES DESIGN COURSE** (select 1)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEE4620</td>
<td>River/Floodplain Hydraulics</td>
<td>Fall</td>
</tr>
<tr>
<td>CEE4640</td>
<td>Stormwater Manage. &amp; Lid</td>
<td>Su</td>
</tr>
<tr>
<td>CEE4665</td>
<td>Stream Restoration</td>
<td>Spring</td>
</tr>
</tbody>
</table>

**WATER RESOURCES ELECTIVES** (select 4)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEE4502</td>
<td>Waste Treatment</td>
<td>Fall</td>
</tr>
<tr>
<td>CEE4503</td>
<td>Water Treatment</td>
<td>Spring</td>
</tr>
<tr>
<td>CEE4505</td>
<td>Surface Water Quality</td>
<td>Fall</td>
</tr>
<tr>
<td>CEE4507</td>
<td>Water Distribution/Collect.</td>
<td>Spring</td>
</tr>
<tr>
<td>CEE4620</td>
<td>River/Floodplain Hydraulics</td>
<td>Fall</td>
</tr>
<tr>
<td>CEE4640</td>
<td>Stormwater Manage. &amp; Lid</td>
<td>Su</td>
</tr>
<tr>
<td>CEE4665</td>
<td>Stream Restoration</td>
<td>Spring</td>
</tr>
<tr>
<td>CEE5620</td>
<td>Stochastic Hydrology</td>
<td>Spring</td>
</tr>
<tr>
<td>CEE5666</td>
<td>WR Planning &amp; Management</td>
<td>Var.</td>
</tr>
<tr>
<td>GE3850</td>
<td>Geohydrology</td>
<td>F, Sp</td>
</tr>
<tr>
<td>GE4800</td>
<td>Groundwater Engrg</td>
<td>Spring</td>
</tr>
</tbody>
</table>

### Senior Design (SD) Pre-reqs (complete 7 of the following)

- CEE3101, CEE3331, (CEE3202 or CEE3332 or CEE3401), CEE3620, CEE3810, CEE3503, WATER RESOURCES DESIGN COURSE, & 2 WATER RESOURCES ELECTIVES

### Engineering Science Elective List (3 credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE2700</td>
<td>Biomedical Signals &amp; Systems</td>
</tr>
<tr>
<td>CM2110</td>
<td>Fund. of Chem Engrg 1</td>
</tr>
<tr>
<td>CM2200</td>
<td>Intro to Minerals &amp; Materials</td>
</tr>
<tr>
<td>EE3010</td>
<td>Circuits and Instrumentation</td>
</tr>
<tr>
<td>MY2100</td>
<td>Intro to Materials Sci &amp; Engrg</td>
</tr>
<tr>
<td>MEEM2201</td>
<td>Thermodynamics</td>
</tr>
<tr>
<td>MEEM2700</td>
<td>Dynamics</td>
</tr>
</tbody>
</table>

### Professional Electives

(Undergraduate Catalog: http://www.mtu.edu/catalog/undergraduate/course-descriptions/)

- Any 3000 or higher level course in Civil and Environmental Engineering or in any other engineering department
  - An overall GPA of 3.00 is required to take graduate level courses (5000 level)
  - A maximum of two (2) graduate level courses may be used toward your BSCE degree
- Any 3000 or higher level course in Biology, Chemistry, Computer Science, Construction Management, Geology, Forestry, or Physics
- Any 3000 or higher level course in Mathematics
- Any 3000 or higher level course in Business or Economics. (ACC, BUS, EC, FIN, MGT, MIS, MKT, OSM)
- Any 2000 or higher level course in Surveying
- HU3120 – Technical and Professional Communication

Note: Other courses may be used to satisfy the Professional Electives requirement if approved by the Department of Civil and Environmental Engineering Academic Advisor.

