

Michigan Technological University

Bachelor of Science Degree Audit

Major Program: Engineering

Program Code EBS, Academic Year 2020-21

Total credits required for the degree: 125

Major Requirements: 37 to 39 credits

Course	Credits
CH 1150	3
CH 1151	1
EE 3010	3
ENG 1101 or ENG 1001 and ENG 1100	3/4
ENG 1102	3
MA 1160 or MA 1161	4/5
MA 2160	4
MA 2320 or MA 2321	2/2
MA 3160	4
MA 3710 or CEE 3710	3
PH 1100	1
PH 2100	3

Multidisciplinary Senior Design Project: 3 credits

Course	Credits
ENG 4905	3

Free Electives: 0 credits

Any coursework is allowable, excluding co-curricular and coursework below the 1000-level.

Course	Credits

Engineering + OPTIONS: See Pages 2-4

Students must choose one of the following options:
Business, Systems, or Individualized

General Education Core and HASS

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

Course	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 HASS credits must be at the 3000 or 4000 level (an upper division language course in place of UN1025 does not meet this requirement). No more than three credits may come from the HASS Restricted course list.

Course	Credits
Communication/ Composition	Minimum 3
Humanities and Fine Arts	Minimum 3
Social and Behavioral Sciences	Minimum 3
Course from any list above or from the Restricted HASS course list	0 to 3

Co-curricular Activities: 3 credits

Required for graduation, but not included in the GPA calculation or in the overall credits required for the degree.

Course	Credits

Business Emphasis: 64 credits

Core Modifications: 18 credits

Core Modifications: Complete 12 credits

Course	Credits
EC 2001	3
ENG 2120	4
ENG 3200	4
ENG 3830	1

Core Modifications: Select one course for 3 credits

Course	Credits
CEE 3101	3
CS 1121	3
ENG 2505	3
GE 2300	3
MSE 2100	3

Design Implementation: Select one course for 3 credits

Course	Credits
CEE 3332	3
CS 3141	3
ENG 4505	3
GE 3880	3
MEEM 3600	3

Technical Emphasis: 20 to 21 credits

Course	Credits
ENG 4300 or OSM 4300	3

Select 17 - 18 engineering credits in a coherent plan of study that is approved by the Academic Advisor for the Bachelor of Science Engineering program, Department Chair of Engineering Fundamentals and Academic Dean for the College of Engineering.

Course	Credits

Business Electives: 9 credits

Select 6 credits from the following list:

Course	Credits
FIN 3000 or EC 3400	3
MGT 3000	3
MKT 3000	3
OSM 3000	3

Select 3 credits from the following list, or 3 credits approved by the BSE Academic Advisor

Course	Credits
EC 3100	3
HU 3120	3
PSY 3070	3
SS 3610	3
SS 3650 or MGT 3650	3

Directed Electives: 12 credits

Select 12 credits in a coherent plan of study such as partial fulfillment of a university approved minor, or a self-defined program with the advice of the BSC Academic Advisor.

Course	Credits

Pre-approved Geospatial Mathematics and/or Science Electives: 4 to 5 credits

Course	Credits
BUS 2300	3

Select remaining 1 to 2 credits with approval by academic advisor

Course	Credits

Systems Emphasis: 64 credits

Core Modifications: 17 credits

Course	Credits
EC 2001 or EC 3400	3
ENG 2120	4
ENG 2505	3
ENG 3200	4
ENG 4505	3

Systems Pre-approved Technical Emphasis: 20 credits

Course	Credits
CEE 3332	3
CEE 3501 or CEE 3503	3
CEE 4506	3
ENG 1505	1
ENG 3505	1
ENG 4300	3
ENG 4510	3
MSE 2100	3

Business Core: 9 credits

Course	Credits
ACC 2000	3
OSM 3000	3
MKT 3000	3

Systems Pre-Approved Mathematics and/or Science Electives: 6 credits minimum

Course	Credits
BE 2400 or (BL 1010 and BL 1020)	3 4/4
FW 4260 or FW 3410	3

Systems Pre-Approved Directed Electives: Select one of the following options:

Enterprise: 12 credits

Course	Credits
ENT 3950	1
ENT 3960	1
ENT 4950	2
ENT 4960	2
ENT 2961	2
ENT 2962	1
ENT 3984 or (ENT 3959 and ENT 3967 and ENT 3982)	3 1 1 1

Minor: Select 12 credits in a coherent plan of study as partial fulfillment of a university minor, or a self-defined program with approval by BSE Academic Advisor.

Course	Credits

Individualized Emphasis: 64 credits

A coherent plan of study that is approved by the Academic Advisor for the Bachelor of Science in Engineering program, Department Chair of Engineering Fundamentals, and Academic Dean for the College of Engineering.

Required Core Course: 4 credits

Course	Credits
EC 3400	3
ENG 3830	1

Core Modifications: Select One Course for 3 credits

Course	Credits
CEE 3101	3
CS 1121	3
ENG 2505	3
GE 2300	3
MSE 2100	3

Select: Minimum 4 credits

Course	Credits
ENG 2120 or (MEEM 2110 and MEEM 2150)	4 3 3

Select: Minimum 4 credits

Course	Credits
ENG 3200 or MEEM 2201 and (MEEM 3201 or MEEM 3210)	4 3 4/3

Design Implementation: Select one course for 3 credits

Course	Credits
CEE 3332	3
ENG 4505	3
GE 3880	3
MEEM 3600	3

Technical Emphasis: 18 to 19 credits

Select 18 to 19 engineering credits in a coherent plan of study that is approved by the Academic Advisor for the Bachelor of Science in Engineering program, Department Chair of Engineering Fundamentals and Academic Dean for the College of Engineering.

Course	Credits

Directed Electives: 12 credits

Select 12 credits in a coherent plan of study such as partial fulfillment of a university approved minor, or a self-defined program with the advice of the BSC Academic Advisor.

Course	Credits

Individualized Mathematics and/or Science Electives: 4 to 5 credits

Course	Credits

Individualized Electives: 11 credits

Select 11 credits in a coherent plan of study that is approved by the Academic Advisor for the Bachelor of Science in Engineering program, Department Chair of Engineering Fundamentals, and Academic Dean of the College of Engineering.

Course	Credits