B.S. Computer Engineering Degree AY2025/2026

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

First Year

Fall

Course	Prerequisite	Credit
MA 1160/1161 Calculus I		4/5
ENG 1101 Eng Analysis & Prob. Solving w/ Seminar		3
CS 1121 Intro to Programming I		3
PH 1100 UN Physics I Lab		1
UN 1015 Composition		3
Total		**14/15**

Spring

Course	Prerequisite	Credit
MA 2160 Calculus II	MA1160	4
CS 1122 Intro to Programming II	CS 1121	3
PH 2100 UN Physics I	PH 1100	3
STEM 2nd Discipline Elec		3/4
Essential Education: Foundations of the Human World		3
Total		**16/17**

Second Year

Fall

Course	Prerequisite	Credit
MA 2321 Accel. Linear Alg	MA 1160	2
MA 3521 Accel. Diffriental Eq	MA 2160	2
EE 2112 Eelctric Circuits & Lab	MA 2160	4
CS 1142 Programming H/S Interface	CS 1122	3
PH 2200 UN Physics II	MA 2160	3
PH 1200 UN Physics II Lab	PH1100	1
Essential Education: Activities for Well-being and Success		1
Total		**16**

Spring

Course	Prerequisite	Credit
CS 2311 Discrete Structures	CS1121/31 & MA 1160/61	3
CS 2321 Data Structures	CS 1121	3
EE 2174 Digital Logic & Lab	CS 1121	4
Essential Education: SHAPE		3
Essential Education: Arts & Culture		3
Total		**16**

Third Year

Fall

Course	Prerequisite	Credit
EE 3160 Signals & Systems **OR** CS 3331 Concurrent Computing		3
EE 3172 Fund of Comp Org	EE 2174	3
EE 3131 Electronics & Lab	MA2320/21,3520 /21, EE 2112	4
MA 3710 Engineering Statistics	MA 2160	3
Essential Education: Communication Intensive		3
ENT3950 *(Optional Ent Design Pathway)*		1
Total		**16-17**

Spring

Course	Prerequisite	Credit
Math/Science Elective		3
CS 4321 Intro to Algorithms	CS 2311	3
EE 3174 Microcontroller Applications	CS 1121, EE2174	4
CS 3411 Sysems Programming	EE 3172	
Essential Education: Activities for Well-being and Success		1
EE 3901 Design Fundamentals	UN 1015, EE 3131	2
ENT3960 *(Optional Ent Design Pathway)*	ENT 3950	1
Total		**16-17**

Fourth Year

Fall

Course	Prerequisite	Credit
Technical Elective		3
Technical Elective		3
EE 4173 Comp Systems Eng/Performance	EE 3174	3
EE4272/CS4461 Computer Networks	CS 3411	3
Essential Education: Experience		3
ENT 4950 OR EE 4901 *(Capstone Options)*	EE 3131, 3901	2
Total		**17**

Spring

Course	Prerequisite	Credit
Technical Elective		3
Technical Elective		3
Technical Elective		3
Essential Education: Intercultural Competency		3
Essential Education: Activities for Well-being and Success		1
ENT 4960 OR EE4910 *(Capstone Options)*	ENT 4950 OR EE 4901	2
Total		**15**

Grand Total = 126-129 Credits *(Total number of credits depends on certain course selections.)*

For 2025/26 – Revised 1/2/2026

NOTE:

Prerequisite courses:

- The prerequisite course must be successfully completed PRIOR to taking the subsequent course. Concurrent Prerequisites ~ (C) ~ may be taken at the same time, although it is not necessary if the prerequisite course is completed first. Required Corequisite courses that MUST be taken together in the same semester. See your academic advisor for questions.

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 & Culture course (3 credits), an Intercultural Competency (3000+) course (3 credits), a SHAPE course (3 credits), an Essential Education Experience (3000+) course (3 credits), and 3 credits of Activities for Wellbeing and Success. Activities for Well-being and Success: Mainly physical education courses with some additions. Three credits are required for graduation. These credits will be included as earned hours and may be used to determine full-time enrollment status.

Capstone Design Options:

- Option 1: Senior Design
  - Take 4-credit sequence
    - EE4901 (2credits) in fall year 4
    - EE4910 (2 credits) in spring year 4
  - Take a minimum of 15 credits of Technical Electives
  - If a student wishes to do Senior Design but will graduate in a Fall semester, they may take ME 4901(spring) and ME 4910 (fall). Talk with your academic advisor early on to decide if this or Enterprise is the best path for you.
- Option 2: Enterprise
  - Take the 6-credit sequence:
    - ENT 3950 (1 credit) in fourth-to-last semester
    - ENT 3960 (1 credit) in third-to-last semester
    - ENT 4950 (1 credit) in second-to-last semester
    - ENT 4960 (1 credit) in final semester
  - Take a minimum of 13 credits of Technical Electives
- Option 3: European Project Semester
  - A one-semester option abroad, which includes courses transferring as EE 3901, EE 3901, and EE 4910. Talk with your Academic Advisor early on to learn more about this and form an academic plan around it.

Technical Electives:

- Students will choose upper-level technical electives to give their degree the particular focus or expertise that they seek. Depending on whether a student chooses Senior Design path or Enterprise Path, they will need to take a minimum of either 15-13 credits of Technical Electives. Students who take ENG 1102 (optional for Computer Engineers) as part of their first-year experience may count it toward Technical Electives. Up to 2 credits of co-op (UN 3002, 3003, etc) may be used in Technical Electives.
- Computer Engineers have the option to choose between most of the 3000- and 4000-level CS or EE courses, as well as a few additional options. It is important to note that ther are a few **exclusions** that may *not* be taken for Technical Eelctive credit: CS 4090, CS 4099, CS 4431, CS 4791, CS 4792, CS 5090, CS 5091, EE 3171, EE 4000, EE 4805, EE 4870, EE 5290, EE 5975, EE 5990, EE 5991, EE 5992, EE 6975.
- Some 5000-level courses may also be used as Technical Electives if the student meets the prerequisites for graduate-level courses.

**Full list of Technical Elective options is available via the MTU website, schedule of classes, student degree audit, or the ECE Department. See Academic Advisors for further information.*