

## Michigan Technological University Bachelor of Science Degree Audit

### Major Program: Chemical Engineering, Concentration: Engineering Enterprise

Program Code: ECME, Academic Year 2022-2023

Total credits required for the degree: 131

#### Required Engineering Courses: 46 credits

- CM 2110 (3)
- CM 3110 (3)
- CM 3120 (3)
- CM 3215 (3)
- CM 3230 (4)
- CM 3240 (3)
- CM 3310 (4)
- CM 3510 (3)
- CM 3980 (1)
- CM 4110 (3)
- CM 4120 (3)
- CM 4320 (2)
- CM 4855 (3)
- CM 4860 (2)
- CM 4861 (1) or CM 4910 (1 to 3)
- ENG 1101 (3), or
  - ENG 1001 (2) and ENG 1100 (2)
- ENG 1102 (3)

#### Required Math and Science: 40 credits

- CH 1150 (3)
- CH 1151 (1)
- CH 1153 (1)
- CH 1160 (3)
- CH 1161 (1)
- CH 2410 (3)
- CH 2411 (1)
- CH 3510 (3)
- MA 1121 (4) or MA 1160 (4) or MA 1161 (5)
- MA 2160 (4)
- MA 2320 (2) or MA 2321 (2) or MA 2330 (3)
- MA 3160 (4)
- MA 3520 (2) or MA 3521 (2) or MA 3530 (3) or MA 3560 (3)
- PH 1100 (1)
- PH 1200 (1)
- PH 2100 (3)
- PH 2200 (3)

#### Technical Elective Courses: 9 credits

Choose courses from the following list:

BE 2110, 2400, 4300, BL 1100 or 1200 or 1400, 1110 or 1210 or 1410, 2010, 2011, 2020, 2021, 2200, 2210, 3020 or 2100, 3210, 3310, 3490, 3640, 3820, 4020, 4030, 4380, 4840, CEE 3502, 3503, 4501, 4502, 4503, 4504, 4505, CH 2212, 2420, 2421, 3511, 3520, 3521, 4110, 4120, 4140, 4212, 4222, 4310, 4311, 4320, 4412, 4430, 4610, 4620, 4710, 4720, CM 1000, 2200, 3025, 3450, 3825, 3830, 3979, 3XXE, 4505, 4510, 4610, 4620, 4650, 4710, 4740, 4780, 4XXE, 5100, 5200, 5300, 5400, CS 1111, 1121, 1131, EE 2174, 2230, 2231, 3010, 3120, 3140, EET 3373, ENG 2120, 4300, 4515, 4525, ENT 2950, 2960, 3950, 3953, 3954, 3958, 3959, 3960, 3961, 3963, 3964, 3966, 3967, 3971, 3979, 3980, 3982, 3983, 4950 or 4900, 4951, 4954, 4960 or 4910, 4961, FW 1035, 3098, GE 2020, 2300, 2310, 2640, 3400, 4360, 4610, MA 2600, 3210, 3310, 3450, 3710 or 2710 or 2720 or 3715, 3740, 3924, 4330, 4515, 4525, 4620, 4760, 4770, 4908, MEEM 2110, 2150, 2700, 4170, 4200, 4220, 4240, 4260, 4405, 4635, 4650, 5170, 5240, MIS 2100, MSE 2100, 2110, 3100, 3120, 4110, 4310, 4320, 4325, 4430, 4740, OSM 4300, 4650, PH 2230, 2300, 2400, UN 2600, 3002, 3003, 3004, 3005. No more than six credits from the following: CM 4000, 4020, 4040, 4060, 4080.

#### Concentration Requirements: 9 credits

6 credits of [Enterprise Project work](#)

- ENT 3950 (1)
- ENT 3960 (1)
- ENT 4950 (2)
- ENT 4960 (2)

2 credits of [Enterprise Teaming and Communication](#)

- ENT 2961 (2)

1 credit of [Enterprise Instructional Modules](#):

ENT 3953, 3954, 3958, 3959, 3961, 3963, 3964, 3966, 3967, 3971, 3979, 3982, 3983

#### Free Electives: 3 credits

Students with more than 104 credits in major requirements area, or more than 24 credits in the general education requirements will not require 3 credits of free electives.

### **General Education Core, Humanities, Fine Arts, and Social Science (HASS) Requirements: 24 credits**

Courses used to complete Core and HASS requirements may not be used to complete other degree requirements. Students must complete 12 credits of Core coursework and 12 credits of Humanities, Fine Arts, and Social Science (HASS) coursework. Repeatable courses may not be repeated for general education credit. Core and HASS courses can be found on the [General Education](#) page.

#### **Core: 12 credits**

- UN 1015 (3)
- UN 1025 or an upper level modern language (3)
- Critical and Creative Thinking (3)
- Social Responsibility and Ethical Reasoning (3)

#### **HASS: 12 credits, six of the 12 credits must be at the 3000- or 4000- level**

- Communication/Composition (minimum 3 credits)
- Humanities and Fine Arts (minimum 3 credits)
- Social and Behavioral Sciences (minimum 3 credits)
- Any course from the General Education Core, HASS, or Restricted HASS [course list](#) (0 to 3 credits)

#### **Co-curricular Activities: 3 credits**

Required for graduation, but not included in the GPA calculation or in the overall credits required for the degree. Only courses on the co-curricular course list are eligible. Half (0.5) credit courses may be repeated to a maximum of one time for co-curricular credit. Find eligible courses on the [General Education](#) page.