

Bachelor of Science in Electrical Engineering - Sample Plan

Photonics Concentration

This plan is suggested for students entering Academic Year 2023-2024 who are ready for calculus.

Semester 1:

Course:	Title:	CR.
MA 1160/61	Calculus I w/Technology	4
ENG 1101	Engg Analysis & Prob. Solving	3
CH 1150	University Chemistry 1	3
CH 1151	University Chemistry 1 Lab	1
CH 1153	Optional Chem. Recitation (1 cr.)	
UN 1015	Composition (1)	3
Total:		14

Semester 2:

Course:	Title:	CR.
MA 2160	Calculus II w/Technology	4
ENG 1102	Engineering Modeling and Design	3
PH 1100	Physics by Inquiry I	1
PH 2100	University Physics I – Mechanics	3
UN 1025	Global Issues (1)	3
	CORE Social Responsibility/Ethical Reas.(1)	3
Total:		17

Semester 3:

Course:	Title:	CR.
MA 2321 (2)	Elementary Linear Algebra	2
MA 3521 (2)	Elementary Differential Equations	2
EE 2111	Electric Circuits I	3
CS 1111	Intro. to Programming in C / C++	3
PH 1200 & PH2200	Physics by Inquiry 2 Lab	4
	CORE Critical/Creative Thinking (1)	3
Total:		17

Semester 4:

Course:	Title:	CR.
EE 2190	Introduction to Photonics	3
EE 2112	Electric Circuits II and Lab	4
EE 2174	Digital Logic and Lab	4
MA 3160	Multivariable Calculus w/Technology	4
Total:		15

Semester 5:

Course:	Title:	CR.
EE 3190	Optical Sensing and Imaging	3
EE 3160	Signals and Systems	3
EE 3140	Electromagnetics	3
	SELECT approved elective (3)	3
	HASS Social & Behavioral Science (1)	3
	Take ENT3950 if choosing Enterprise	
Total:		15

Semester 6:

Course:	Title:	CR.
EE 3290	Photonic Materials, Devices & Applications	4
EE 3901	Design Fundamentals	2
EE 3180	Probability & Random Signal Analysis	3
EE 3131	Electronics (and lab)	4
	HASS Humanities/Fine Arts (1)	3
	Take ENT 3960 if choosing Enterprise	
Total:		16

Semester 7:

Course:	Title:	CR.
EE 4901 (5)	ECE Senior Design Project I <i>or take ENT 4950 if Enterprise</i>	2
EE 4490	Laser Systems & Applications (and Lab)	4
	Photonics technical elective (6)	3
	EE Elective (7)	3
	EE Elective (7)	3
	HASS Communication/Composition (1)	3
Total:		18

Semester 8:

Course:	Title:	CR.
EE 4910 (5)	ECE Senior Design Project II <i>or take ENT 4960 if Enterprise</i>	2
	Photonics technical elective (6)	3
	EE Elective (7)	3
	Approved Electives (4)	3
	Free Electives	2
	HASS Elective (1)	3
Total:		16

Total credits: 128 + 3 units co-curricular activities

This is a suggested plan which can vary by individual student, and which shows a path through the program which avoids time conflicts. Students are responsible for monitoring degree progress and meeting degree requirements. Refer to the degree audit.

- (1) Follow university General Education CORE and HASS requirements. All students must add 3 units of co-curricular activities.
- (2) May substitute MA2320 for MA2321 and/or MA3520 for MA3521. MA2320 and MA3520 are taken in separate semesters. MA2521 or MA3520 is a prerequisite for EE 2112.
- (3) Choose one course from the list of SELECT Approved Electives, courses recommended by industry advisors to broaden knowledge. (Refer to the degree audit)
- (4) Choose from a wide-ranging list of math, science, and engineering courses. Refer to the degree audit for details.
- (5) Approved Engineering Design courses: (EE 4901 & EE 4910) or (MEEM 4901 & MEEM 4911) or Enterprise (ENT3950 & ENT3960 & ENT 4950 & ENT 4960). Recommended enterprises include: BMSE, OSHE, WCE, RSE and Aerospace.
- (6) Choose from a list of photonics related topics. Refer to the degree audit for course list. Check course prerequisites and semester offerings.
- (7) Choose EE courses offered among various areas of specialization (focus areas). Mix and match as the student likes.