CIVIL ENGINEERING FLOWCHART

Water Resources Path

Academic Year 2022-23

*Note: Linear Algebra & Differential Equations can be taken during the same semester (MA2321 & MA3521) or separate semesters (MA2320 & MA3520)

**F** Indicates course is offered fall semester
**S** Indicates course is offered spring semester
**Su** Indicates course is offered summer semester

**I** Indicates the course includes a lab

(C) Indicates the course can either be taken at the same time (C0) or prior to the course (pre-req)

MA1160/1161 (C or better) - MA2160 (C), MA3160 (C)

Adjustments may be required due to curriculum changes.

(Academic Year 2022-23)

Total Academic Credits: 131
Total Co-Curricular Units: 3

Updated 05.16.2022
**Water Resources Requirements**

Choose 1 course from the following

- CEE3202 STRUCTURAL ANALYSIS F, Sp 3 cr.
- CEE3332 FUND. OF CONSTRUCTION F, Sp 3 cr.
- CEE3401 TRANSPORTATION ENGRG F, Sp 3 cr.

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

- CEE4620 RIVER/FLOODPLAIN HYDRAULICS Fall 3 cr.
- CEE4640 STORMWATER MANAGE. & LID Su 3 cr.
- CEE4665 STREAM RESTORATION Spring 3 cr.

**WATER RESOURCES ELECTIVES** (select 4)

- CEE4502 WASTE TREATMENT Fall 3 cr.
- CEE4503 WATER TREATMENT Spring 3 cr.
- CEE4505 SURFACE WATER QUALITY Fall 3 cr.
- CEE4507 WATER DISTRIBUTION/COLLECT. Spring 3 cr.
- CEE4610 HYDRAULIC SYSTEMS Fall 3 cr.
- CEE4620 RIVER/FLOODPLAIN HYDRAULICS Fall 3 cr.
- CEE4640 STORMWATER MANAGE. & LID Su 3 cr.
- CEE4635 WATER RES. SYSTEM MODELING Spring 3 cr.
- CEE4665 STREAM RESTORATION Spring 3 cr.
- CEE4993 ENGRG W/ DEV COMM. Fall 3 cr.
- CEE5620 STOCHASTIC HYDROLOGY Spring 3 cr.
- CEE5666 WR PLANNING & MANAGEMENT Var. 3 cr.
- GE3850 GEohydrology Spring 3 cr.
- GE4800 GROUNDWATER ENGRG Spring 3 cr.

**Engineering Science Elective**

(Select 1)

- BE2700 BIOMEDICAL SIGNALS & SYSTEMS 3 cr.
- CM2110 MATERIAL AND ENERGY BALANCES 3 cr.
- CM2200 INTRO TO MINERALS & MATERIALS 3 cr.
- EE3010 CIRCUITS AND INSTRUMENTATION 3 cr.
- MSE2100 INTRO TO MATERIALS SCI & ENGRG 3 cr.
- MSE2201 INTRODUCTORY THERMODYNAMICS 3 cr.
- MSE2700 DYNAMICS 3 cr.

**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

**GENERAL EDUCATION REQUIREMENTS**

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

1. **UN1015 (COMPOSITION)**

2. **UN1025 (GLOBAL ISSUES) or 3000+ level Modern Language Course**

**3. CRITICAL AND CREATIVE THINKING**

ART1000, HU2130, HU2324, HU2501, HU2503, HU2538, HU2700, HU2820, HU2910, MUS1000, SND1000, SS2300, THEA1000

**4. SOCIAL RESP. & ETHICAL REASONING**

EC2001, PSY2000, SS2100, SS2200, SS2400, SS2500, SS2501, SS2502, SS2503, SS2504, SS2505, SS2600, SS2610, SS2700

**B. HASS COURSES (12 CREDITS)**

(General Ed Website, left)

1. **COMM/COMP:**

2. **HUMANITIES/FINE ARTS:**

3. **SOCIAL & BEHAVIORAL SCIENCES:**

4. **ANY HASS OR HASS RESTRICTED COURSE:**

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

(General Ed Website, left)

1. __________
2. __________
3. __________
4. __________

**PROFESSIONAL ELECTIVES**

UNDERGRADUATE CATALOG: [https://www.mtu.edu/catalog/courses/](https://www.mtu.edu/catalog/courses/)

- **Any 1000 or higher level course in Computer Science, Fine Arts or Forestry.** (CS, ART, FW, MUS, SND, THEA)
- **Any 2000 or higher level course in Biological Sciences, Chemistry, Construction Management, Geology, Physics or Geospatial Engineering.** (BL, CH, CMG, GE, PH, SU)
- **Any 2000 or higher level course in Business or Economics** (ACC, BUS, EC, FIN, MGT, MIS, MKT, OSM).
- **Any 3000 or higher level course in Mathematics, Humanities, Psychology, Social Sciences or University Wide** (MA, HU, PSY, SS, UN).
- **Any 3000 or higher level course in Civil and Environmental Engineering** (CEE) or any other Engineering Dept.

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