Department of Electrical Engineering

Bachelor of Science in Electrical Engineering

2014 Curriculum

Freshman Year

First Semester (Fall)		
	Course	**Hrs**
ENGL 1301	Grammar and Composition I	3
CHEM 1311	General Chemistry I	3
CHEM 1111	General Chemistry I Lab	1
MATH 2413	Calculus I	4
( )	Intro. Eng/Science Elective[1]	2
EENG 1301	Engineering the Future – Electrical/Digital Concepts	3
	Semester Credit Hours	**16**

Second Semester (Spring)		
	Course	**Hrs**
ENGL 1302	Grammar and Comp. II	3
PHYS 2325	University Physics I	3
PHYS 2125	Physics I Lab	1
MATH 2414	Calculus II	4
COSC 1436	Programming Fundamentals with Lab	4
EENG 2101	MATLAB for Engineers	1
	Semester Credit Hours	**16**

Sophomore Year

First Semester (Fall)		
	Course	**Hrs**
HIST 1301	United States History I	3
( )	Creative Arts[1]	3
MATH 3404	Multivariate Calculus	4
PHYS 2326	University Physics II	3
PHYS 2126	University Physics II Lab	1
EENG 3302	Digital Systems	3
	Semester Credit Hours	**17**

Second Semester (Spring)		
	Course	**Hrs**
HIST 1302	United States History II	3
SPCM 1315	Fund. of Speech Comm.	3
ECON ( )	Principles of Economics [2]	3
MATH 3305	Differential Equations	3
EENG 3304	Linear Circuits Analysis I	3
EENG 3104	Linear Circuits Anal. I Lab	1
	Semester Credit Hours	**16**

Junior Year

First Semester (Fall)		
	Course	**Hrs**
MATH 3203	Matrix Methods for Engr. [3]	2
MATH 3351	Probability and Statistics	3
EENG 3303	Electromagnetic Fields	3
EENG 3305	Linear Circuit Analysis II	3
EENG 3306	Electronic Circuits I	3
EENG 3106	Electronic Circuits I Lab	1
	Semester Credit Hours	**15**

Second Semester (Spring)		
	Course	**Hrs**
ENGR 3314	Design Methodology in Eng.	3
EENG 4308	Automatic Controls	3
EENG 3307	Microprocessors	3
EENG 4309	Electronic Circuits II	3
EENG 4109	Electronic Circuits II Lab	1
EENG 4311	Signals and Systems	3
	Semester Credit Hours	**16**

Senior Year

First Semester (Fall)		
	Course	**Hrs**
POLS 2305	Intro American Government	3
ENGR 4009	FE Exam Preparation	0
ENGR 4109	Senior Seminar	1
EENG 4115	Senior Design I	1
EENG 4310	Electric Power Systems	3
EENG 4312	Communications Theory	3
( )	Technical Elective[1]	3
( )	Eng/Science Elective[4]	3
	Semester Credit Hours	**17**

Second Semester (Spring)		
	Course	**Hrs**
POLS 2306	Intro. Texas Politics	3
PHIL 2306	Intro. to Ethics	3
EENG 4315	Senior Design II	3
( )	Technical Elective[1]	3
( )	Technical Elective[1]	3
	Semester Credit Hours	**15**

Total Program Credit Hours: 128

[1] Selected from approved departmental list

[2] Selected from ECON 2301 or ECON 2302

[3] MATH 3315 (Linear Algebra and Matrix Theory) can be substituted for MATH 3203

[4] Course outside of Electrical Engineering – may be utilized towards a minor

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2012-2014 Curriculum Electives

Introduction to Engineering/ Science Elective: ENGR 1201 Introduction to Engineering

Creative Arts Elective: MUSI 1306/2301, THTR 1301/1356, ART 1301/2303/2304

Engineering/ Science Electives: *

BIOL	3xxx	Any 3000 level course**
BIOL	4xxx	Any 4000 level course**
COSC	2336	Data Structures & Algorithms
COSC	3325	Algorithm Design & Anaylsis
COSC	3355	Operating Systems
COSC	3365	Prog Data, File, & Obj Structures
COSC	3375	Analysis & Logical Design
COSC	3385	Database Design
COSC	4xxx	Any 4000 level course**
ENGR	2301	Engineering Mechanics: Statics
MATH	3336	Abstract Algebra I
MATH	3345	Real Analysis I
MATH	3365	Geometric Systems
MATH	3380	Algorithms in Applied Math
MATH	3425	Foundations of Math
MATH	4336	Abstract Algebra II
MATH	4341	Real Analysis II
MATH	4342	Introduction to Complex Variables
MENG	3301	Thermodynamics I
MENG	3306	Mechanics of Materials
MENG	3319	Materials & Manufacturing
PHYS	3xxx	Any 3000 level course**
PHYS	4xxx	Any 4000 level course**

EENG Senior Technical Electives: At least 6 credit hours of technical electives required to be EENG courses

EENG	4302	Instrumentation & Measurement
EENG	4316	Digital Control Systems
EENG	4317	Power Electronics
EENG	4318	Applied Electromagnetic Theory
EENG	4319	Power Systems Analysis/Design
EENG	4320	Computer Architecture & Design
EENG	4325	Real Time Systems
EENG	4330	Solid State Devices
EENG	4331	VLSI Design
EENG	4332	FPGA Design
EENG	4336	Intro Electromagnetic Compatibility
EENG	4339	CMOS Analog Interated Circuits
EENG	4350	Special Topics in Electrical Engineering
EENG	4370	Undergraduate Internship***
EENG	4395	Undergraduate Research***
EENG	4399	Independent Study***

Senior Technical Electives: Choose from list below or the 'EENG Senior Technical Electives' list - Maximum 3 credit hours

EENG	4xxx	See List Above
COSC	4xxx	Any 4000 level course**
ENGR	4xxx	Any 4000 level course**
MENG	3303	Dynamics of Machinery
MENG	3304	Thermodynamics II
MENG	3305	Transport Processes
MENG	3309	Mechanical Systems Design
MENG	3316	Heat Transfer
MENG	4xxx	Any 4000 level course**

* This course may be used to satisfy a minor in PHYS, BIOL, CHEM, COSC, or MATH

** EE Department consent requried

*** Maximum of 3 credit hours can be used towards degree