

EE COURSE OFFERINGS 20-21 ACADEMIC YEAR

2/19/2021

- Required** Courses for **EE's** in Red
- Required** Courses for **CPE's** in Blue
- Required** Courses for **Both** in Purple
- Service** Courses in Green
- Core Grad** Courses in Orange

EE and CPE students are expected to take the course in the quarter marked EE or CPE respectively. A reduced number of sections of courses may be offered in quarters marked with an asterisk (*) depending upon demand and resources available.

Course #	Course Title	Type	Units	Fall	Winter	Spring	Summer	
BS DEGREE REQUIRED COURSES:								
Freshman Core Courses								
CPE 100	Computer Eng Orientation	Lec	1	CPE				
EE 111	Intro to Electrical Eng	Lec	1	EE				
EE 151	Intro to Electrical Eng Lab	Lab	1	EE				
EE 113	Electric Circuit Analysis I	Lec	3	*		EE / CPE		
EE 143	Elec Manu & Circ Analysis Lab	Lab	1	EE _T *		EE / CPE		
EE/CPE 133	Digital Design	Lec/Lab	4	EE / CPE	*		*	
Sophomore Core Courses								
EE 211	Electric Circuit Analysis II	Lec	3	EE	CPE	*		
EE 241	Electric Circuit An Lab II	Lab	1	EE	CPE	*		
EE 212	Electric Circuit Analysis III	Lec	3	EE _T /CPE _T *	EE	CPE		
EE 242	Electric Circuit An Lab III	Lab	1	EE _T /CPE _T *	EE	CPE		
EE 228	Continuous-Time Signals & Systems	Lec	4	CPE	EE _T *	EE		
EE/CPE 233	Comp Des & Asm Lang Prog	Lec/Lab	4	*	EE / CPE	*	*	
EE 255	Energy Conversion Electromagnetics	Lec	3	*	*	EE / ME	*	
EE 295	Energy Conversion EM Lab	Lab	1	*	*	EE / ME	*	
Junior Core Courses								
EE 302	Classical Control Systems	Lec	3		EE	EE _T *		
EE 342	Classical Control Systems Lab	Lab	1		EE	EE _T *		
EE 306	Semiconductor Device Electronics	Lec	3	EE / CPE	EE _T /CPE _T *	*		
EE 346	Semiconductor Dev Electr Lab	Lab	1	EE / CPE	EE _T /CPE _T *	*		
EE 307	Digital Electronics and Int Circuits	Lec	3	*	EE / CPE	EE _T /CPE _T *		
EE 347	Digital Electronics & Int Circ Lab	Lab	1	*	EE / CPE	EE _T /CPE _T *		
EE 308	Analog Electronics & Int Circuits	Lec	3	EE _T *		EE		
EE 348	Analog Electronics & Int Circ Lab	Lab	1	EE _T *		EE		
EE 314	Intro to Communication Systems	Lec	3		EE	*		
CPE 316	Microcontrollers & Embedded Ap	Lec/Lab	4	CPE _T		CPE		
CPE 327	Digital Signals & Systems	Lec	3		CPE _T *	*		
CPE 367	Digital Signals and Systems Lab	Lab	1		CPE _T *	*		
EE 328 ¹	Discrete Time Signals & Systems	Lec	3	EE	CPE *	CPE *		
EE 368 ¹	Signals and Systems Lab	Lab	1	EE	CPE *	CPE *		
EE/CPE 329	Prog Logic & μP-Based Sys Design	Lec/Lab	4	EE _T *		EE / CPE		
CPE 333	Prog Logic & μP-Based Sys Design	Lec/Lab	4	*		CPE _T		
EE/CPE 336	Comp Hardware Arch and Design	Lec/Lab	4	Not offered 20-21 Academic Year				
EE 335	EM Fields & Transmission	Lec	4	*		EE	*	
EE 375	EM Fields & Transmission Lab	Lab	1	*		EE	*	
CPE 350	CPE Capstone Preparation		4	CPE	CPE			
Senior Core Courses								
EE 402	Electromagnetic Waves	Lec	4	EE	*			
EE 409	Electronic Design	Lec	3	EE	EE _T *			
EE 449	Electronic Design Lab	Lab	1	EE	EE _T *			
EE 460	Senior Project Preparation	Lec	2	EE	*			
EE 461	Senior Project Qtr. 1	Superv	3	EE	EE	EE	EE	
EE 462	Senior Project Qtr. 2	Superv	2	EE	EE	EE	EE	
CPE 450	CPE Capstone Project	Lec/Lab	4		CPE	CPE		