### General Education Requirements

**A. Core Courses (12 Credits)**

1. UN1015 (Composition)
2. UN1025 (Global Issues)
3. Critical and Creative Thinking (Goal 4) *
4. Social Responsibility and Ethical Reasoning (Goal 8) **

**UNDERGRADUATE CATALOG:** http://www.mtu.edu/catalog/

**GENERAL EDUCATION:** http://www.mtu.edu/provost/academic-policies/general-education/programs/

**CO-CURRICULAR LIST:** http://www.mtu.edu/registrar/faculty-staff/advisors/gen-ed/

**B. HASS Courses (12 Credits)** (General Ed Website, left)

1. Communication/Comp (HASS List)
2. HU or FA Course (HASS List)
3. SS or EC or PSY Course (HASS List)
4. Any HASS or HASS Restricted Course (HASS List)

- 6 credits must be upper division 3000-4000 level courses
- No more than 3 credits from the HASS Restricted list can be used to satisfy HASS requirements.
- Each course can satisfy only one requirement.

**C. Co-Curricular Activities (3 Units)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE/FA/AR/AF</td>
<td></td>
</tr>
<tr>
<td>PE/FA/AR/AF</td>
<td></td>
</tr>
<tr>
<td>PE/FA/AR/AF</td>
<td></td>
</tr>
</tbody>
</table>

*Note: Courses marked with an asterisk (*) may be used to satisfy the requirement in Goal 4. Courses marked with a double asterisk (**) may be used to satisfy the requirement in Goal 8.*
CIVIL ENGINEERING FLOWCHART

Transportation Academic Year 2017-18

NOTE: LINEAR ALGEBRA & DIFFERENTIAL EQUATIONS CAN BE TAKEN DURING THE SAME SEMESTER (MA2321 & MA3521) OR SEPARATE SEMESTERS (MA2320 & MA3520) but must be scheduled in addition to the lecture.

This is not an official list of degree requirements. Adjustments may be required due to curriculum changes.

For other senior design options, please visit the advising website: http://www.mtu.edu/cee/undergraduate/capstone/
**Transportation Requirements**

Choose 1 course from the following

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Offered</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEE3202</td>
<td>STRUCTURAL ANALYSIS</td>
<td>F, Sp</td>
<td>3 cr.</td>
</tr>
<tr>
<td>CEE3503</td>
<td>ENVIRONMENTAL ENG.</td>
<td>Sp</td>
<td>3 cr.</td>
</tr>
<tr>
<td>CEE3620</td>
<td>WATER RESOURCES ENG</td>
<td>F, Sp, Su</td>
<td>3 cr.</td>
</tr>
</tbody>
</table>

**TRANSPORTATION DESIGN COURSE** (Select 1)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Offered</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEE4401</td>
<td>PAVEMENT DESIGN</td>
<td>Fall</td>
<td>3 cr.</td>
</tr>
<tr>
<td>CEE4407</td>
<td>TRANSPORTATION DESIGN</td>
<td>Spring</td>
<td>3 cr.</td>
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</tbody>
</table>

**TRANSPORTATION ELECTIVES** (select 4)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Offered</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEE4333</td>
<td>ESTIMATING, PLAN., CONST.</td>
<td>Fall</td>
<td>3 cr.</td>
</tr>
<tr>
<td>CEE4344</td>
<td>CONSTRUCTION SCHEDULING</td>
<td>Spring</td>
<td>3 cr.</td>
</tr>
<tr>
<td>CEE4401</td>
<td>PAVEMENT DESIGN</td>
<td>Fall</td>
<td>3 cr.</td>
</tr>
<tr>
<td>CEE4402</td>
<td>TRAFFIC ENGINEERING</td>
<td>Fall</td>
<td>3 cr.</td>
</tr>
<tr>
<td>CEE4404</td>
<td>RAILROAD ENGINEERING</td>
<td>Fall</td>
<td>3 cr.</td>
</tr>
<tr>
<td>CEE4406</td>
<td>AIRPORT PLANNING</td>
<td>Spring</td>
<td>3 cr.</td>
</tr>
<tr>
<td>CEE4407</td>
<td>TRANSPORTATION DESIGN</td>
<td>Spring</td>
<td>3 cr.</td>
</tr>
<tr>
<td>CEE4410</td>
<td>TRANSPORTATION PLANNING</td>
<td>Fall</td>
<td>3 cr.</td>
</tr>
</tbody>
</table>

