

Course Schedule - Summer 2005

Electrical and Computer Engineering

110 **Intro Elec & Comp Engrg** Credit: 4 hours.

(ECE 110) Integrated introduction to selected fundamental concepts and principles in electrical and computer engineering: circuits, electromagnetics, communications, electronics, controls, and computing. Laboratory experiments and lectures focus on a design and construction project, such as an autonomous moving vehicle. Prerequisite: Credit or registration in either MATH 220 or MATH 235.

Students must register for one lab and one lecture section.

CRN	Type	Section	Time	Days	Location	Instructor
30381	laboratory	AB1	02:00 PM - 04:50 PM	MW	room 146 Everitt Elec and Comp Engr Lab	Franke, P; Koprulu, F
30381: Meets 13-Jun-05 - 04-Aug-05.						
30384	laboratory	AB2	02:00 PM - 04:50 PM	TR	room 146 Everitt Elec and Comp Engr Lab	Nakka, N; Franke, P
30384: Meets 13-Jun-05 - 04-Aug-05.						
30387	lecture	AL1	12:00 PM - 01:10 PM	MTWR	Room 241 Everitt Elec and Comp Engr Lab	Frizzell, L
30387: Meets 13-Jun-05 - 04-Aug-05.						

205 **Intro Elec & Electr Circuits** Credit: 3 hours.

(ECE 205) Basic principles of circuit analysis, transient analysis, AC steady-state analysis, introduction to semiconductor devices and fabrication, digital logic circuits, op-amps, and A/D and D/A conversion. ECE students may not receive credit for this course. Prerequisite: PHYS 212.

CRN	Type	Section	Time	Days	Location	Instructor
30390	lecture	A	08:00 AM - 09:00 AM	MTWR	Room 260 Everitt Elec and Comp Engr Lab	Zhang, J
30390: Meets 13-Jun-05 - 04-Aug-05.						
30390: 3 hours						

206 **Intro Elec & Electr Ckts Lab** Credit: 1 hours.

(ECE 206) Laboratory instruments and basic measurement techniques, electric circuits, CMOS logic circuits, DTL and TTL circuits, and op-amps. ECE students may not receive credit for this course. Prerequisite: PHYS 212; concurrent registration in ECE 205.

CRN	Type	Section	Time	Days	Location	Instructor
30392	laboratory	A1	10:00 AM - 11:50 AM	MW	room 268 Everitt Elec and Comp Engr Lab	Zhang, J; Zhong, Y
30392: Meets 13-Jun-05 - 04-Aug-05.						
30392: 1 hours						
30395	laboratory	A2	10:00 AM - 11:50 AM	TR	room 268 Everitt Elec and Comp Engr Lab	Zhang, J; Lovitt, A
30395: Meets 13-Jun-05 - 04-Aug-05.						
30395: 1 hours						

210 **Analog Signal Processing** Credit: 4 hours.

(ECE 210) Introduction to analog signal processing, with an emphasis on underlying concepts from circuit and system analysis: linear systems, review of elementary circuit analysis, differential equation models of linear circuits and systems, Laplace transform, convolution, stability, phasors, frequency response, Fourier series, Fourier transform, active filters and AM radio. Prerequisite: ECE 110 and PHYS 212; credit or concurrent registration in MATH 385, MATH 386, or MATH 441.

Students must register for one lab and one lecture section. You will receive a TIME CONFLICT ERROR when registering for this course. Please contact the M&E Undergraduate Programs Office, 154 MEB, 217-333-0366, ahouser@uiuc.edu to receive the necessary override to register for the course.

CRN	Type	Section	Time	Days	Location	Instructor
30411	laboratory	AB1	08:00 AM - 09:50 AM	WF	room 234 Everitt Elec and Comp Engr Lab	Liu, J
30411: Meets 13-Jun-05 - 04-Aug-05.						
30412	laboratory	AB2	08:00 AM - 09:50 AM	TR	room 234 Everitt Elec and Comp Engr Lab	Liu, J
30412: Meets 13-Jun-05 - 04-Aug-05.						
30413	lecture	AL1	11:00 AM - 12:20 PM	MTWRF	Room 269 Everitt Elec and Comp Engr Lab	Mitofsky, A
30413: Meets 13-Jun-05 - 04-Aug-05.						

211 **Topics Analog Ckts & Systems** Credit: 2 hours.

(ECE 211) Introduction to concepts from circuit and system analysis: linear systems, review of elementary circuit analysis, op amps, transient analysis, differential equation models of linear circuits and systems, Laplace transform. Students may not receive credit for both ECE 211 and ECE 210. Prerequisite: ECE 110 and PHYS 212; credit or concurrent registration in MATH 385, MATH 386, or MATH 441

CRN	Type	Section	Time	Days	Location	Instructor
30414	lecture	D	11:00 AM - 12:20 PM	MTWR	Froom 269 Everitt Elec and Comp Engr Lab	Mitofsky, A
30414: Meets 13-Jun-05 - 15-Jul-05.						
30414: 2 hours						

290 Computer Engineering, I Credit: 3 hours.

(ECE 290) Introduction to digital logic and computer systems. Representation of information, combinational network analysis and design, sequential network analysis and design, computer organization and control. Laboratory for design and simulation of digital systems. Credit is not given for both ECE 290 and CS 231. Prerequisite: One of CS 101, CS 125, or ECE 110.

