ECE UNDERGRADUATE COURSE LIST

Core courses for both ECE programs. See EE and CompE curriculums for specific requirements for each major.

CRS #	CROSSLIST	COURSE TITLE	CR	Fall or Spring Only	PRE-REQS	PRE or CO-REQS
101		Intro to Electrical and Computer Engineering	1			
131L		Programming Fundamentals	4		MATH 1220	
203		Circuit Analysis I	3		MATH 1522	PHYS 1320
206L		Instrumentation	2		ENGL 1120	ECE 203
213		Circuit Analysis II	3		ECE 203	ECE 300 or MATH 314 and 316
231L		Intermediate Programming	4		ECE 131L or CS 152L	
238L		Computer Logic Design	4		ECE 131L or CS 152L or 259L	
300		Advanced Engineering Mathematics	4		MATH 1522	
314L		Signals and Systems	4		ECE 213 and ECE 300	
321L		Electronics I	4	Fall	ECE 213 and ECE 206L	
322L		Electronics II	4	Spring	ECE 321L	
330		Software Design	3	Spring	ECE 231L	
331		Data Structures and Algorithms	3	Spring	ECE 231L, MATH 327	ECE 340
335		Integrated Software Systems	3	Fall	ECE 330	
338		Intermediate Logic Design	3	Fall	ECE 238L	
340		Probabilistic Methods in Engineering	3		ECE 300	ECE 314L
341		Introduction to Communication Systems	3	Fall	ECE 314L, ECE 340	
344L		Microprocessors	4		ECE 206L, 238L, 321L	
345		Introduction to Control Systems	3		ECE 314L	
360		Electromagnetic Fields and Waves	4	Spring	ECE 213, PHYS 1320, MATH 2531	
371		Materials and Devices	3	Fall	PHYS 2310, ECE 300	
381		Introduction to Electric Power Systems	3	Spring	ECE 213	
419		Senior Design I	3		Senior Standing (second to last semester)	
420		Senior Design II	3		ECE 419	
437	CS 481	Computer Operating Systems	3		ECE 331 or CS 341L	
440	CS 485	Introduction to Computer Networks	3			

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Elective Courses: Please note that these courses are not guaranteed to be offered every year and may also occur in differing semesters from the ones noted. It is recommended that students plan various potential courses to meet their graduation requirements should their top picks not be available.

CRS #	CROSSLIST	COURSE TITLE	CR	Fall or Spring only	PRE-REQS	PRE or CO-REQS
412	CS 412	Intro to Computer Graphics	3	Fall	ECE 331 or CS 361L	
421	523	Analog Electronics	3	Fall	ECE 322L	
424	520	VLSI Design	3	Spring	ECE 321L, 338	
435		Software Engineering	3	Spring	ECE 335	
438		Design of Computers	3	Spring	ECE 338, 344L	
439		Introduction to Digital Signal Processing	3		MATH 1522	
442		Introduction to Wireless Communications	3		ECE 341	
445	545	Introduction to Quantum Information Science	3			
446		Design of Feedback Control Systems	3		ECE 345	
460	560	Introduction to Microwave Engineering	3	Fall	ECE 360	
463	PHYC 463	Advanced Optics I	3	Fall		
464	PHYC 464	Laser Physics	3	Fall		
469	569	Antennas for Wireless Com Sys	3	Spring	ECE 360	
471		Materials and Devices II	3	Fall	ECE 371	
474L	574L NSMS 574L	Microelectronics Processing	3	Fall		ECE 371
475		Intro to Electro-Optics and Opto-Electronics	3	Spring	ECE 371	
482	582	Electric Drives and Transformers	3	Fall	ECE 381	ECE 360
483	583	Power Electronics I	3	Fall	ECE 322L, 381	ECE 371
484	584	Photovoltaics	3	Spring	ECE 381	ECE 371
488	588	Smart Grid Technologies	3	Fall	ECE 381	
489	589	Power Electronics II	3	Spring	ECE 381, 482	
495	595	Special Topics in ECE	3		Students should inquire with instructor about recommended background for their specific topics course section	