*(pre-req is CEE3490 – 1 cr, Offered in the spring)*

**Engineering Science Elective List (3 credits)**

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<tr>
<th>Course Code</th>
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</thead>
<tbody>
<tr>
<td>BE2700</td>
<td>BIOMEDICAL SIGNALS &amp; SYSTEMS</td>
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<tr>
<td>CM2110</td>
<td>FUND. OF CHEM ENGRG 1</td>
</tr>
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<td>CM2200</td>
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<td>MY2100</td>
<td>INTRO TO MATERIALS SCI &amp; ENGRG</td>
</tr>
<tr>
<td>MEEM2201</td>
<td>THERMODYNAMICS</td>
</tr>
<tr>
<td>MEEM2700</td>
<td>DYNAMICS</td>
</tr>
</tbody>
</table>

**Senior Design (SD) Pre-reqs**

(Complete 7 of the following)

- CEE3101, (CEE3202 or CEE3503 or CEE3620),
- CEE3331, CEE3332, CEE3401, CEE3810

TRANSPORTATION DESIGN COURSE, & 2 TRANSPORTATION ELECTIVES

**General Education Requirements**

A. **CORE COURSES (12 CREDITS)**

1. UN1015 (COMPOSITION)
2. UN1025 (GLOBAL ISSUES)
3. CRITICAL AND CREATIVE THINKING (Goal 4) *
4. SOCIAL RESPONSIBILITY & ETHICAL REASONING (Goal 8) **

*GOAL 4 LIST
- FA2330
- FA2520
- FA2720
- FA2820
- HU2130
- HU2324
- HU2501
- HU2503
- HU2538
- HU2700
- HU2820
- HU2910
- SS2300
- SS2504
- SS2505
- SS2501
- SS2502
- SS2503
- SS2600
- SS2610
- SS2700

**GOAL 8 LIST**
- EC2001
- ED2000
- PSY2000
- SS2100
- SS2200
- SS2400
- SS2500
- SS2501
- SS2502
- SS2504
- SS2505
- SS2600
- SS2610
- SS2700

B. **HASS COURSES (12 CREDITS)** (General Ed Website, left)

1. COMMUNICATION/COMP. (HASS LIST)
2. HU OR FA COURSE (HASS LIST)
3. SS OR EC OR PSY COURSE (HASS LIST)
4. ANY HASS OR HASS RESTRICTED COURSE (HASS LIST)

C. **CO-CURRICULAR ACTIVITIES (3 UNITS)**

PE/FA/AR/AF______  PE/FA/AR/AF______
PE/FA/AR/AF______  PE/FA/AR/AF______
PE/FA/AR/AF______  PE/FA/AR/AF______

---

**Professional Electives**

(UNDERGRADUATE CATALOG: http://www.mtu.edu/catalog/undergraduate/course-descriptions/)

- ANY 3000 OR HIGHER LEVEL COURSE IN CIVIL AND ENVIRONMENTAL ENGINEERING OR IN ANY OTHER ENGINEERING DEPARTMENT
  - AN OVERALL GPA OF 3.00 IS REQUIRED TO TAKE GRADUATE LEVEL COURSES (5000 LEVEL)
  - A MAXIMUM OF TWO (2) GRADUATE LEVEL COURSES MAY BE USED TOWARD YOUR BSCE DEGREE
- ANY 3000 OR HIGHER LEVEL COURSE IN BIOLOGY, CHEMISTRY, COMPUTER SCIENCE, CONSTRUCTION MANAGEMENT, GEOLOGY, FORESTRY, OR PHYSICS
- ANY 3000 OR HIGHER LEVEL COURSE IN MATHEMATICS
- ANY 3000 OR HIGHER LEVEL COURSE IN BUSINESS OR ECONOMICS. (ACC, BUS, EC, FIN, MGT, MIS, MKT, OSM)
- ANY 2000 OR HIGHER LEVEL COURSE IN SURVEYING
- HU3120 – TECHNICAL AND PROFESSIONAL COMMUNICATION

Note: OTHER COURSES MAY BE USED TO SATISFY THE PROFESSIONAL ELECTIVES REQUIREMENT IF APPROVED BY THE DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING ACADEMIC ADVISOR.
CIVIL ENGINEERING FLOWCHART
Built Infrastructure
Academic Year 2017-18

This is not an official list of degree requirements. Adjustments may be required due to curriculum changes.

