

B.S. Engineering Management (BEM) 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
MA1161/1161 -Calculus w/Technology (<i>Essential Ed Math</i>)	MA 1032 or MA 1031 or MA 1120 or ALEKS Math Placement >= 76 or CEEB Calculus AB >= 2 or CEEB Calculus BC >= 2 or CEEB Calculus AB Subscore >= 2 or ACT Mathematics >= 26 or SAT MATH SECTION SCORE-M16 >= 610	4-5
BUS2200 -Business Law		3
EC2001 -Principles of Economics (<i>Essential Ed-Fnd in Human World</i>)	MA1030 or MA1031 or MA1032 or MA1135/1160/1161/1121 ©	3
ENG1101 -Eng Analysis & Problem Solving (<i>Essential Ed-Seminar</i>)	MA1031/1032/1120/1160/1161/1121/2160/3160 © with any version above	3
UN1015 Composition		3
Total		16-17

Second Year – Fall

Course	Prerequisites	Credit
MA2720 Statistical Methods	MA1030 or MA1032	4
PH2100 & 1100 -University Physics I- Mechanics & Lab	MA1160/1161	4
ACC2000 -Accounting Principles I (<i>Essential Ed STEM</i>)		3
MSE2100 -Intro to Materials Science and Engineering	CH1150 & 1151	3
<i>Essential Education –</i> Communication Intensive		3
Total		15

Third Year – Fall

Course	Prerequisites	Credit
FIN3000 -Principles of Finance	ACC2000 and MA1030 or MA1031 or MA1032 or MA1135/1160/1161/1121	3
OSM3000 -Operations & Supply Chain Mgt	MA1135/1160/1161/1121 and MA2710/2720/3710/3720 or EET2010 or BUS2100 or CEE3710 and Jr or Sr	3
BUS3000 -Intr to Business Analytics	BUS2300	3
CEE3200 -Thermodynamics/Fluid Mechanics	CH1150 and CH1151 and PH2100 and ENG1101 and MA2160	4
Capstone (if doing Enterprise)		1
<i>Essential Education –</i> Intercultural Competency		3
Total		16-17

Fourth Year – Fall

Course	Prerequisites	Credit
MIS2000 -IS/IT Mgt		3
EE3010 -Circuits and Instrumentation for Cyber Physical Systems	MA1160/1161	3
OSM4650 -Six Sigma Fundamentals	MA2710/2720/3710/3720 or BUS2100 or CEE3710 or CEE3710 and Jr or Sr	3
Capstone -Sr Enterprise, Business Cluster Class or BUS3900 (can be summer)		2-3
Free Electives		Variable based on Academic Planning
<i>Essential Education –</i> Arts & Culture		3
Total		15-??

First Year – Spring

Course	Prerequisites	Credit
MA2160 -Calculus w/Technology II	MA1160/1161	4
ENG1102 -Eng Modeling and Design	ENG1101	3
CH1150 & 1151 -University Chemistry I and Lab (<i>Essential Education –</i> Natural & Physical Science)	MA1160/1161	3/1
<i>Essential Ed SHAPE</i>		3
<i>Essential Education –</i> Activities for Well-Being and Success		1
Total		15

Second Year – Spring

Course	Prerequisites	Credit
BUS2300 -Quantitative Problem Solving	BUS2100 or MA2720/2720/3710/3720	3
MGT2000 -Team Dynamics & Decision Making	So, Jr, or Sr	3
ACC2100 -Accounting Principles II	ACC2000	3
ENG2120 -Statics-Strength of Materials	MA2160 and PH2100 and ENG1101	4
<i>Essential Education –</i> Activities for Well-Being and Success		1
Total		13

Third Year – Spring

Course	Prerequisites	Credit
CEE3503 -Environmental Engineering	MA2160 and CH1150 and CH1151	3
MKT3000 -Principles of Marketing		3
MGT3000 -Organizational Behavior	So, Jr or Sr	3
OSM4300 -Project Management	Jr	3
Capstone (if doing Enterprise)		1
<i>Essential Education –</i> Activities for Well-Being and Success		1
Total		13-14

