Michigan Technological University
Geological and Mining Engineering and Sciences

# Bachelor of Science in Mining Engineering

2023-2024

Revised 6/9/2023

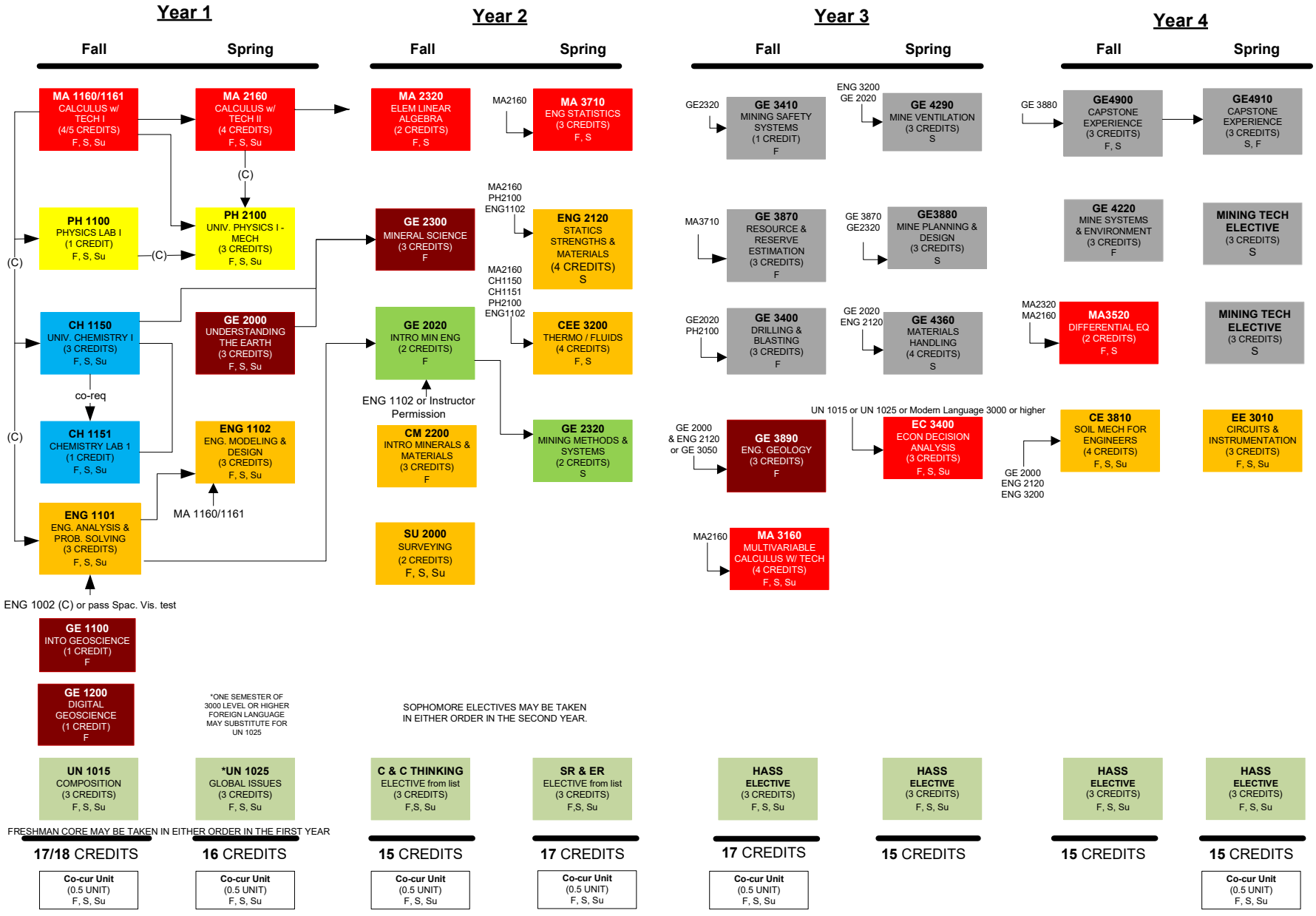
→ PREREQUISITE (COURSE MUST BE COMPLETED PRIOR TO ENROLLMENT)

—(C)→ CONCURRENT REREQUISITE, PREREQ. THAT MAY BE TAKEN SIMULTANEOUSLY WITH THE COURSE

F INDICATES COURSE IS OFFERED FALL SEMESTER

S INDICATES COURSE IS OFFERED SPRING SEMESTER

Su INDICATES COURSES IS OFFERED SUMMER SEMESTER




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

# BS in Mining Engineering 2023-2024

**(Minimum of 127 Credits)**

## Mining Engineering Advanced Technical Electives

Nine credits of Mining Engineering Electives are required, see list in the table below. Prerequisites not normally required must be satisfied by free electives or other courses not specifically listed. With approval of Mining Engineering ABET Coordinator, Mining Engineering electives may be substituted with Independent Mining Engineering Research and/or Cooperative Lab.

