Michigan Technological University
Geological and Mining Engineering and Sciences

Bachelor of Science in Applied Geophysics

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

Year 1

Fall 2023

- **MA 1160** CALCULUS I (4 CREDITS) F, S, Su
- **PH 1100** PHYSICS LAB I (1 CREDIT) F, S, Su
- **CH 1150** UNIV CHEMISTRY I (3 CREDITS) F, S, Su
- co-req
- **CH 1151** CHEMISTRY LAB I (1 CREDIT) F, S, Su
- **GE 1100** GEO ENG & SCI ORIENTATION (1 CREDIT) F

Spring 2024

- **MA 2160** CALCULUS II (4 CREDITS) F, S, Su
- (C)
- **PH 2100** UNIV. PHYSICS I - MECH (3 CREDITS) F, S, Su
- **PH 1200** PHYSICS LAB II (1 CREDIT) F, S, Su
- **GE 2000** UNDERSTANDING THE EARTH (3 CREDITS) F, S, Su

Year 2

Fall 2024

- MA 1160 → **MA 2320/30** ELEM LINEAR ALGEBRA (2 CREDITS) F, S, Su
- **GE 1200** INTRO DATA SCI EARTH RESOURCE (1 CREDIT) F
- **PH 2200** UNIV. PHYSICS II – ELEC/MAG (3 CREDITS) F, S, Su
- **GE 2300** INTRO TO MINERALOGY (3 CREDITS) F
- **GE 2010** INTRO TO GIS (3 CREDITS) F

Spring 2025

- MA 2160 → **MA 3520** ELEM DIFFERENTIAL EQUATIONS (2 CREDITS) F, S, Su
- **HASS ELECTIVE** (3 CREDITS) F, S, Su
- GE2000 → **GE 3050** STRUCTURAL GEOLOGY (3 CREDITS) S
- **GE 2310** INTRO TO PETROLOGY (3 CREDITS) S

Year 3

Fall 2025

- **MA 2720** STATISTICAL METHODS (4 CREDITS) F, S, Su
- **GE 3010** INTRO TO FIELD METHODS (1 CREDIT) F
- **EC 3400** ECON DECISION ANALYSIS (3 CREDITS) F, S, Su
- **GE 3100** DEPOSITIONAL SYSTEMS (3 CREDITS) F
- GE2000 → **GE 3320** EARTH HISTORY (3 CREDITS) F-even yrs

Spring 2026

- **GEOLOGY ELECTIVE** (3 CREDITS) F, S, Su
- PH 2200 → **PH 2400** UNIV. PHYSICS IV-W/MP (3 CREDITS) F, S, Su
- MA 1160 → **GE 3250** COMP GEOSCIENCES (3 CREDITS) S
- **HASS ELECTIVE** (3 CREDITS) F, S, Su
- PH 2200 → **GE 3040** FUNDAMENTALS OF GEOPHYSICS (3 CREDITS) S

Summer 2026

- GE2310, GE3050, GE3010 → **GE 4091** FIELD GEOLOGY w/ ENG APP (5 CREDITS) Su
- **GE 4090** FIELD GEOPHYSICS (5 CREDITS) Su

Year 4

Fall 2026

- MA 2160 → **MA 3160** MULTIVARIABLE CALCULUS w/ TECH (4 CREDITS) F, S, Su
- **ADVANCED GEOPHYSICS ELECTIVE** (3 CREDITS) F, S, Su
- **FREE ELECTIVE** (3 CREDITS) F, S, Su
- **HASS ELECTIVE** (3 CREDITS) F, S, Su
- **ADVANCED GEOPHYSICS ELECTIVE** (3 CREDITS) S, F

Spring 2027

- MA 3520 → **MA 4515** INTRO PARTIAL DIFF EQ (3 CREDITS) S, Su
- **ADVANCED GEOPHYSICS ELECTIVE** (3 CREDITS) S, F
- **ADVANCED GEOPHYSICS ELECTIVE** (3 CREDITS) S, F
- **HASS ELECTIVE** (3 CREDITS) F, S, Su
- PH 2100 → **PH 2300** UNIV. PHYSICS III – FLUIDS/THERMO (2 CREDITS) S

UN 1015 or UN 1025 MAY BE TAKEN IN EITHER ORDER IN THE FIRST YEAR.

* ONE SEMESTER OF 3000 LEVEL OR HIGHER FOREIGN LANGUAGE MAY SUBSTITUTE FOR UN 1025

HU/FA or SS/Behavioral ELECTIVES MAY BE TAKEN IN EITHER ORDER IN THE SECOND YEAR.

- **UN 1015** COMPOSITION (3 CREDITS) F, S, Su
- ***UN 1025** GLOBAL ISSUES (3 CREDITS) F, S, Su
- Critical & Creative Thinking (3 CREDITS)
- Social Responsibility & Ethical Reasoning (3 CREDITS)

Year 1 Fall 2023	Year 1 Spring 2024	Year 2 Fall 2024	Year 2 Spring 2025	Year 3 Fall 2025	Year 3 Spring 2026	Year 3 Summer 2026	Year 4 Fall 2026	Year 4 Spring 2027
13 CREDITS	**14** CREDITS	**15** CREDITS	**14** CREDITS	**14 CREDITS**	**15 CREDITS**	**10 CREDITS**	**16** CREDITS	**14** CREDITS
Co-cur Unit (0.5 UNIT) F, S, Su	**Co-cur Unit** (0.5 UNIT) F, S, Su	**Co-cur Unit** (0.5 UNIT) F, S, Su		**Co-cur Unit** (0.5 UNIT) F, S, Su			**Co-cur Unit** (0.5 UNIT) F, S, Su	**Co-cur Unit** (0.5 UNIT) F, S, Su

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