

School of Electrical and Computer Engineering Projected Schedule of Graduate Courses

The following table lists the ECE graduate courses currently projected to be offered at the Atlanta campus and through the video/internet distance education program. Classes taught at GT-Lorraine, GT-Shenzhen, or as part of study abroad programs are not listed.

The projected schedule of classes is normally updated each year during summer semester. The projected schedule for the coming year (2016-17) is fairly certain; changes will be reflected in the registration schedule for each term. The projected schedule for 2017-18 is preliminary and is likely to be modified significantly in summer 2017.

Additionally, summer schedules are subject to changes in student enrollment, budgets, and/or faculty availability. Summer graduate electives will be offered as faculty and resources are available, but there is no guarantee that any graduate electives will be offered in future summer terms. There are no current plans to offer graduate electives in Atlanta during future summer terms.

X = course scheduled to be offered

? = course may be offered in this term, based on prior years' schedules

ST = special topic course (offered as ECE 88xx)

video = course offered via video/internet in addition to on-campus section

altvid = course normally offered via video/internet in alternate years; not offered via video/internet this year

NOTE: Cross-listed courses (for satisfying MS and PhD domain requirements) are listed under multiple Technical Interest Areas.

Bioengineering	Credits	Summer 2016	Fall 2016	Spring 2017	Summer 2017	Fall 2017	Spring 2018
ECE 6200 - Biomedical Applications of MEMS	3-0-3			X			X
ECE 6780 - Medical Image Processing (cross-listed in Digital Signal Processing) (Cross-listed with BMED/CS 6780)	3-0-3			altvid			video
ECE 6786 - Medical Imaging Systems (cross-listed in Digital Signal Processing) (Cross-listed with BMED 6786)	3-0-3			X			X
ECE 6787 - Quantitative Electrophysiology (Cross-listed with BMED/PHYS 6787)	3-0-3						
ECE 6790 - Information Processing Models in Neural Systems (Cross-listed with BMED 6790)	3-0-3			X			
Implantable Microelectronic Devices	3-0-3						ST
Biomedical Sensing Systems (jointly taught with ECE 4781)	3-0-3		ST				
Computer Systems and Software (previously part of Computer Engineering)	Credits	Summer 2016	Fall 2016	Spring 2017	Summer 2017	Fall 2017	Spring 2018
ECE 6100 - Advanced Computer Architecture	3-0-3		video	X		altvid	X
ECE 6101 - Parallel & Distributed Computer Arch	3-0-3						
ECE 6102 - Dependable Distributed Systems	3-0-3			X			X
ECE 6110 - CAD for Computer Communication Netw	2-3-3						X
ECE 6122 - Advanced Programming Techniques for Engineering Applications (Cross-listed with ECE 4122)	2-3-3		video	X		video	
ECE 6277 - DSP Software Systems Design (cross-listed in Digital Signal Processing)	2-3-3						
ECE 7102 - RISC Architectures	3-0-3						
ECE 7103 - Advanced Topics in Memory Systems	3-0-3			X			X
Advanced Computer Security	3-0-3		ST			ST	
Smart Storage	3-0-3						
GPU Architectures	3-0-3					ST	
Interconnection Networks	3-0-3			ST			ST
Digital Signal Processing	Credits	Summer 2016	Fall 2016	Spring 2017	Summer 2017	Fall 2017	Spring 2018
ECE 6250 - Advanced Digital Signal Processing	3-0-3		altvid			video	
ECE 6254 - Statistical Digital Signal Proc & Modeling	3-0-3			video			video
ECE 6255 - Digital Processing of Speech Signals	3-0-3			altvid			video
ECE 6258 - Digital Image Processing	3-0-3		video			altvid	
ECE 6260 - Data Compression and Modeling	3-0-3						X