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TECHNICAL ELECTIVES ²							
Computer							
EE/CPE 426	Intro to Hardware Security	Lec/Lab	4		EE / CPE		
EE/CPE 428	Computer Vision	Lec/Lab	4				
EE/CPE 439	Intro to Real-Time Operating Systems	Lec/Lab	4				
EE/CPE 442	Real Time Embedded Systems	Lec/Lab	4	EE / CPE			
EE/CPE 446	Design of Fault-Tol Dig System	Lec/Lab	4	EE / CPE			
EE/CPE 447	Stringed Musical Instrument...Design	Lec/Lab	4			EE / CPE	
Electronics							
EE 412	Advanced Analog Circuits	Lec	3		EE		
EE 452	Advanced Analog Circuits Lab	Lab	1		EE		
EE 413	Advanced Electronic Design	Lec/Lab	4			EE	
EE 422	Polymer Electronics Laboratory	Lab	1	EE	EE		
EE 425	Analog Filter Design	Lec	3			EE	
EE 455	Analog Filter Design Lab	Lab	1			EE	
EE 431	CAD Design of VLSI Devices	Lec/Lab	4	EE / CPE			
EE 423 (BMED 434/MATE 430)	Micro/Nano Fabrication	Lec	3		BMED/EE		
Microwave/Photonics							
EE 403	Fiber Optic Communication	Lec	3				
EE 443	Fiber Optic Communication Lab	Lab	1				
EE 405	High-frequency Amplifier Design	Lec	3	EE			
EE 445	High-freq. Amplifier Design Lab	Lab	1	EE			
EE 418	Photonic Engineering	Lec	3			EE	
EE 458	Photonic Engineering Lab	Lab	1			EE	
EE 440	Wireless Communications	Lec	3		EE		
EE 480	Wireless Communications Lab	Lab	1		EE		
Power							
EE 406	Power Systems Analysis I	Lec	4	EE			
EE 407	Power Systems Analysis II	Lec	4		EE		
EE 410	Power Electronics I	Lec/Lab	4	EE			
EE 411	Power Electronics II	Lec/Lab	4		EE		
EE 417	Alternating Current Machines	Lec/Lab	4	EE			
EE 420	Sustainable Elec Energy Conversion	Lec/Lab	4		EE		
EE 433 ³	Introduction to Magnetic Design	Lec/Lab	4			EE	
EE 434	Alternative Energy Vehicles	Lec/Lab	4				
EE 444	Power Systems Laboratory	Lab	1			EE	
EE 450 (BRAE&HNRS 450)	Solar Photovoltaic System Engineering	Lec/Lab	4	EE			
Systems (Communications, Signal Processing, Controls)							
EE 415 ⁴	Communication Systems Design	Lec	3	Not offered 20-21 Academic Year			
EE 416 ⁴	Digital Communication Systems	Lec	3	EE			
EE 419	Digital Signal Processing	Lec	3		EE		
EE 459	Digital Signal Processing Lab	Lab	1		EE		
EE 424	Intro to Remote Sensing	Lec/Lab	4		EE		
EE/CPE 432	Digital Control Systems	Lec	3	EE			
EE/CPE 472	Digital Control Systems Lab	Lab	1	EE			
EE 456	Communication Systems Lab	Lab	1	EE			
EE 475	Comm Networks and Systems Lab	Lab	1	Not offered 20-21 Academic Year			
Special Topics							
EE 271	Selected Laboratory	Lab	1		EE	EE	
CPE 290	Selected Topics	Lecture	3		EE	EE	
EE 470	Selected Advanced Topics	Lec	1-4	Not offered 19-20 Academic Year			
EE 471	Selected Advanced Lab	Lab	1-4	Not offered 19-20 Academic Year			