NOTE: LINEAR ALGEBRA & DIFFERENTIAL EQUATIONS CAN BE TAKEN DURING THE SAME SEMESTER (MA2321 & MA3521) OR SEPARATE SEMESTERS (MA2320 & MA3520)

<table>
<thead>
<tr>
<th>Fall</th>
<th>Year 1</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA1160/1161 Linear Algebra I (4/5 credits)</td>
<td>MA2160 Calculus II (4 credits)</td>
<td>MA3160 Calculus III (4 credits)</td>
</tr>
<tr>
<td>F, S</td>
<td>F, S</td>
<td>F, S</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fall</th>
<th>Year 2</th>
<th>Spring</th>
</tr>
</thead>
</table>
| PH2100 Physics LAB I (1 credit) | MA1160 Calculus I (4 credits) | MA3230F/2321S
| F, S | F | 2 |

<table>
<thead>
<tr>
<th>Fall</th>
<th>Year 3</th>
<th>Spring</th>
</tr>
</thead>
</table>
| MA3230F/2321S | MA3520F/3521S
| Differential Equations (2 credits) | F, S |

<table>
<thead>
<tr>
<th>Fall</th>
<th>Year 4</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEE3320I Civil Eng. Materials SD (3 credits)</td>
<td>CEE3101 Professional Practice SD</td>
<td>CEE3101 Professional Practice SD</td>
</tr>
<tr>
<td>E4</td>
<td>F, S</td>
<td>F, S</td>
</tr>
</tbody>
</table>

**HIGHLY RECOMMENDED BUT NOT REQUIRED**

**ENG1003 AUTOCAD (1 credit)**

Co-curricular

**CREDITS:**

16

15

18

17

16

15

18

16

Updated 05/17/17
Built Infrastructure Requirements

BUILT INFRASTRUCTURE DESIGN COURSE (select 1)
- CEE4213  STRUCTURAL CONCRETE DESIGN Spring 4 cr.
- CEE4223  STEEL DESIGN 1 Fall 4 cr.
- CEE4820  FOUNDATION ENGINEERING Fall 3 cr.

BUILT INFRASTRUCTURE ELECTIVES (select 4)
- CEE4020  COMPUTER APPLICATIONS Fall 3 cr.
- CEE4201  MATRIX STRUCTURAL ANALYSIS Fall 3 cr.
- CEE4213  STRUCTURAL CONCRETE DESIGN Spring 4 cr.
- CEE4223  STEEL DESIGN 1 Fall 4 cr.
- CEE4233  STRUCTURAL TIMBER DESIGN Spring 3 cr.
- CEE4244  LOADS FOR CIVIL STRUCTURES Spring 3 cr.
- CEE4333  ESTIMATING, PLANNING, CONST. Fall 3 cr.
- CEE4344  CONSTRUCTION SCHEDULING Spring 3 cr.
- CEE4820  FOUNDATION ENGINEERING Fall 3 cr.
- CEE4830  GEOSYNTHETICS Spring 3 cr.
- CEE4850  ROCK ENGINEERING Spring 3 cr.
- CEE5212  PRESTRESSED CONCRETE DESIGN Fall 3 cr.
- CEE5213  CONCRETE/MASONRY BLDG SYS Fall 3 cr.