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ECE 6271 - Adaptive Filtering	3-0-3						
ECE 6272 - Fund of Radar Signal Processing	3-0-3					video	
ECE 6273 - Methods Pattern Recog w/ Appl to Voice	3-0-3		video				
ECE 6276 - DSP Hardware Systems Design (cross-listed in VLSI Systems & Digital Design)	2-3-3			X			
ECE 6277 - DSP Software Systems Design (cross-listed in Computer Systems & Software)	2-3-3						
ECE 6279 - Spatial Array Processing	3-0-3			X			
ECE 6280 - Cryptography and Security	3-0-3						
ECE 6282 - Radar Imaging	3-0-3		video				
ECE 6780 - Medical Image Processing (cross-listed in Digital Signal Processing) (Cross-listed with BMED/CS 6780)	3-0-3			video			altvid
ECE 6786 - Medical Imaging Systems (cross-listed in Digital Signal Processing) (Cross-listed with BMED 6786)	3-0-3			X			X
ECE 7251 - Signal Detection and Estimation	3-0-3						X
ECE 7252 - Advanced Signal Processing Theory	3-0-3						
Convex Optimization for SP	3-0-3			ST			
Electrical Energy	Credits	Summer 2016	Fall 2016	Spring 2017	Summer 2017	Fall 2017	Spring 2018
ECE 6320 - Power Systems Control and Operation	3-0-3		video			video	
ECE 6321 - Power System Stability	3-0-3						
ECE 6322 - Power System Planning and Reliability	3-0-3						
ECE 6323 - Power System Protection	2-2-3						video
ECE 6330 - Power Electronic Devices & Subsystems	3-0-3						
ECE 6331 - Power Electronic Circuits	3-0-3		video			video	
ECE 6332 - Power Electronics CAD Laboratory	0-3-1						
ECE 6335 - Electric Machinery Analysis	3-0-3			video			
ECE 6336 - Dynamics & Ctrl Electric Machine Drives	3-0-3			video			altvid
Power Systems Economics	3-0-3						
High Voltage Engineering	2-3-3			ST			
Principles of Smart Electricity Grids	3-0-3			ST			
Electromagnetics	Credits	Summer 2016	Fall 2016	Spring 2017	Summer 2017	Fall 2017	Spring 2018
ECE 6350 - Applied Electromagnetics	3-0-3		X			X	
ECE 6360 - Microwave Design	3-0-3			video			altvid
ECE 6361 - Microwave Design Laboratory	2-3-3					X	
ECE 6370 - Electromagnetic Radiation and Antennas	3-0-3			X			X
ECE 6380 - Intro to Computational Electromagnetics	3-0-3		X				
ECE 6390 - Satellite Comm and Navigation Systems (cross-listed in Telecommunications)	3-0-3						
ECE 7370 - Antennas & Wave Propagation in Matter	3-0-3						
ECE 7380 - Topics in Computational Electromagnetics	3-0-3						
Advanced Topics in Analytical Electromagnetics	3-0-3			X			
Radio Wave Propagation in Earth & Space Environments	3-0-3		ST				
Electronic Design & Applications	Credits	Summer 2016	Fall 2016	Spring 2017	Summer 2017	Fall 2017	Spring 2018
ECE 6412 - Analog Integrated Circuit Design	3-0-3			X			X
ECE 6414 - Analog Integrated System Design	3-0-3			X			X
ECE 6416 - Low Noise Electronic System Design	2-3-3						
ECE 6420 - Wireless IC Design	3-0-3		X			X	
ECE 6422 - Interface IC Design for MEMS and Sensors	3-0-3		X			X	
ECE 6430 - Digital MOS Integrated Circuits	3-0-3						
ECE 6435 - Neuromorphic Analog VLSI Circuits	3-0-3			video			X
ECE 6440 - Frequency Synthesizers	3-0-3						
ECE 6442 - Electronic Oscillators	3-0-3						
ECE 6444 - Silicon-Based Heterostructure Devices and Ckts (cross-listed in Microsystems)	3-0-3						
Oscillators and PLLs	3-0-3						
Extreme Environment Electronics	3-0-3						
Power IC Design	3-0-3						