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Individual Study							
EE 200	Special Problems	Superv	1-2	EE	EE	EE	EE
EE 400	Special Problems	Superv	1-5	EE	EE	EE	EE
CO-OPERATIVE EDUCATION							
EE 494	Co-op Educ Experience (CR/NC)	Co-op	6-12	EE	EE	EE	EE
EE 495	Co-op Educ Experience	Co-op	6-12	EE	EE	EE	EE
SERVICE COURSES							
EE 201	Electric Circuit Theory	Lec	3	Non-major	Non-major	Non-major	Non-major
EE 251	Electric Circuits Lab	Lab	1	Non-major	Non-major	Non-major	Non-major
EE 321	Electronics	Lec	3	Non-major	Non-major	Non-major	Non-major
EE 322	Microcontrollers for Everyone	Lec/Lab	4	Non-major	Non-major	Non-major	
EE 361	Electronics Lab	Lab	1	Non-major	Non-major	Non-major	Non-major
GRADUATE COURSES							
MSEE Core Courses							
EE 525	Stochastic Processes for Eng.	Sem	4	EE			
EE 563	Graduate Seminar	Sem	1	EE	EE	EE	
EE 599	Design Project (Thesis)	Superv	1-9	EE	EE	EE	EE
Computers							
EE/CPE 521	Computer Systems	Sem	4			EE/CPE	
EE/CPE 522	Adv Real-Time Operating Sys. Design	Sem/Lab	4	Not offered 20-21 Academic Year			
EE/CPE 523	Digital Systems Design	Sem/Lab	4	EE/CPE			
EE/CPE 542	Advanced Real Time Embedded Sys.	Lec/Lab	4		EE/CPE		
Electronics							
EE 524	Solid State Electronics	Sem	3			EE	
EE 531	Advanced VLSI Design	Lec/Lab	4		EE/CPE		
EE 532	VLSI Circuit Testing	Lab	1			EE/CPE	
EE 544	Solid-state Electronics Lab	Lab	1	Not offered 20-21 Academic Year			
Microwave / Photonics							
EE 502 ⁴	Microwave Engineering	Sem	4		EE		
EE 529 ⁴	Adv Topics in Microwave Device Elec	Sem	3	Not offered 20-21 Academic Year			
EE 530	Fourier Optics	Sem	4	Not offered 20-21 Academic Year			
EE 533	Antennas	Sem	4			EE	
EE 541	Microwave Engineering Lab	Lab	2		EE		
Power							
EE 511	Electric Machines Theory	Sem	4		EE		
EE 518 ³	Power System Protection	Lec/Lab	4			EE	
EE 519 ³	Adv Analysis of Power Systems	Sem	4				
EE 520	Solar-Photovoltaic Systems Design	Sem	4			EE	
EE 527 ³	Adv Topics in Power Electronics	Sem	4	Not offered 20-21 Academic Year			
Systems (Communications, Signal/Image Processing, Controls)							
EE 504	Software Defined Radio	Sem/Lab	4			EE	
EE 509	Computational Intelligence	Sem	4	Not offered 20-21 Academic Year			
EE 513	Control Systems Theory	Sem	4		EE		
EE 514	Adv Topics in Automatic Control	Sem	4			EE	
EE 515	Discrete Time Filters	Sem	4	EE			
EE 516	Pattern Recognition	Sem	4			EE	
EE 526	Digital Communications	Sem	4		EE		
EE 528	Digital Image Processing	Sem	4	EE			
Additional Courses							
EE 500	Individual Study	Superv	1-3	EE	EE	EE	EE
EE 570	Selected Advance Topics	Sem	1-4	Not offered 20-21 Academic Year			
EE 594	Co-op Educ Experience (CR/NC)	Co-op	6-12	EE	EE	EE	EE
EE 595	Co-op Educ Experience	Co-op	6-12	EE	EE	EE	EE

Footnotes:

- 1 - EE 328 / EE 368 can be used for the CSC/EE/Math/Science elective for CPE students.
- 2 - Technical Elective offerings may be limited or cancelled based on available resources and enrollments.
- 3 - EE 433 and EE 527 will alternate years. EE 518 and EE 519 will also alternate years.
- 4 - EE 415 and EE 416 will alternate years. EE 502 and EE 529 will also alternate years.