Fourth Year – Spring

Course	Prerequisites	Credit
EC3100 -International Economics	EC2001	3
MGT4600 -Mangement of Technology and Innovation	Jr or Sr	3
MGT4000 -Strategic Management	Sr and MIS2000 and FIN3000 and OSM3000 and MGT3000 and MKT3000 and BUS2300	3
Capstone -Sr Enterprise, Business Cluster Class or BUS3900 (can be summer)		2-3
<i>Essential Education Experience</i>		3
Total		14-15

Grand Total = 120 Credits

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1. **Essential Education Requirements:** 24 total credits. Required courses are *Essential Ed Seminar* (ENG1101-3 credits), *Composition* (UN1015-3 credits), a *Natural and Physical Science* course (CH1150-3 credits), a *Communication Intensive* course (3 credits), an *Arts & Culture* course (3 credits), an *Intercultural Competency* course (3 credits), an *Essential Education Experience* course (3 credits), and 3 credits of *Activities for Well-being and Success*. The Essential Education and Activities for Well-Being list is available online at: <https://www.mtu.edu/registrar/pdfs/essential-education-course-lists-2025-2026.pdf>

2. **Capstone Options** (6 credits):

PREREQS:

Option 1: ENTERPRISE (requires 4 semesters; 2 in Senior Year)

- 2 semesters of 1 credit ENT with ENT1960/2950/2960/3950/3960/4961 **AND**
- 2 semesters of 2 credit ENT with ENT4900 and 4910

Sr

Option 2: BUSINESS CLUSTER (2 courses from same subject/prefix)

- **ACC3500**-Managerial/Cost Accounting I-Sp **AND** **ACC4500**-Managerial/Cost Accounting II-On Demand
 - **EC3300**-Industrial Organization-F **AND** **EC4200**-Econometrics-F
 - **FIN4100**-Advanced Financial Management **AND** **FIN4500**-Risk Management- Sp
 - **MGT3800**-Innovation & Entrepreneurship-F, Sp **AND** **MGT4650**-Commercialization of Advcd Tech-Sp
 - **MIS3100**-Business Database Modeling and Mgt-F **AND** **MIS3200**-Systems Analysis and Design-Sp
 - **MKT4100**-Sales and Sales Technology-F **AND** **MKT4200**-B2B Marketing in a Digital Age-Sp
 - **OSM3150**-Intro to Supply Chain Management-F **AND** **OSM3600**-Procurement and Supply Management-F
 - **OSM3150**-Intro to Supply Chain Management-F **AND** **OSM4700**-Logistics and Transportation Mgt-Sp
- ACC2100 or ACC3500
EC2001 (both) and MA2720 (EC4200)
FIN3000 or EC3400 and
FIN4500 requires MA2720
So, Jr, Sr (for MGT3800) and
MGT4600 and Jr or Sr (for MGT4650)
MIS2000 (for MIS3100) and
MIS2100 or CS1122 or CS1131 (for
MIS3200)
MKT3000
OSM3000 and Jr or Sr
OSM3000 and Jr or Sr
MA2720 for OSM4700

Option 3: BUSINESS INTERNSHIP AND ADVANCED PROJECT MANAGEMENT

- ***BUS3900**-Business Internship-F, Sp, Su
- **OSM4350**-Advanced Project Mgt-Sp
with advisor

[Submit Proposal in advance](#)

OSM/ENG4300 and Jr or Sr Must Apply-speak

**see advisor if doing co-op credits for exceptions-UN3002 is coop credit with Career Services*

3. **Prerequisite** (pre-req) course must be successfully completed **PRIOR** to taking the subsequent course.
Concurrent Prerequisites (concurrent noted by ©) 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.
Class Standing: So (Sophomore Standing earned 30 credits) Jr (Junior Standing earned 60 credits), Sr (Senior Standing earned 90 credits)
Semester Offered: Noted under electives with F (Fall), Sp (Spring), Su (Summer) or On Demand (no anticipated offering but may show in the schedule, consult COB advisor)
4. **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).
5. **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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