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Microsystems	Credits	Summer 2016	Fall 2016	Spring 2017	Summer 2017	Fall 2017	Spring 2018
ECE 6229 - Introduction to MEMS (Cross-listed with CHBE/ME 6229)	3-0-3		X			X	
ECE 6444 - Silicon-Based Heterostructure Devices and Ckts (cross-listed in EDA)	3-0-3						
ECE 6450 - Intro to Microelectronics Technology	3-0-3		altvid			video	
ECE 6451 - Intro to the Theory of Microelectronics	3-0-3					altvid	
ECE 6453 - Theory of Electronic Devices	3-0-3			video			
ECE 6455 - Semiconductor Process Control	3-0-3						X
ECE 6456 - Solar Cells	3-0-3		X			X	
ECE 6458 - Gigascale Integration	3-0-3			X			
ECE 6460 - Microelectromechanical Devices (Cross-listed with CHBE/ME 6460)	3-0-3						X
ECE 6542 - Optoelectronics: Dev, Integr, Pkg, Sys (cross-listed in Optics and Photonics)	3-0-3			altvid			video
ECE 6759 - Plasma Processing of Electr Matls & Dev (Cross-listed with CHBE 6759)	3-0-3						
ECE 6771 - Optoelectronics: Matls, Processes, Dev (cross-listed in Optics and Photonics) (Cross-listed with PHYS 6771)	3-0-3			X			X
ECE 6776 - Microelectronic Systems Packaging Technologies (Cross-listed with ME/MSE 6776)	3-0-3		X			X	
ECE 6779 - Thermal Engineering for Packaging of Micro and Nano Systems (Cross-listed with ME 6779)	3-0-3						
Acoustic Materials and Devices	3-0-3						
Optics and Photonics	Credits	Summer 2016	Fall 2016	Spring 2017	Summer 2017	Fall 2017	Spring 2018
ECE 6500 - Fourier Techniques and Signal Analysis	3-0-3		altvid				video
ECE 6501 - Fourier Optics and Holography	3-0-3			X			
ECE 6510 - Electro-Optics	3-0-3		video				
ECE 6520 - Integrated Optics	3-0-3						
ECE 6521 - Optical Fibers	3-0-3						
ECE 6522 - Nonlinear Optics	3-0-3						
ECE 6530 - Modulation, Diffractive & Crystal Optics	3-0-3		X			X	
ECE 6540 - Organic Optoelectronics	3-0-3			X			X
ECE 6542 - Optoelectronics: Dev, Integr, Pkg, Sys (cross-listed in Microsystems)	3-0-3			altvid			video
ECE 6543 - Fiber Optic Networks	3-0-3					X	
ECE 6771 - Optoelectronics: Matls, Processes, Dev (cross-listed in Microsystems) (Cross-listed with PHYS 6771)	3-0-3			X			X
Systems and Controls	Credits	Summer 2016	Fall 2016	Spring 2017	Summer 2017	Fall 2017	Spring 2018
ECE 6550 - Linear Systems and Controls	3-0-3		video			video	
ECE 6551 - Digital Control	3-0-3		video				
ECE 6552 - Nonlinear Systems and Control	3-0-3			video			video
ECE 6553 - Optimal Control and Optimization	3-0-3			video			video
ECE 6554 - Adaptive Control	3-0-3						video
ECE 6555 - Optimal Estimation	3-0-3						
ECE 6556 - Intelligent Control	3-0-3						
ECE 6557 - Manufacturing Systems Design	3-0-3						
ECE 6558 - Stochastic Systems	3-0-3		video				
ECE 6559 - Advanced Linear Systems	3-0-3						
ECE 6560 - PDEs in Image Proc and Comp Vision	3-0-3			video			video
ECE 6561 - Computing for Control Systems	3-0-3		X				
ECE 6562 - Autonomous Control of Robotic Systems	3-0-3			video		X	
ECE 6563 - Networked Control Systems	3-0-3					video	
Dynamics and Control of Hybrid Electric Vehicles	3-0-3						