## Enterprise Concentration (12 Credits)

With permission of Mining Engineering ABET Coordinator, enterprise may substitute 6 credits of interdisciplinary project for GE 4900 and GE 4910; 3 credits of required communication, teaming or business must be double counted as Distribution (HASS) credits; and 3 credits of enterprise instructional modules must be substituted for free electives.

**Enterprise Minor:** Follow concentration, and take 6 additional credits beyond required degree as per minor requirements.

**Second Degree Policy:** Candidates for a second degree must meet all the coursework requirements for the major in the second degree with a minimum of 25% of the credit hours required for the degree, beyond the primary degree.

## *Mining Engineering Advanced Technical Electives*

| Course Title | Offered | Prerequisite(s) |
|---|---|---|
| CEE 4504 Air Quality Eng and Science | FA | CEE 3501 or CEE 3503 |
| GE 4610 Formation Evaluation. & Petroleum Engineering | FA, SP | |
| GE 3850 Geohydrology | FA, SP | |
| GE 3200 Geochemistry | SP | CH 1150 and CH 115 |
| GE 4800 Groundwater Engineering | FA | GE 3890 or CEE 3810 |
| GE 4860 Computer Methods in Geomechanics | SP | GE 2000, ENG 2120, (ENG 3200 or ENG 3507) |
| GE 4220 Mining Systems and the Environment | FA | CH 1150 |
| GE 4680 Operations Research for Mining Engineers | On Demand | GE 2020 or GE 2320 |
| CEE 3503 Environmental Engineering | SP | MA 2160 and CH 1112 or (CH 1150 and CH 1151) |
| CEE 3620 Water Resources Engineering | FA,SP,SU | See Course Catalog |
| CEE 4511 Solid and Hazardous Waste Eng | SP | CEE 3501 or CEE 3503 |
| CEE 4820 Foundation Engineering | FA | CEE 3810 |
| CEE 4830 Geosynthetics Engineering | SP | CEE 3810 |
| CEE 4850 Rock Engineering for Civil Engineers | SP | CEE 3810 |

**NOTE:** Advisors may also use special Topics Courses focusing predominantly on applications of engineering to geological engineering systems/projects with prior approval. Additionally, with prior approval from advisor, student may choose other technical electives. Many appropriate senior-level engineering courses are offered in Civil & Environmental Engineering on topics related to those listed above.

## General Education Requirements

### I. Core Courses (6 Credits)

___UN 1015 ___ UN 1025*

* Or one semester of a 3000 level or higher modern language.

### II. Sophomore Core Courses (6 Credits)

Creative and Critical Thinking _____

Social Responsibility and Ethical Reasoning _____

### III. HASS Course Requirements (12 Credits)

(http://www.mtu.edu/registrar/pdfs/core-and-hass-list-23-24.pdf)

- *6 credits 3000- or 4000- level*
- *3 credits required from each of these 3 lists: Communication and Composition, Humanities and Fine Arts (HU/FA), and Social and Behavioral Sciences (EC/PSY/SS)*
- *No more than 3 credits on the Restricted HASS List*

A. 6 credits 3000- or 4000- level:
   1._____ 2._____

B. 6 credits at any level:
   1. _____ 2. _____

### IV. Co-curricular activities (3 units)

The co-curricular requirement consists of three semester units of physical education activities. These units are required for graduation, but are not included in the overall degree-credit requirement.

Note: Most physical education activities will last for 7 ½ weeks or ½ semester. A student would need **six** of these ½-semester units to fulfill the 3-semester unit co-curricular requirement.

PE_____ PE_____ PE_____

PE_____ PE_____ PE_____

## BS Mining Engineering Curriculum Overview (127 Total Credits)