

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
MSE2100	INTRO TO MATERIALS SCI & ENGRG
MEEM2201	THERMODYNAMICS
MEEM2700	DYNAMICS

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

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

GENERAL EDUCATION REQUIREMENTS

A. CORE COURSES (12 CREDITS)

1. **UN1015** (COMPOSITION)
2. **UN1025** (GLOBAL ISSUES)

3. CRITICAL AND CREATIVE THINKING

FA2330, FA2520, FA2720, FA2820, HU2130, HU2324, HU2501,
HU2503, HU2538, HU2700, HU2820, HU2910, SS2300

4. SOCIAL RESP. & ETHICAL REASONING

EC2001, ED2000, 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: _____

- 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) (General Ed Website, left)

PE/FA/AR/AF _____ PE/FA/AR/AF _____
PE/FA/AR/AF _____ PE/FA/AR/AF _____
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UNDERGRADUATE CATALOG:

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PROFESSIONAL ELECTIVES

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- Any **2000** or higher level course in **Biological Sciences, Chemistry, Construction Management, Geology, Physics or Surveying**. (BL, CH, CMG, GE, PH, SU)
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- 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 AND ENVIRONMENTAL ENGINEERING ACADEMIC ADVISOR.

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.
CEE4620	RIVER/FLOODPLAIN HYDRAULICS	Fall	3 cr.
CEE4640	STORMWATER MANAGE. & LID	Su	3 cr.
CEE4665	STREAM RESTORATION	Spring	3 cr.
CEE5620	STOCHASTIC HYDROLOGY	Spring	3 cr.
CEE5666	WR PLANNING & MANAGEMENT	Var.	3 cr.
GE3850	GEOHYDROLOGY	F, Sp	3 cr.
GE4800	GROUNDWATER ENGRG	Spring	3 cr.

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

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Transportation Requirements

Choose 1 course from the following

CEE3202	STRUCTURAL ANALYSIS	F, Sp	3 cr.
CEE3503	ENVIRONMENTAL ENG.	Sp	3 cr.
CEE3620	WATER RESOURCES ENG	F, Sp, Su	4 cr.

TRANSPORTATION DESIGN COURSE (Select 1)

CEE4401	PAVEMENT DESIGN	Fall	3 cr.
CEE4407	TRANSPORTATION DESIGN	Spring	4 cr.

TRANSPORTATION ELECTIVES (select 4)

CEE4101	BITUMINOUS MATERIALS	Fall	3 cr.
CEE4333	ESTIMATING, PLAN., CONST.	Spring	3 cr.
CEE4344	CONSTRUCTION SCHEDULING	Spring	3 cr.
CEE4401	PAVEMENT DESIGN	Fall	3 cr.
CEE4402	TRAFFIC ENGINEERING	Fall	3 cr.
*CEE4404	RAILROAD ENGINEERING	Fall	3 cr.

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

CEE4406	AIRPORT PLANNING	Spring	3 cr.
CEE4407	TRANSPORTATION DESIGN	Spring	4 cr.
CEE4410	TRANSPORTATION PLANNING	Fall	3 cr.
CEE4760	OPT. METHODS IN CEE	Spring	3 cr.

Senior Design (SD) Pre-reqs

(complete 7 of the following)

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CEE3331, CEE3332, CEE3401, CEE3810
TRANSPORTATION DESIGN COURSE, & 2
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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

(C) INDICATES THE COURSE CAN EITHER BE TAKEN AT THE SAME TIME (CO-REQ) OR TAKEN PRIOR TO THE COURSE (PRE-REQ)

