

Bachelor of Science in Electrical Engineering Environmental Engineering Applications Concentration

Department of Electrical and Computer Engineering at Michigan Tech

This suggested plan applies to students entering in academic year 2020-2021 who are ready for calculus. (a)

Semester 1			Semester 2		
Course	Title	Credits	Course	Title	Credits
MA1160 or MA1161	Calculus with Technology I (a)	4	MA2160	Calculus with Technology II	4
ENG1101	Engineering Analysis & Problem Solving (a)	3	ENG1102	Engineering Modeling and Design	3
CH1150 & CH1151	University Chemistry I and Chem Lab I	4	PH1100 & PH2100	Physics by Inquiry I and University Physics I	4
optional: CH1153	Chemistry I Recitation (add 1 credit)			Critical & Creative Thinking core elective (c)	3
UN1015	Composition (c)	3	UN1025	Global Issues (c)	3
		Total Credits:			Total Credits:
		14			17
Semester 3			Semester 4		
Course	Title	Credits	Course	Title	Credits
MA2321	Elementary Linear Algebra (b)	2	EE2112	Electric Circuits II (with Lab)	4
MA3521	Elementary Differential Equations (b)	2	EE3120	Electric Energy Systems	3
EE2111	Electric Circuits I	3	EE2174	Digital Logic (with lab)	4
PH1200 & PH2200	Physics by Inquiry II and University Physics II	4	MA3160	Multi-variable Calculus (Calc III)	4
CS1111	Introduction to Programming in C/C++	3			
	Social Responsibility & Ethical Reasoning course (c)	3			
		Total Credits:			Total credits:
		17			15
Semester 5			Semester 6		
Course	Title	Credits	Course	Title	Credits
EE3131	Electronics (with lab)	4	EE3901	Design Fundamentals	2
EE3160	Signals and Systems	3	EE3171	Microcontroller Applications (with Lab)	4
EE3140	Electromagnetics	3	EE3261	Control Systems (with lab)	3
CEE3501	Environmental Engineering Fundamentals	3	CEE3502	Environmental Monitoring & Measurement Analysis	3
	HASS Humanities/Fine Arts elective (c)	3		Remote Sensing Choice 2a (f) or HASS (g) (c)	3
		Total credits:			Total credits:
		16			15
Semester 7			Semester 8		
Course	Title	Credits	Course	Title	Credits
EE4901	Senior Design Project semester 1 (d)	2	EE4910	Senior Design Project semester 2 (d)	2
EE3180	Random Signal Analysis and Probability	3		Environmental Quality Engineering elective (e)	3
	Environmental Quality Engineering elective (e)	3		Remote Sensing choice 1b (f), or HASS (g) (c)	3
	Remote Sensing choice 1a or 2b (f)	3		EE Elective (h)	3
	EE Elective (h)	3		HASS Social & Behavioral Science elective (c)	3
	HASS Communication/Composition elective (c)	3		Free Electives (reduce by 1cr if Remote Sensing choice 1)	3
		Total credits:			Total credits:
		17			17

Total credits: 128 + 3 units co-curricular activities (c)

Follow prerequisites and semester offerings. This is a suggested plan which can vary by individual student, and shows the best path through the program to avoid conflicts. Elective lists from which students choose valid courses are included in the Degree Audit Report (uAchieve).

- (a) Students who begin in a precalculus course (MA1120 or MA1032) will take ENG1001 and ENG1100 in place of ENG1101 in the first year.
- (b) Students may replace MA2321 and MA3521 (accelerated pace) with the two semester sequence of MA2320 and MA3520.
- (c) HASS=Humanities, Arts, & Social Sciences. Follow university general education requirements. Students must add 3 units (credits) of co-curricular activities.
- (d) Approved Engineering Design courses: (EE4901 & EE4910) or (MEEM4901 & MEEM4911) or Enterprise (ENT3950, ENT3960, ENT4950, and ENT4960). Approved enterprises include: RSE, BMSE, WCE and Aerospace. See the ECE academic advisor for details.
- (e) Choose one course from the list of approved Environmental Quality Engineering Area electives. See degree audit.
- (f) Remote Sensing sequence: Choose one set: (1a EE4252/4259 and 1b GE4250) or (2a EE2190 and 2b EE3190). See degree audit.
- (g) GE2100, Environmental Geology, is recommended as a lower-level HASS Restricted List course in General Education. See degree audit.
- (h) Choose ECE "EE" courses offered among various areas of specialization. (see focus areas at ECE undergraduate advising webpage; see degree audit)