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Telecommunications	Credits	Summer 2016	Fall 2016	Spring 2017	Summer 2017	Fall 2017	Spring 2018
ECE 6390 - Satellite Comm and Navigation Systems (cross-listed in Electromagnetics)	3-0-3						
ECE 6601 - Random Processes	3-0-3		video			altvid	
ECE 6602 - Digital Communications	3-0-3		video				altvid
ECE 6603 - Advanced Digital Communications	3-0-3			video			
ECE 6604 - Personal and Mobile Communications	3-0-3		altvid			video	
ECE 6605 - Information Theory	3-0-3			altvid			video
ECE 6606 - Coding Theory and Applications	3-0-3			X			
ECE 6607 - Computer Communication Networks	3-0-3		altvid			video	
ECE 6608 - Performance Analysis of Comm Netw	3-0-3						
ECE 6610 - Wireless Networks	3-0-3		video			altvid	
ECE 6611 - Broadband Networking	3-0-3						
ECE 6612 - Computer Network Security	3-0-3			X			
ECE 6613 - Broadband Access Networks	3-0-3					video	
ECE 6614 - Multimedia Communications: Signal Proc, Networking, Applications, and Stds	3-0-3						
ECE 6615 - Sensor Networks	3-0-3			video			video
ECE 6616 - Cognitive Radio Networks	3-0-3						
ECE 7611 - Advanced Communication Theory	3-0-3						
VLSI Systems and Digital Design (previously part of Computer Engineering)							
VLSI Systems and Digital Design (previously part of Computer Engineering)	Credits	Summer 2016	Fall 2016	Spring 2017	Summer 2017	Fall 2017	Spring 2018
ECE 6130 - Advanced VLSI Systems	3-0-3		X	X		X	X
ECE 6132 - Computer-Aided System Design	3-0-3						X
ECE 6133 - Physical Design Automation VLSI Sys	3-0-3		X				X
ECE 6140 - Digital Systems Test	3-0-3		video			altvid	
ECE 6276 - DSP Hardware Systems Design (cross-listed in Digital Signal Processing)	2-3-3			X			
ECE 7131 - Asynchronous & Self Timed Systems	3-0-3						
ECE 7141 - Advanced Digital Systems Test	2-3-3						X
ECE 7142 - Fault Tolerant Computing	3-0-3						
Digital Systems at Nanometer Nodes	2-3-3			ST			
Cyber Physical Systems	3=0=3			ST			
Digital Design with Modern VLSI Devices	2-3-3					ST	
Courses not in ECE MS/PhD domains							
Courses not in ECE MS/PhD domains	Credits	Summer 2016	Fall 2016	Spring 2017	Summer 2017	Fall 2017	Spring 2018
ECE 6730 - Modeling & Simulation: Foundations and Implementation (Cross-listed with CSE 6730)	3-0-3			X			X
ECE 6792 - Manufacturing Seminar (Cross-listed with ISYE/ME 6792)	1-0-1		X	X		X	X
ECE 7785 - Intro Robotics Research (Cross-listed with AE/BMED/CS/ME 7785)	3-0-3		X			X	
ECE 8001 - ECE Seminar	1-0-1		X			X	
ECE 8002 - ECE Seminar	1-0-1			X			X
ECE 8003 - ECE Seminar	1-0-1						
ECE 8020 - Professional Communication Skills	2-3-3						
ECE 8022 - Professional Communication Seminar	1-0-1		X	X		X	X
ECE 8750 - Robotics Research Foundation I (Cross-listed with AE/BMED/CS/ME 8750)	0-9-3	X	X	X	X	X	X
ECE 8751 - Robotics Research Foundation II (Cross-listed with AE/BMED/CS/ME 8751)	0-9-3	X	X	X	X	X	X
CETL 8000 - GTA Preparation	1-0-1		X			X	
Teaching Practicum	1-3-2						