

**Electrical Engineering Curriculum**  
**Department of Electrical and Engineering**  
 Fall 2012

	Fall Semester				Spring Semester		
First Year	MATH 241	Calculus I with Laboratory	3		MATH 242	Calculus II with Laboratory	3
	ENG 104	Composition and Literature	3		ART xxx	Fine Arts Option	3
	HIST 101	History of Civilization	3		ENG 105	Composition and Literature	3
	UNIV 100	Concepts for Success	2		HIST 102	History of Civilization	3
	CSC 118	Programming Fund.	3		PHY 211	General Physics I	4
	CSCL 118	Programming Fund. Lab	1		PHYL 211	General Physics I Lab	1
			15				17
Second Year	MATH 243	Calculus III with Laboratory	3		MATH 244	Calculus with Laboratory	3
	PHY 212	General Physics II	4		CHEM 141	General Chemistry I	3
	PHYL 212	General Physics II Lab	1		CHML 141	General Chemistry I lab	1
	EN 252	Engineering Analysis	3		EN 222	Eng Mechanics I	3
	EN 212	Digital Logic	3		EN 220	Circuit Theory	3
	ENL 212	Digital Logic Lab	1		ENL 220	Circuits Theory Lab	1
					CSC 119	Object Oriented Programming	3
					CSCL 119	Object Oriented Prog Lab	1
			15				18
Third Year	MATH 307	Prob & Stat for Engineers	3		CPE 360	Embedded Microprocessor	3
	CPE 320	Circuits Theory II	3		CPEL 360	Embedded Microproc Lab	1
	CPE 351	Signals and Systems	3		CPE 335	Semiconductor Devices	3
	CPE 330	Electronics I Lab	3		CPE 345	Electromagnetics	3
	CPEL 330	Electronics I Lab	1		CPE 355	Control Systems	3
	MATH 368	Ordinary Diff Equation I	3		CPE 331	Electronics II	3
					CPEL 331	Electronics II Lab	1
			16				17
Fourth Year	SPCH xxx	Speech Option	3		CPE 491	Senior Project Design II	3
	CPE xxx	Technical Elective 1	3		PHIL xxx	Philosophy Option	3
	ENG xxx	English Option	3		CPE 440	Communications Systems	3
	CPE 490	Senior Design Project I	3		CPE xxx	Technical Elective 2	3
	EN 355	Engineering Economy	3		CPE xxx	Technical Elective 3	3
			15				15

Total hours **128**

Grade "C" is required for all courses

**Technical Electives**

Power Systems Track: CPE 435, CPE 480, and CPE 481

General Electrical Engineering Track: any three courses from CPE 430, CPE 431, CPE 442, CPE 445, CPE 446, CPE 470, CPE 471, CPE 472, CPE 435, CPE 480, CPE 481

## Technical Electives for the Power Systems Track:

**CPE 435 (3) Power Electronics.** Pre-requisite CPE 331: Switch-mode power electronics. Switch-mode DC power supplies. Switch-mode converters for DC and AC motor drives, wind/photovoltaic inverters, interfacing power electronics equipment with utility system. Power semiconductor devices, magnetic design, electro-magnetic interference

**CPE 480 (3) Power Systems.** Pre-requisite: CPE 320. AC power systems. Large power system networks. Mathematics and techniques of power flow analysis, short circuit analysis, and transient stability analysis. Use of a power system simulation program for design.

**CPE 481 (3) Electric Drives.** Pre-requisite: CPE 320. AC/DC electric-machine drives for speed/position control. Integrated discussion of electric machines, power electronics, and control systems. Computer simulations. Applications in electric transportation, robotics, process control, and energy conservation

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### Speech Options

SPCH 201	Speech Arts
SPCH 300	Introduction to Organization Communication
SPCH 334	Argumentation and Debate
SPCH 355	Persuasion
SPCH 430	Small Group Discussion

### Philosophy Options

PHIL 301	Introduction to Philosophy
PHIL 416	Logic
PHIL 208	Aesthetics
PHIL 309	Ethics

### Humanities and Fine Arts

ART 206	Art Appreciation
MUS 205	Music Appreciation
DR 201	Introduction to Drama
ENG 201/202	Humanities
ENG 205	World Literature
FR 101/102	Elementary French
FR 201/202	Intermediate French
FR 213	French Phonetic Reading
SP 101/102	Elementary Spanish
SP 201/202	Intermediate Spanish
*Note-students may take the equivalent of any foreign language the University offers.	

### English Options

ENG 213	Professional Writing
ENG 206	Literature of Science
ENG 205	World Literature