B.S. Civil Engineering Degree (*Fall 2025 and later*)

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

First Year

Fall

Course	Prerequisites	Credit
MA1160 Calculus with Technology 1		4
ENG1101 Engineering Analysis & Problem Solving	MA1160 *(Concurrent)*	3
CH1150 University Chemistry 1	CH1151 *(Corequisite)*	3
CH1151 University Chemistry Lab 1	CH1150 *(Corequisite)*	1
PH1100 Physics 1 Lab	MA1160 *(Concurrent)*	1
CEE1000 Intro to Civil Engineering		1
UN1015 Composition		3
Total		**16**

Spring

Course	Prerequisites	Credit
MA 2160 Calculus with Technology 2	MA1160	4
ENG1102 Engineering Modeling & Design	MA1160 *(Concurrent)*, ENG1101	3
PH2100 University Physics 1	MA1160, PH1100 *(Concurrent)*	3
GE2000 Understanding the Earth		3
CEE1001 Sustainability and CE Practice		1
Essential Education - Foundations in the Human World		3
Total		**17**

Second Year

Fall

Course	Prerequisites	Credit
PH1200 Physics 2 Lab	PH1100	1
PH2200 University Physics 2	MA2160, PH2100, PH1200 *(Concurrent)*	3
MA3160 Multivariable Calculus 3	MA2160	4
ME2110 Statics	MA2160 (C or better)	3
SU2000 Surveying		2
Essential Education - Communication Intensive		3
Total		**16**

Spring

Course	Prerequisites	Credit
MA2321 Linear Algebra	MA1160	2
MA3521 Differential Equations	MA2160, MA2320	2
CEE3200 Thermo/Fluids	MA2160, PH2100, CH1150/51, ENG1101	4
ME2150 Mechanics of Materials	ME2110	3
Essential Education - Arts & Culture		3
Essential Education - Activities for Well-Being and Success		1
Total		**15**

Third Year

Fall

Course	Prerequisites	Credit
CEE3620 Water Resources	MA3710 or CEE3710 *(Concurrent)*, CEE3200	4
MA3710 Statistics	MA2160	3
CEE Core Elective (CEE3202, CEE3401, or CEE3503)		3
CEE3332 Fundamentals of Construction	Sophomore Standing	3
Essential Education - Intercultural Competency (3000+)		3
Total		**16**

Spring

Course	Prerequisites	Credit
CEE3331 Professional Practice	Junior Standing	2
CEE3101 Civil Engineering Materials	ME2150	3
CEE3810 Soil Mechanics	ME2150, GE2000, CEE3200	4
CEE Design Course		3-4
Essential Education Experience (3000+)		3
Essential Education - Activities for Well-Being and Success		1
Total		**16-17**

Fourth Year

Fall

Course	Prerequisites	Credit
EC3400 Economic Decision Analysis	JR STDN, UN1015	3
Engineering Science Elective		3
CEE4020 Digital Project Delivery OR CEE4030 Building Info Systems	CEE3401 *(Concurrent) or CEE3332* CEE3332	3
Technical Elective		3
Professional Elective		3
Total		**15**

Spring

Course	Prerequisites	Credit
CEE4905 Senior Design		3
Technical Elective		3
Technical Elective		3
Professional Elective		3
Free Elective		3-4
Essential Education - Activities for Well-Being and Success		1
Total		**16-17**

Grand Total = 128 Credits

1. ***Essential Education Requirements:*** 24 total credits. Required courses are *UN1015-Composition* (3 credits), a *Foundations in the Human World* course (3 credits), a *Communication Intensive* course (3 credits), an *Arts and Culture* course (3 credits), an *Intercultural Competency* (3000+) course (3 credits), a *SHAPE* course (EC3400, 3 credits), an *Essential Education Experience* (3000+) course (3 credits), and 3 credits of *Activities for Well-being and Success*.
2. ***CEE Core Electives:*** Students will choose to take either CEE3202 (Structural Analysis), CEE3401 (Transportation Engineering), or CEE3503 (Environmental Engineering). If a students would like to take additional CEE course electives, they can be applied to either the students professional electives or technical electives.
3. ***Technical electives***: 9 total credits. Technical electives can come from any of the following areas:
    a. ***Any 2000 or higher*** *level course in Construction Management* ***(CMG)***
    b. ***Any 2000 or higher*** *level course in Geospatial Engineering* ***(SU)***
    c. ***Any 3000 or higher*** *level course in Civil and Environmental Engineering* ***(CEE)***
    d. ***GE3850 (Geohydrology)***
    e. ***GE4800 (Groundwater Engineering)***
4. ***Professional Electives:*** 6 total credits. Professional electives can come from any of the following areas:
    a. **Any 1000 or higher** level course in Computer Science, Fine Arts or Forestry. **(CS, ART, FW, MUS, SND, THEA)**
    b. **Any 2000 or higher** level course in Biological Sciences, Chemistry, Construction Management, Geology, Physics or Geospatial Engineering. **(BL, CH, CMG, GE, PH, SU)**
    c. **Any 2000 or higher** level course in Business or Economics **(ACC, BUS, EC, FIN, MGT, MIS, MKT, OSM)**.
    d. **Any 3000 or higher** level course in Mathematics, Humanities, Psychology, Social Sciences or University Wide **(MA, HU, PSY, SS, UN**).
    e. **Any 3000 or higher** level course in Civil and Environmental Engineering **(CEE) or any other Engineering Dept.**
5. ***Prerequisite*** (pre-req) course must be successfully completed ***PRIOR*** to taking the subsequent course.
   Concurrent Prerequisites (concurrent) may be taken at the same time, although it is not necessary if the prerequisite course is completed first.
   Required Corequisite (co-req) courses that ***MUST*** be taken together in the same semester.
6. ***Engineering Fundamentals:*** MA1160/1161 is a concurrent prerequisite for ENG1101 and ENG1102. ENG1102 project content varies by section number.
7. ***Math:*** Students are placed into an initial math course based on ACT/SAT math score, the online ALEKS assessment, or a math placement exam score for credit (AP, IB, CLEP). MA1160 (4 credits) or MA1161 (5 credits) satisfy the Calculus 1 requirement. Linear Algebra and Differential Equations are offered as full semester courses for students taking these courses in separate semesters (MA2320 – Linear Algebra, MA3520 – Differential Equations). The Math department also teaches Linear Algebra and Differential Equations as accelerated courses. In the first half of a given semester MA2321 – Linear Algebra, and MA3521 – Differential Equations, in the second half of the same semester (registration must be for the same section number of both MA2321 and MA3521 in that semester). MA2320, MA2321, and MA2330 are all equivalent and are approved prerequisites for MA3520 or MA3521. MA3530 and 3560 are also equivalent to MA3520/3521. MA2710, 2720 and 3715 are all acceptable in place of MA3710.
8. ***A grade of 'C' or better in MA2160 is required as a prerequisite for ME2110.***
9. ***Free Electives*****:** Any credits that are 1000-level or above are acceptable towards free elective credits.
10. ***Transfer, Advanced Placement, or study abroad courses*** are not included in credit hours used for GPA calculations. Transfer credit is awarded for Michigan Tech equivalent course work only if a grade of 'C' or better (2.00/4.00) or equivalent is earned at a transfer institution. Study abroad credit will be awarded based on passing a course according to equivalent international standards. Advanced Placement credit is awarded according to published AP Exam score standards (also IB and CLEP).

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