CIVIL ENGINEERING FLOWCHART

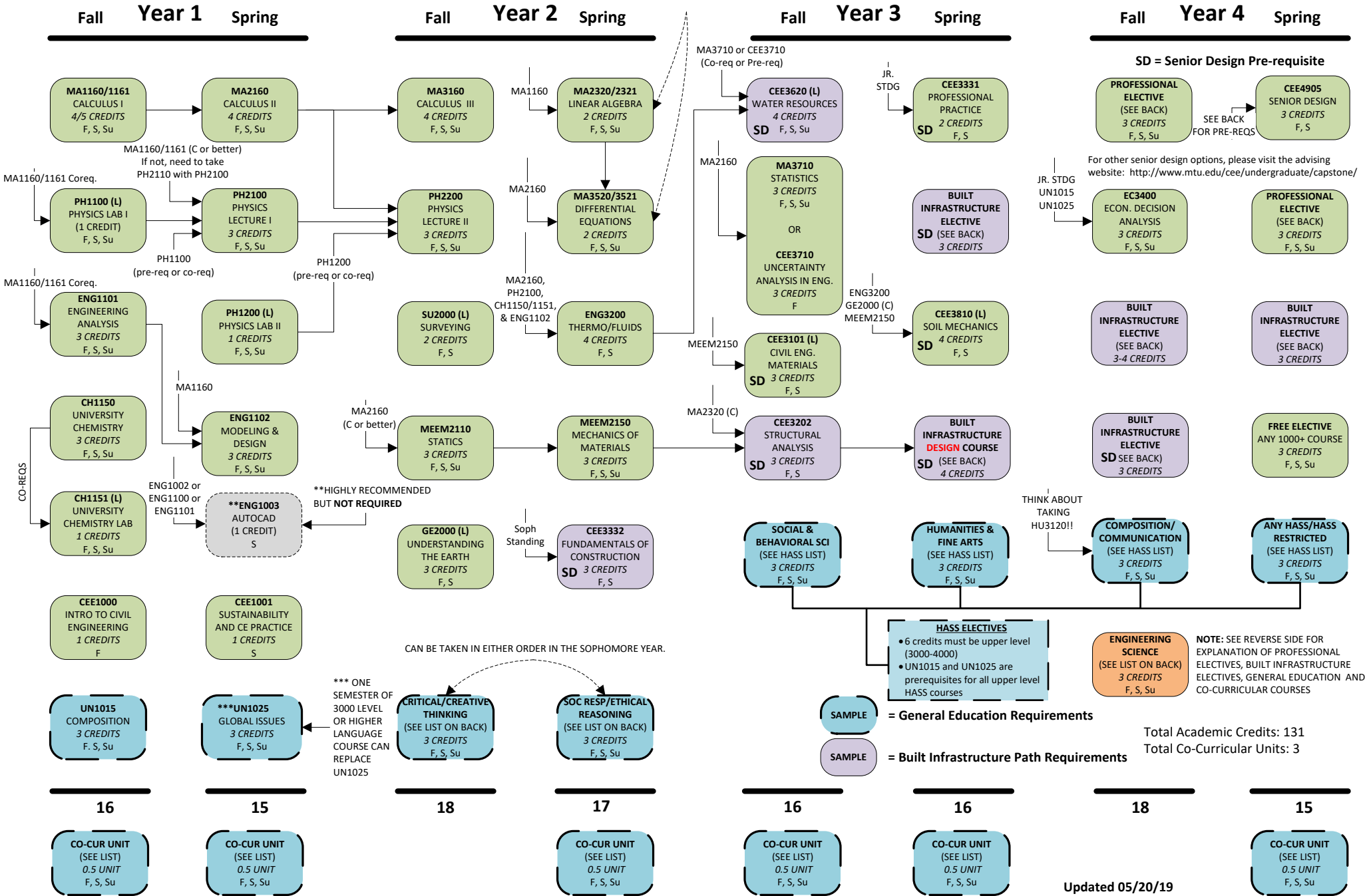


Michigan Tech

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

Built Infrastructure Academic Year 2019-20

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



Built Infrastructure Requirements

BUILT INFRASTRUCTURE DESIGN COURSE (select 1)

CEE4213	STRUCTURAL CONCRETE DESIGN	Spring	4 cr.
CEE4223	STEEL DESIGN 1	Fall	4 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.	Spring	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.

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