

**Michigan Technological University**  
**Bachelor of Science Degree Audit**  
**Major Program: Geospatial Engineering**  
 Program Code ECGE, Academic Year 2020-21  
 Total credits required for the degree: 127

**Major Requirements: 45 credits**

Course	Credits
CEE 3331	2
CMG 3200	4
ENG 1101 <b>or</b> ENG 1001 and ENG 1100	3/4
ENG 1102	3
ENG 2120	4
FW 3540	4
GE 2000 <b>or</b> GE 2100	3
HU 3120	3
SU 1000	1
SU 2000	2
SU 3600	4
SU 4060	3
SU 4100	3
SU 4140	3
SU 4300	3

**Math and Science: 25 credits**

Course	Credits
CH 1150	3
CH 1151	1
MA 1160 <b>or</b> MA 1161	4/5
MA 2160	4
MA 2320	2
MA 3160	4
MA 3710	3
PH 1100	1
PH 2100	3

**Senior Design: choose one option for 3 credits**

Option 1

Course	Credits
SU 4900	3

Option 2

Course	Credits
ENT 3960	1
ENT 4950	2

**Science Electives: 3 credits minimum required**

Course	Credits
BL 2001	3
BL 2160	3
CH 1153	1
FW 2010	4
GE 3850	3
PH 1200	1
PH 1600	2
PH 1610	1
PH 2200	3

**Choose and Emphasis with your Academic Advisor**

The Emphasis areas on *Page 2* represent 27 of the required credits for your degree. In consultation with your advisor, you will choose one of two areas:

**Geoinformatics: 27 credits**

**Professional Surveying: 27 credits**

**Emphasis 1: Geoinformatics – 27 credits**

Required Core Courses: 18 credits

Course	Credits
FW 4540	3
SU 4010	3
SU 4011	3
SU 4012	3
SU 4013	3
SU 4142	3

GIS Electives: 3 credits

Course	Credits
SS 2050	3
SS 4050	3

Programming Electives: 3 credits

Course	Credits
CS 1121	3
CS 1131	5
FW 5553	3
SU 4601	3

Informatics (IGT) Electives: 3 credits

Course	Credits
CMG 1200	3
EE 4777	3

**Emphasis 2: Professional Surveying – 27 credits**

Required Core Courses: 21 credits

Course	Credits
BUS 2200	3
SU 2050	4
SU 2220	3
SU 3110	4
SU 3180	4
SU 4180	3

Surveying Electives: 3 credits

Course	Credits
SU 4010	3
SU 4011	3
SU 4012	3
SU 4013	3
SU 4045	3
SU 4142	3
SU 4996	1-3
SU 4997	1-3
SU 4998	1-6

Engineering Electives: 3 credits

Course	Credits
CEE 3101	3
CEE 3332	3
CEE 3401	3
CEE 3810	3
ENG 3200	4
UN 3002	1 - 2
ENT XXXX Except ENT 3960, 4950	1 - 3

### 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. Only courses on the co-curricular course list are eligible. Half credit (0.5) courses may be repeated to a maximum of one time for co-curricular credit. Find eligible courses on the [General Education](#) page.

Course	Credits

#### Free Electives: 0 credits

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

Course	Credits