

EE COURSE OFFERINGS 23-24 ACADEMIC YEAR

9/25/2023

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							
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	
EE 143	Elec Manu & Circ Analysis Lab	Lab	1	EE _T *		EE	
CPE/EE 133	Digital Design	Lec/Lab	4	EE / CPE	*	CPE	*
Sophomore Core Courses							
EE 211	Electric Circuit Analysis II	Lec	3	EE	*		
EE 241	Electric Circuit An Lab II	Lab	1	EE	*		
EE 212	Electric Circuit Analysis III	Lec	3	EE _T	EE	*	
EE 242	Electric Circuit An Lab III	Lab	1	EE _T	EE	*	
EE 228	Continuous-Time Signals & Systems	Lec	4	CPE	EE _T *	EE	
CPE/EE 233	Comp Des & Asm Lang Prog	Lec/Lab	4		EE / CPE	*	*
EE 255	Energy Conversion Electromagnetics	Lec	3	MEerc *	MEerc *	EE/EE _{T2} /MEerc	*
EE 295	Energy Conversion EM Lab	Lab	1	MEerc *	MEerc *	EE / MEerc	*
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	*	
EE 328 ¹	Discrete Time Signals & Systems	Lec	3	EE	CPE *		
EE 368 ¹	Signals and Systems Lab	Lab	1	EE	CPE *		
EE/CPE 329	Prog Logic & μ P-Based Sys Design	Lec/Lab	4	EE _T *		EE / CPE	
EE/CPE 336	Comp Hardware Arch and Design	Lec/Lab	4	Not offered 21-22 Academic Year			
EE 335	EM Fields & Transmission	Lec	4	*		EE	*
EE 375	EM Fields & Transmission Lab	Lab	1	*		EE	*
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 462	Senior Project Qtr. 2	Superv	2	*		EE	
EE 463	Senior Project Design Lab I	Lab	3		EE		
EE 464	Senior Project Design Lab 2	Lab	2			EE	
SUPPORT ELECTIVES							
EE 261	Intro C Progr. with a HW Emphasis	Lab	1	*	*		
EE 262	Intro C++ Progr. with a HW Emphasis	Lab	1			*	

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TECHNICAL ELECTIVES ²							
Computer							
CPE/EE 426	Intro to Hardware Security	Lec/Lab	4	EE / CPE			
CPE/EE 439	Intro to Real-Time Operating Systems	Lec/Lab	4			EE / CPE	
CPE/EE 442	Real Time Embedded Systems	Lec/Lab	4		EE / CPE		
CPE/EE 446	Design of Fault-Tol Dig System	Lec/Lab	4	Not offered 23-24 Academic Year			
EE/CPE 447	Stringed Musical Instrument...Design	Lec/Lab	4	Not offered 23-24 Academic Year			
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 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/MA)	Micro/Nano Fabrication	Lec	3		BMED/EE		
EE 473 (BMED 435/MA)	Micro/Nano Fabrication Lab	Lab	1		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 445	High-freq. Amplifier Design Lab	Lab	1				
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	Not offered 23-24 Academic Year			
EE 434	Alternative Energy Vehicles	Lec/Lab	4	Not offered 23-24 Academic Year			
EE 435	Industrial Power Control and Automation	Lab	1			EE	
EE 444	Power Systems Laboratory	Lab	1			EE	
Systems (Communications, Signal Processing, Controls)							
EE 415 ⁴	Communication Systems Design	Lec	3	EE			
EE 416 ⁴	Digital Communication Systems	Lec	3	Not offered 23-24 Academic Year			
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 428	Computer Vision	Lec/Lab	4	EE / CPE	EE / CPE		
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	Not offered 23-24 Academic Year			
EE 475	Comm Networks and Systems Lab	Lab	1	EE			
Special Topics							
EE 271	Selected Laboratory	Lab	1	Not offered 23-24 Academic Year			
EE 470	Selected Advanced Topics	Lec	1-4	Not offered 23-24 Academic Year			
EE 471	Selected Advanced Lab	Lab	1-4	Not offered 23-24 Academic Year			
Individual Study							
EE 200	Special Problems	Superv	1-2	EE	EE	EE	
EE 400	Special Problems	Superv	1-5	EE	EE	EE	

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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	
Computers							
CPE 521	Computer Systems	Sem	4	Not offered 23-24 Academic Year			
CPE 522	Adv Real-Time Operating Sys. Design	Sem/Lab	4	Not offered 23-24 Academic Year			
CPE 523	Digital Systems Design	Sem/Lab	4	Not offered 23-24 Academic Year			
CPE 542	Advanced Real Time Embedded Sys.	Lec/Lab	4			EE/CPE	
Electronics							
EE 524	Solid State Electronics	Sem	3	Not offered 23-24 Academic Year			
EE 531	Advanced VLSI Design	Lec/Lab	4		EE		
EE 532	VLSI Circuit Testing	Lab	1			EE	
EE 544	Solid-state Electronics Lab	Lab	1	Not offered 23-24 Academic Year			
Microwave / Photonics							
EE 502 ⁴	Microwave Engineering	Sem	4	Not offered 23-24 Academic Year			
EE 529 ⁴	Adv Topics in Microwave Device Elec	Sem	3		EE		
EE 530	Fourier Optics	Sem	4	Not offered 23-24 Academic Year			
EE 533	Antennas	Sem	4			EE	
EE 534	Advanced Photonic Systems	Lec/Lab	4	Not offered 23-24 Academic Year			
EE 541	Microwave Engineering Lab	Lab	2		EE		
Power							
EE 511	Electric Machines Theory	Sem	4		EE		
EE 518	Power System Protection	Lec/Lab	4			EE	
EE 519	Adv Analysis of Power Systems	Sem	4	Not offered 23-24 Academic Year			
EE 520	Solar-Photovoltaic Systems Design	Sem	4			EE	
EE 527 ³	Adv Topics in Power Electronics	Sem	4			EE	
Systems (Communications, Signal/Image Processing, Controls)							
EE 504	Software Defined Radio	Sem/Lab	4			EE	
EE 509	Computational Intelligence	Sem	4			EE	
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/Lab	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 570	Selected Advance Topics	Sem	1-4	Not offered 23-24 Academic Year			
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
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
SERVICE COURSES							
EE 115	Electrical and Electronic Circuits I	Lec	3	CPE	*		
EE 145	Electrical and Electronic Circuits I Lab	Lab	1	CPE	*		
EE 201	Electric Circuit Theory	Lec	3	Non-major	Non-major	Non-major	Non-major
EE 215	Electrical and Electronic Circuits II	Lec	3	CPE _T	CPE	*	
EE 245	Electrical and Electronic Circuits II Lab	Lab	1	CPE _T	CPE	*	
EE 251	Electric Circuits Lab	Lab	1	Non-major	Non-major	Non-major	Non-major
EE 315	Electrical and Electronic Circuits III	Lec/Lab	4			CPE	

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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/CPE 327	Digital Signals & Systems	Lec	3	CPE	CPE _T *		
EE/CPE 367	Digital Signals and Systems Lab	Lab	1	CPE	CPE _T *		
EE 361	Electronics Lab	Lab	1	Non-major	Non-major	Non-major	Non-major
EE 450 (BRAE&HNF)	Solar Photovoltaic System Engineering	Lec/Lab	4	Non-major			

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.

⁴ - EE 415 and EE 416 will alternate years. EE 502 and EE 529 will also alternate years.

EE_T or CPE_T: Transfer students