

Bachelor of Science in Robotics Engineering

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
CS1111	Introduction to Programming in C/C++	3	PH2100	University Physics I	3
PH1100	Physics by Inquiry I	1	CH1150 & CH1151	University Chemistry I and Chem Lab I	4
UN1015	Composition (c)	3	UN1025	Global Issues (c)	3
		Total Credits:			17
		14			17
Semester 3			Semester 4		
Course	Title	Credits	Course	Title	Credits
MA3160	Multi-variable Calculus (Calc III)	4	MA2321/3521	Elementary Linear Algebra/Differential Equations (b)	4
ENG2120	Statics - Strengths of Materials	4	EE2180	Introduction to Robotics	3
SAT2711	Linux System Administration	4	PH2200	University Physics II	3
PH1200	Physics by Inquiry II	1	EE2174	Digital Logic (with lab)	4
EE3010	Circuits & Instrumentation (for CPS)	3	(PSY2000 recommended)	Social Responsibility/Ethical Reason. elective (c)	3
		Total Credits:			17
		16			17
Semester 5			Semester 6		
Course	Title	Credits	Course	Title	Credits
EE3171 or EET4141	Microcontroller/CPS or Microcontroller Interfacing	4	EE3901	Design Fundamentals	2
EE3160	Signals and Systems	3	EE3261 or MEEM3750	Control Systems (3) or Dynamic Systems (4)	3
MEEM2700	Dynamics	3	EE3280	Robot Operating Systems	3
	Math/Science Elective	3	MEEM3400	Mechanical System Design & Analysis	3
	Critical and Creative Thinking Core elective (c)	3		HASS Social and Behavioral Science elective (c)	3
		Total credits:			14
		16			14
Semester 7			Semester 8		
Course	Title	Credits	Course	Title	Credits
EE4901/MEEM 4901	Senior Design Project semester 1 (d)	2	EE4910/MEEM4911	Senior Design Project semester 2 (d)	2
EE/EET 3373	Introduction to Programmable Logic Controllers	3		EE4219/20 EE/T4373 MEEM4705 EE4375 (f)	4
EE4235	Sensing & Processing in Robotic Applications	3		RE Technical Elective (g)	3
	RE Approved Elective (e)	3		HASS Humanities/Fine Arts elective (c)	3
	HASS Communication/Composition elective (c)	3		HASS elective (c)	3
		Total credits:			15
		14			15

Total credits: 123/124 + 3 units co-curricular activities

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) 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 allowed RE Approved Electives. (see degree audit) (PSY2000 is a prerequisite for several courses on this list)
- (f) Choose one course or set from this list: (EE4219 & EE4220) or EE/T4373 or MEEM4705 or EE4375. 4 credits.
- (g) Choose one course from the RE Technical Electives list. (see degree audit)