

ECE/COS Technical Electives for CEN Majors

ECE/COS Technical Electives include all "Computer Focus Electives", and any other ECE course at the 300,400, or 500 level excluding ECE 394. (Selections must not be used to fulfill other degree requirements.)

		<i>Offered Fall 2021 (but not spring)</i>	x		
		<i>Offered Spr 2022 (but not fall)</i>	x		
		<i>Offered both Fall 2021 and Spr 2022</i>	x	x	
		Spr 2022	Fall 2021	Spr 2021	Fall 2020
ECE Electives (in addition to Computer-Focus Electives)					
ECE 316	Random Signal Analysis				x
ECE 323	Electric Power Conversion				
ECE 343	Electronics II	x		x	
ECE 351	Fields and Waves	x		x	
ECE 414	Feedback Control Systems	x		x	
ECE 427	Electric Power Systems		x		x
ECE 444	Analog Integrated Circuits			x	
ECE 445	Analysis and Design of Digital Integrated Circuits	x			x
ECE 450	Power Electronics		x		
ECE 453	Microwave Engineering		x		
ECE 457	Nanoscience		x		
ECE 462	Introduction to Basic Semiconductor Devices and Associated Circuit Models		x		x
ECE 464	Microelectronics Science and Engineering	x		x	
ECE 465	Introduction to Sensors		x		x
ECE 466	Sensor Technology and Instrumentation				
ECE 467	Solar Cells and Their Applications			x	
ECE 484	Communications Engineering				
ECE 498	Selected Topics in Electrical and Computer Engineering	x	x		x
ECE 515	Random Variables and Stochastic Processes		x		
ECE 523	Mathematical Methods in Electrical Engineering				x
ECE 543	Microelectronic Devices I		x		x
ECE 548	VLSI Test/Characterization				
ECE 550	Electromagnetic Theory	x		x	
ECE 552	Wave Propagation	x			x
ECE 565	Solid State Device Theory I		x		x
ECE 574	Cluster Computing			x	
ECE 581	Estimation and Detection Theory				
ECE 583	Coding Theory			x	
ECE 584	Estimation Theory				
ECE 585	Fundamentals of Wireless Communication	x			
ECE 598	Selected Advanced Topics in Electrical and Computer Engineering	x	x	x	x

Electrical Engineering Focus Technical Electives

"Electrical Engineering Focus Technical Electives" include the following list of approved courses.

An appropriate ECE 498 special topics course may be considered as "Electrical Focus" if an approved degree-credit exception is filed

	<i>Offered Fall 2021 (but not spring)</i>		x		
	<i>Offered Spr 2022 (but not fall)</i>	x			
	<i>Offered both Fall 2021 and Spr 2022</i>	x	x		
ECE Courses that have been approved as "Electrical Focus"		Spr 2022	Fall 2021	Spr 2021	Fall 2020
ECE 323	Electric Power Conversion				
ECE 427	Electric Power Systems		x		x
ECE 444	Analog Integrated Circuits			x	
ECE 445	Analysis and Design of Digital Integrated Circuits	x			x
ECE 450	Power Electronics		x		
ECE 453	Microwave Engineering		x		
ECE 457	Nanoscience		x		
ECE 462	Introduction to Basic Semiconductor Devices and Associated Circuit Models		x		x
ECE 464	Microelectronics Science and Engineering	x		x	
ECE 465	Introduction to Sensors		x		x
ECE 466	Sensor Technology and Instrumentation				
ECE 467	Solar Cells and Their Applications			x	
ECE 484	Communications Engineering				
ECE 543	Microelectronic Devices I		x		x
ECE 548	VLSI Test/Characterization				
ECE 550	Electromagnetic Theory	x		x	
ECE 552	Wave Propagation	x			x
ECE 565	Solid State Device Theory I		x		x
ECE 581	Estimation and Detection Theory				
ECE 583	Coding Theory			x	
ECE 584	Estimation Theory				
ECE 585	Fundamentals of Wireless Communication	x			

ECE Technical Electives for ELE majors

ECE Technical Electives include all "Electrical Engineering Focus Electives", and any other ECE course at the 300,400, or 500 level excluding ECE 394. (Selections must not be used to fulfill other degree requirements.)

		<i>Offered Fall 2021 (but not spring)</i>	x		
		<i>Offered Spr 2022 (but not fall)</i>	x		
		<i>Offered both Fall 2021 and Spr 2022</i>	x	x	
		Spr 2022	Fall 2021	Spr 2021	Fall 2020
ECE Electives (in addition to "Electrical Focus" Electives)					
ECE 316	Random Signal Analysis				x
ECE 331	Introduction to Unix Systems Administration	x		x	
ECE 417	Introduction to Robotics	x		x	
ECE 435	Network Engineering	x		x	
ECE 471	Embedded Systems		x		x
ECE 473	Computer Architecture and Organization		x		x
ECE 477	Hardware Applications Using C (May not be offer after Spring 2022)	x		x	
ECE 478	Industrial Computer Control (Moving to Spring in 2022/23)		x		x
ECE 498	Selected Topics in Electrical and Computer Engineering	x	x		x
ECE 515	Random Variables and Stochastic Processes		x		
ECE 523	Mathematical Methods in Electrical Engineering				x
ECE 533	Advanced Robotics	x			
ECE 571	Advanced Microprocessor-Based Design				x
ECE 573	Microprogramming		x		
ECE 574	Cluster Computing			x	
ECE 577	Fuzzy Logic				
ECE 590	Neural Networks				
ECE 598	Selected Advanced Topics in Electrical and Computer Engineering	x	x	x	x

Generic Technical Electives

- All ECE Technical Electives

- Any 300,400, or 500 level course with the designaion ECE, COS, CHY, PHY, BIO, BMB, BEN, CHE, CIE, GEE, MAT, STS, BUA

- Any of the additional courses listed below (Selections must not be used to fulfill other degree requirements.)

		Offered Fall 2021 (but not spring)	x		
		Offered Spr 2022 (but not fall)	x		
		Offered both Fall 2021 and Spr 2022	x	x	
			Spr 2022	Fall 2021	Spr 2021
				Fall 2020	
Pre-approved Generic Electives not fitting the above description					
CHE 200	Fundamentals of Process Engineering			x	x
CIE 331	Fundamentals of Environmental Engineering			x	x
COS 221	Data Structures in C++ (May not be offer after Spring 2022)			x	x
ECE 198	Selected Topics in Electrical and Computer Engineering	x	x	x	
ECE 394	Electrical and Computer Engineering Practice	x	x	x	x
EET 276	Programmable Logic Controllers			x	x
EET 321	Electro-Mechanical Energy Conversion	x		x	
EET 386	Project Management			x	x
EET 414	Introduction to Printed Circuit Boards	x	x	x	x
EET 460	Renewable Energy and Electricity Production			x	x
GEE 230	Introduction to Engineering Leadership and Management	x		x	
INV 180	Create: Innovation Engineering I				
INV 282	Advanced Innovation Skills			x	
INV 392	Commercialize: Innovation Engineering III			x	x
MEE 150	Applied Mechanics: Statics	x	x	x	x
MEE 230	Thermodynamics I	x	x	x	x
MEE 252	Statics and Strength of Materials			x	x
MEE 270	Applied Mechanics: Dynamics	x	x	x	x
PHY 236	Introductory Quantum Physics			x	x
PPA 264	Introduction to the Pulp and Paper Industry	x		x	