Students must register for one discussion and one lecture section.

CRN	Type	Section	Time	Days	Location	Instructor
30419	lecture-discussion	C	10:00 AM - 10:50 AM	MTWR	Froom 165 Everitt Elec and Comp Engr Lab	McClain, M
30419: Meets 13-Jun-05 - 04-Aug-05.						
	lecture-discussion	C	01:00 PM - 01:50 PM	W	room 165 Everitt Elec and Comp Engr Lab	McClain, M
: Meets 13-Jun-05 - 04-Aug-05.						

329 Intro Electromagnetic Fields Credit: 3 hours.

(ECE 229) Elementary electromagnetic field theory as summarized in Maxwell's equations for time-varying fields in integral and differential forms; energy storage; static and quasistatic fields; and time-domain analysis of waves. Prerequisite: ECE 205 or ECE 210

CRN	Type	Section	Time	Days	Location	Instructor
30415	discussion-recitation	D	11:00 AM - 12:00 PM	MTWR	Froom 165 Everitt Elec and Comp Engr Lab	Frizzell, L
30415: Meets 13-Jun-05 - 04-Aug-05.						
30415: 3 hours						

385 Digital Systems Laboratory Credit: 2 hours.

(ECE 249) Introduction to the experimental analysis and synthesis of digital networks, including the use of a microcomputer as a controller. Prerequisite: ECE 110 and ECE 290.

Students must register for one lab and one lecture section.

CRN	Type	Section	Time	Days	Location	Instructor
30416	laboratory	AB1	02:00 PM - 04:50 PM	TR	room 234 Everitt Elec and Comp Engr Lab	Kempf, S
30416: Meets 13-Jun-05 - 04-Aug-05.						
30417	laboratory	AB2	03:00 PM - 05:50 PM	MW	room 234 Everitt Elec and Comp Engr Lab	Fettinger, A
30417: Meets 13-Jun-05 - 04-Aug-05.						
30418	lecture	AL1	02:00 PM - 02:50 PM	MW	room 165 Everitt Elec and Comp Engr Lab	Patel, J
30418: Meets 13-Jun-05 - 04-Aug-05.						

410 *Digital Signal Processing, I* Credit: 4 hours.

(ECE 310) Introduction to discrete-time systems and digital signal processing: discrete-time linear systems, difference equations, z-transform, discrete convolution, stability, discrete-time Fourier transform, analog-to-digital and digital-to-analog conversion, interpolation and decimation, digital filter design, discrete Fourier transform, fast Fourier transform, spectral analysis, applications of digital signal processing. Prerequisite: ECE 210 or consent of instructor

CRN	Type	Section	Time	Days	Location	Instructor
30421	lecture	A	08:30 AM - 09:50 AM	MTWRF	Room 241 Everitt Elec and Comp Engr Lab	Alpcan, T
30421: Meets 13-Jun-05 - 04-Aug-05.						
30421: 4 hours						

413 *Probability with Engrg Applic* Credit: 3 hours.

(ECE 313) Introduction to probability theory with applications to engineering problems such as the reliability of circuits and systems and to statistical methods for hypothesis testing, decision making under uncertainty, and parameter estimation. Credit is not given toward graduate degrees in Electrical Engineering. Prerequisite: ECE 210.

CRN	Type	Section	Time	Days	Location	Instructor
30422	discussion-recitation	X	12:00 PM - 01:00 PM	MTWRF	Room 245 Everitt Elec and Comp Engr Lab	Kesal, M
30422: Meets 13-Jun-05 - 04-Aug-05.						
30422: 3 hours						

440 Solid State Electronic Devices Credit: 3 hours.

(ECE 340) Semiconductor materials and their electronic properties and applications to electronic devices; p-n junctions; transistors; junction field effect transistors and MOS devices; and introduction to integrated circuits. Credit is not given toward graduate degrees in Electrical Engineering. Prerequisite: PHYS 214; credit or concurrent registration in ECE 329.

CRN	Type	Section	Time	Days	Location	Instructor
30423	discussion-recitation	B	08:50 AM - 09:50 AM	MTWRF	Room 269 Everitt Elec and Comp Engr Lab	Hsieh, K
30423: Meets 13-Jun-05 - 04-Aug-05.						
30423: 3 hours						

442 Electronic Circuits Credit: 3 hours.

(ECE 342) Analysis and design of analog and digital electronic circuits using MOS field effect transistors and bipolar junction transistors, with an emphasis on the study of amplifiers in integrated circuits. Credit is not given toward graduate degrees in Electrical Engineering. Credit is not given for both ECE 442 and PHYS 404. Prerequisite: ECE 210 and ECE 440.