Senior Design (SD) Pre-reqs (complete 7 of the following)
- CEE3101, CEE3331, CEE3332, CEE3202, CEE3620, CEE3810, BUILT INFRASTRUCTURE DESIGN COURSE, & 2 BUILT INFRASTRUCTURE ELECTIVES

Engineering Science Elective List (3 credits)
- BE2700  BIOMEDICAL SIGNALS & SYSTEMS
- CM2110  FUND. OF CHEM ENGRG 1
- CM2200  INTRO TO MINERALS & MATERIALS
- EE3010  CIRCUITS AND INSTRUMENTATION
- MY2100  INTRO TO MATERIALS SCI & ENGRG
- MEEM2201  THERMODYNAMICS
- MEEM2700  DYNAMICS

Professional Electives

[UNDERGRADUATE CATALOG: http://www.mtu.edu/catalog/undergraduate/course-descriptions/]

- ANY 3000 OR HIGHER LEVEL COURSE IN CIVIL AND ENVIRONMENTAL ENGINEERING OR IN ANY OTHER ENGINEERING DEPARTMENT
  - AN OVERALL GPA OF 3.00 IS REQUIRED TO TAKE GRADUATE LEVEL COURSES (5000 LEVEL)
  - A MAXIMUM OF TWO (2) GRADUATE LEVEL COURSES MAY BE USED TOWARD YOUR BSCE DEGREE
- ANY 3000 OR HIGHER LEVEL COURSE IN BIOLOGY, CHEMISTRY, COMPUTER SCIENCE, CONSTRUCTION MANAGEMENT, GEOLOGY, FORESTRY, OR PHYSICS
- ANY 3000 OR HIGHER LEVEL COURSE IN MATHEMATICS
- ANY 3000 OR HIGHER LEVEL COURSE IN BUSINESS OR ECONOMICS. (ACC, BUS, EC, FIN, MGT, MIS, MKT, OSM)
- ANY 2000 OR HIGHER LEVEL COURSE IN SURVEYING
- HU3120 – TECHNICAL AND PROFESSIONAL COMMUNICATION

NOTE: OTHER COURSES MAY BE USED TO SATISFY THE PROFESSIONAL ELECTIVES REQUIREMENT IF APPROVED BY THE DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING ACADEMIC ADVISOR.

UNDERGRADUATE CATALOG: http://www.mtu.edu/catalog/undergraduate/course-descriptions/
GENERAL EDUCATION: http://www.mtu.edu/provost/academic-policies/general-education/programs/
CO-CURRICULAR LIST: http://www.mtu.edu/registrar/faculty-staff/advisors/gen-ed/

GENERAL EDUCATION REQUIREMENTS

A. CORE COURSES (12 CREDITS)

1. UN1015 (COMPOSITION)
2. UN1025 (GLOBAL ISSUES)
3. CRITICAL AND CREATIVE THINKING (Goal 4) *
4. SOCIAL RESPONSIBILITY AND ETHICAL REASONING (Goal 8) **

   *GOAL 4 LIST
   - FA2330
   - FA2520
   - FA2720
   - FA2820
   - HU2130
   - HU2324
   - HU2501
   - HU2503
   - HU2538
   - HU2700
   - HU2820
   - HU2910
   - SS2300
   - SS2502
   - SS2500
   - SS2501
   - SS2502
   - SS2500
   - SS2503
   - SS2504
   - SS2505
   - SS2600
   - SS2610
   - SS2700

   **GOAL 8 LIST
   - FA2330
   - FA2520
   - FA2720
   - FA2820
   - HU2130
   - HU2324
   - HU2501
   - HU2503
   - HU2538
   - HU2700
   - HU2820
   - HU2910
   - SS2300
   - SS2502
   - SS2500
   - SS2501
   - SS2502
   - SS2500
   - SS2503
   - SS2504
   - SS2505
   - SS2600
   - SS2610
   - SS2700

B. HASS COURSES (12 CREDITS) (General Ed Website, left)

1. COMMUNICATION/COMP (HASS LIST)
2. HU OR FA COURSE (HASS LIST)
3. SS OR EC OR PSY COURSE (HASS LIST)
4. ANY HASS OR HASS RESTRICTED COURSE (HASS LIST)

- 6 credits must be upper division 3000-4000 level courses
- No more than 3 credits from the HASS Restricted list can be used to satisfy HASS requirements.
- Each course can satisfy only one requirement.

C. CO-CURRICULAR ACTIVITIES (3 UNITS)

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