Electrical Engineering at Michigan Tech

Look up pre-requisite, co-requisite, semester offerings, course requirements and restrictions in the course catalog and Schedule of Classes.

Bachelor of Science – Electrical Engineering
Photonics Concentration

2021-2022

catalog term: 202108

SAMPLE PLAN
calculus-ready students

MA2320 & MA3520,full semester courses, may replace MA2321 and MA3521. Delays EE2112 (1 sem.)

Year 1

Fall

Co-hort courses

- MA1160/61 (4) Calculus I
- (C) ENG1101(3) Engrg Analysis
- Spatial Visualization Test
- CH1150/51 (4) &/or CH1153 (1) Univ Chem I

CH1153 is optional recitation section & is recommended.May use in Approved or free Electives.

Take CH1000 first if not well-prepared for UChem

- PH1100 (1) Physics I Lab
- (c) **PH2100 (3) Physics I
- PH2110 (2) Physics 1 Workshop RECOMMENDED if C in Calc I REQUIRED if CD or D in Calc I
- UN1015 (3) Composition
- UN1025 (3) Global Issues
- Upper-level language course may replace UN1025
- Co-Curr. Unit (.5)

14.5/15.5

Spring

Optional: Enterprise participation.

- ENT1960(1)
- MA2160 (4) Calculus II
- (C) ENG1102 (3) MODEL & DESGN
- PH1200 (1) Physics II Lab
- (c) PH2200 (3) Univ. Physics 2

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Year 2

Fall

- ENT2950(1)
- MA1160 *MA2321(2) Accel. Linear Alg
- Pre-req / Co-register *MA3521(2) Accel. Diff. Eq.
- EE2111 (3) Electric Circuits I
- CS1111 (3) Intro C/C++ Programming
- Fall only
- 1) _____(3) Social responsibility/ Ethical reasoning

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Spring

- ENT2960(1)
- MA2160 MA3160 (4) Multi-Variable Calculus
- EE2112 (4) Electric Circuits II & Lab
- MA3520/1 PH2200(c) EE2190 (3) Intro to Photonics
- Spring only
- 2) _____(3) SELECT Approved Elec
- Choose from SELECT course list in your degree audit. Sugg. PH2300 or PH2400
- 1) _____ (3) Critical/Creative Thinking core

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Year 3

Fall

Enterprise route

- 5) ENT3950(1)

Decide: Enterprise or Senior Design or EPS

- EE2112 PH2200 MA3160 EE3140 (3) Electro-magnetics
- UN1015 EE3131(C) EE3901 (2) Design Fund.
- MA2321/20 MA3521/20 EE3160 (3) Signals & Systems
- CS1111 or CS1121 EE2174(4) Digital Logic & Lab
- MA3521/20 JR/SR EE3190 (3) Optical Sensing and Imaging
- Fall only
- 1) _____(3) HASS HU,FA
- Choose at least 6 credits of 3000-4999 HASS
- 1) _____(3) HASS Comm/ Composition
- Co-Curr. Unit (.5)

16.5

Spring

- ENT3960(1)
- EE3180 (3) Intro. Probability & Random Sig. Anal.
- EE2112 EE3131 (4) Electronics and Lab
- EE3140 or EE2190 or PH2400 EE3290 (4) Photonic Mtl & Devices wLab
- Spring only
- Co-Curr. Unit (1)

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Year 4

Fall

EE3131 EE3901

- ENT4950(2)
- 5) OR
- EE4901 (2) EE Design 1
- Fall only
- EE3131 EE3901
- EE4250 (3) Modern Comm. Systems
- Replaces EE3250
- EE3160 EE3261 (3) Control Systems
- EE3140 EE4490 (4) Laser Systems & Appls
- Check schedule If fall or spg
- 1) HASS (3) Any
- Choose upper-level HASS if needed

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Spring

- ENT4960(2)
- ENT4950 & ENT4960: take in same enterprise & consecutive semesters.
- EE4910 (2) EE Design 2
- Spring only
- EE3290 Or EE3171
- 4) EE_____** EE Elective (3)
- _____(2) Free electives
- Electives: Must have pre-reqs complete. Look up pre-reqs and semester offerings. See note below..
- *** _____ Photonics Elective (3)
- *** _____ Photonics Elective (3)
- 3) _____ Approved Electives (3)
- May use ENT3950,3960
- 1) _____(3) HASS Social Behavioral Sci
- Recommended HASS elective: EC3400
- Co-Curr. Unit (1)

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1) 2) 3) 4) 5) See page 2 for planning info and General Education worksheet.

* Schedule a minimum of 14 credits if taking acclerated Linear Alg/Diff Eq MA2321/3521

—(C)→ Concurrent pre-requsite (a prereq. that may be taken concurrently)

Total 128
plus 3 units co-curricular Activities

*****Photonics electives:** fall: EE4240, EE4252, PH4510, PH4640 odd
spring: EE4253, EE4290, MSE4292, BE4250-Alt spg even, BE4410 spg odd

Undergraduate advisor:
Judy: EERC 131 jmburl@mtu.edu E-mail to schedule appt.

Student Organization:
Join the Optics & Phtonics Society!
spie-officers-l@mtu.edu

Study Abroad 101:
https://www.mtu.edu/honors/study-abroad/program/