

**Computer Engineering
Minor
2023-2024**

REQUIRED COURSES - 8 credits¹				
Course Number	Course Title	Credits	Prerequisites	Terms
ECE 102	Digital Circuit Logic	4		F, S
ECE 251 <i>OR</i> CS 250 <i>OR</i> CS 270	Introduction to Microprocessors and IoT <i>OR</i> Computer Systems Foundations <i>OR</i> Computer Organization	4	ECE102 with a C or higher <i>OR</i> CS162 with a Co or higher or CS163 with a C or higher or CS164 with a C or higher <i>OR</i> CS163 with a C or higher or CS164 with a C or higher	F, S

SELECT 15 CREDITS¹ - 12 credits of upper division coursework required (300, 400 or 500 level coursework)				
Course Number	Course Title	Credits	Prerequisites	Terms
ECE 204 <i>OR</i> ECE 202	Introduction to Electrical Engineering <i>or</i> Circuit Theory Applications	3-4	MATH161; PH142 ² <i>OR</i> ECE103 with a C or higher; MATH161 with a C or higher	F,S <i>or</i> S,SS
ECE 340	Electromagnetics for Computer Engineering	3	ECE202 ³ with a C or higher; MATH161 with a C or higher	S
ECE 445	Digital Logic Synthesis	3	ECE102 with a C or higher	S, even years
ECE 450/451	Digital System Design/Lab	4	ECE102 with a C or higher; ECE202 with a C or higher	F
ECE 452	Computer Organization and Architecture	3	ECE251 with a C or higher or CS250 with a C or higher or CS270 with a C or higher	S
ECE 455	Introduction to Robot Programming/Simulation	3	CS152 with a C or higher or CS162 with a C or higher or CS163 with a C or higher or CS164 with a C or higher	F
ECE480A7	Intro to Quantum Computing	3	ECE 102 with a minimum grade of C; MATH 369	F
ECE 495A ^{4,5}	Independent Study	1-3		F,S,SS
ECE 495B ^{4,5}	Independent Study: Open Option	1		F,S
ECE 495C ^{4,5}	Independent Study: Vertically Integrated Projects	1		F,S
ECE 519	Network Centric Systems	3	CS165 with a C or higher; ECE303 ⁶ with a C or higher or ECE 312 with a C or higher or ECE421 with a C or higher or ECE456 with a C or higher or MATH369 with a C or higher	S, even years
ECE/CS 528	Embedded Systems and Machine Learning	4	ECE251 with a C or higher or CS250 with a C or higher or CS270 with a C or higher	F
ECE 544	Silicon Photonics in Computing Systems	3	PH141; ECE303 with a C or higher or STAT301 with a C or higher or STAT315 with a C or higher	F
ECE 554	Computer Architecture	3	ECE452 or CS470	S, even years
ECE/CS 561	Hardware/Software Design of Embedded Systems	4	ECE251 or ECE452 or CS250 or CS270 or CS470	S, odd years
ECE 571	VLSI System Design I/Lab	4	ECE451; concurrent registration in ECE575	S
ECE 580C6	Storage System - Device to System Perspective	3	ECE202 with a C or higher	S

¹ A minimum of 12 credits in the minor must be ECE prefix courses

² PH122 may be substituted for PH142

³ ECE204 may be substituted for ECE202

⁴ A total 3 credits of Independent Study may apply toward total degree requirements. This includes credit awarded for ECE495A, ECE495B, ECE495C combined.

⁵ Must be in a Computer Engineering related topic and be approved by a Computer Engineering faculty

⁶ STAT301 or STAT315 may be substituted for ECE/STAT303