CRN	Type	Section	Time	Days	Location	Instructor
30429	lecture	D	08:00 AM - 09:00 AM	MTWRF	Room 165 Everitt Elec and Comp Engr Lab	Schutt-Aine, J
30429: Meets 13-Jun-05 - 04-Aug-05.						
30429: 3 hours						

443 Electronic Circuits Laboratory Credit: 1 hours.

(ECE 343) Laboratory to accompany ECE 442. Credit is not given toward graduate degrees in Electrical Engineering. Credit is not given for both ECE 443 and PHYS 404. Prerequisite: Concurrent registration in ECE 442.

CRN	Type	Section	Time	Days	Location	Instructor
30436	laboratory	F	02:00 PM - 04:50 PM	MW	room 268 Everitt Elec and Comp Engr Lab	Zhang, J; Chelliyil, R
30436: Meets 13-Jun-05 - 04-Aug-05.						
30436: 1 hours						
30433	laboratory	G	02:00 PM - 04:50 PM	TR	room 268 Everitt Elec and Comp Engr Lab	Liu, Y; Zhang, J
30433: Meets 13-Jun-05 - 04-Aug-05.						

30433: 1 hours

444 IC Device Theory & Fabrication Credit: 4 hours.

(ECE 344) Laboratory and lecture course on the physical theory, design, and fabrication of devices suitable for integrated circuitry; includes the electrical properties of semiconductors and techniques (epitaxial growth, oxidation, photolithography diffusion, ion implantation, metallization, characterization) for fabricating integrated circuit devices such as p-n junction diodes, bipolar transistors, and field effect transistors. Prerequisite: ECE 440.

CRN	Type	Section	Time	Days	Location	Instructor
30456	laboratory	AB1	02:00 PM - 04:50 PM	MW	room 50M Everitt Elec and Comp Engr Lab	Sievers, D; Verma, V
30456: Meets 13-Jun-05 - 04-Aug-05.						
30459	laboratory	AB2	02:00 PM - 04:50 PM	TR	room 50M Everitt Elec and Comp Engr Lab	Sievers, D; Bohra, F
30459: Meets 13-Jun-05 - 04-Aug-05.						
30472	laboratory	AB3	10:00 AM - 12:50 PM	MW	room 50M Everitt Elec and Comp Engr Lab	Sievers, D; Reddy, U
30472: Meets 13-Jun-05 - 04-Aug-05.						
30473	lecture	AL1	09:00 AM - 09:50 AM	MTWRF	Room 245 Everitt Elec and Comp Engr Lab	Sievers, D
30473: Meets 13-Jun-05 - 04-Aug-05.						

445 Senior Design Project Lab Credit: 2 hours.

(ECE 345) Individual design projects in various areas of electrical and computer engineering; projects are chosen by students with approval of the instructor; a written report, prepared to journal publication standards, and an oral presentation are required. Credit is not given toward graduate degrees in Electrical Engineering. Prerequisite: Senior standing in ECE.

Additional Laboratory time to be arranged in 246 Everitt Laboratory.

CRN	Type	Section	Time	Days	Location	Instructor
30474	laboratory	G	03:00 PM - 03:50 PM	M	room 245 Everitt Elec and Comp Engr Lab	Swenson, G
30474: Meets 13-Jun-05 - 04-Aug-05.						
30474: 2 hours						

450 Lines, Fields, and Waves Credit: 3 hours.

(ECE 350) General plane wave solution of Maxwell's equations; reflection and transmission of plane waves; transmission lines; impedance matching; waveguides and cavities; and radiation. Credit is not given toward graduate degrees in Electrical Engineering. Prerequisite: ECE 329.

CRN	Type	Section	Time	Days	Location	Instructor
30475	discussion-recitation	C	10:00 AM - 10:50 AM	MTWR	Room 245 Everitt Elec and Comp Engr Lab	Yilmaz, A
30475: Meets 13-Jun-05 - 04-Aug-05.						
30475: 3 hours						

491 **Intro to Numerical Analysis** Credit: 3 or 4 hours.
 (ECE 391) Same as CS 450, CSE 401, and MATH 450. See CS 450.

CRN	Type	Section	Time	Days	Location	Instructor
31367	lecture-discussion	B3	10:00 AM - 11:15 AM	MTWR	room 1302 Siebel Center for Comp Sci	Vanderzee, H
31367: Meets 13-Jun-05 - 04-Aug-05.						
31367: 3 hours						
31368	lecture-discussion	B4	10:00 AM - 11:15 AM	MTWR	room 1302 Siebel Center for Comp Sci	Vanderzee, H
31368: Meets 13-Jun-05 - 04-Aug-05.						
31368: 4 hours						

520 **EM Waves & Radiating Systems** Credit: 4 hours.
 (ECE 420) Fundamental electromagnetic theory with applications to transmission lines, waveguides, and antennas; introduction to the solution of advanced problems in static electric and magnetic fields. Prerequisite: ECE 452.

CRN	Type	Section	Time	Days	Location	Instructor
30476	discussion-recitation	C	10:00 AM - 10:50 AM	MTWR	Room 241 Everitt Elec and Comp Engr Lab	Chiang, I
30476: Meets 13-Jun-05 - 04-Aug-05.						
30476: 4 hours						