

**BACHELOR OF SCIENCE DEGREE IN ELECTRICAL AND COMPUTER ENGINEERING
ELECTRICAL ENGINEERING CONCENTRATION**

4 YEAR DEGREE PLAN - TOTAL CREDITS: 125

First Year	<i>First Semester</i>		<i>Second Semester</i>	
	ECE 110 Introduction to Engineering	1	ECE 131 Circuit Analysis I	3
	ECE 130 Programming for Engr. Applications	3	ECE 111 Circuit Analysis Lab I	1
	ENG 131 Freshman English I	3	ENG 132 Freshman English II	3
	ENGR 131 Engineering Graphics	3	HIST 231 Social & Political History of U.S. I	3
	MATH 241 Calculus & Analytic Geometry I	4	MATH 242 Calculus & Analytic Geometry II	4
	MUSIC 239/ART 131 Intro to Music or Art	3	CHEM 131 General Chemistry I	3
			CHEM 111 General Chemistry I Lab	1
	17 hrs		18 hrs	

Second Year	<i>Third Semester</i>			
	SC 135 Business and Prof. Communication	3	MATH 251 Differential Equation	3
	MATH 243 Calculus & Analytic Geometry III	4	PHYS 252 University Physics II	3
	PHYS 251 University Physics I	3	PHYS 218 University Physics II Lab	1
	PHYS 217 University Physics I Lab	1	ECE 235 Digital System	3
	ECE 231 Circuit Analysis II	3	ECE 215 Digital System Lab	1
	ECE 211 Circuit Analysis Lab II	1	ENG 2xx Upper level English	3
	POLS 235 American Political System I	3	POLS 236 American Political System II	3
	18 hrs		17 hrs	

Third Year	<i>Fifth</i>		<i>Sixth Semester</i>	
	ECE 330 Engineering Mathematical Analysis	3	ECE 334 Signal and System	3
	ECE 331 Electronic Circuits	3	ECE 335 Control Systems	3
	ECE 311 Electronic Circuits Lab	1	ECE 315 Control System Lab	1
	ECE 332 Microprocessor Architecture	3	ECE 338 Computer and Wireless Networks	3
	ECE 312 Microprocessor Architecture Lab	1	ECE 339 Real-time Embedded System	3
	HIST 232 Social & Political History of US. II	3	ECE 319 Real-time Embedded System Lab	1
			ENGR 333 Ethics in Prof. Engr. Practice	1
	14 hrs		15 hrs	

Fourth Year	<i>Seventh Semester</i>		<i>Eighth Semester</i>	
	ECE 430 Applied Electromagnetics	3	ECE 433 Microwave Engineering	3
	ECE 432 Communication Systems	3	ECE 437 Digital Signal Processing	3
	ECE 412 Communication System Lab	1	ECE 438 Power System Analysis	3
	ECON 231 Principle of Economics I	3	ECE 441 Senior Project	4
	Technical Elective	3	ECE-ECX ECE Comprehensive Exam	0
	13 hrs		13 hrs	

Technical Elective: ECE 336 Introductory to VLSI Design
 ECE 435 Network Programming
 ECE 239 **Electromechanical Energy Conversions**
 ECE 333 Software Engineering

**CURRICULUM SUMMARY FOR THE
BACHELOR OF SCIENCE DEGREE
IN
ELECTRICAL AND COMPUTER ENGINEERING**

ELECTRICAL ENGINEERING CONCENTRATION

TOTAL CREDITS REQUIRED: 125

CORE CURRICULUM (STANDARD)*	TCCNS	MAJOR (ECE)	OTHER REQUIREMENTS	MINOR
43 credits	EQUIVALENT	61 credits	21 credits	
<u>Communication:</u>		ECE 110 (1)	CHEM 111 (1)	
ENG 131 (3)	ENGL 1301	ECE 111 (1)	MATH 242 (4)	
ENG 132 (3)	ENGL 1302	ECE 131 (3)	MATH 243 (4)	
<u>Mathematics:</u>		ECE 231 (3)	MATH 251 (3)	
MATH 241**	MATH	ECE 211(1)	ENGR 333 (1)	
<u>Life and physical sciences:</u>		ECE 235 (3)	PHYS 217 (1)	
CHEM 131 (3)	CHEM 1311	ECE 215 (1)	PHYS 218 (1)	
PHYS 251 (3)	PHYS 2325	ECE 330 (3)	PHYS 252 (3)	
<u>Language, philosophy, and culture:</u>		ECE 331 (3)	ENGR 131 (3)	
ENG 2xx (3)		ECE 311 (1)		
<u>Creative arts:</u>		ECE 312 (1)		
MUSIC 239 (3)	HUMA 1315	ECE 332 (3)		
<u>American history:</u>		ECE 334 (3)		
HIST 231 (3)	HIST 1301	ECE 335 (3)		
HIST 232 (3)	HIST 1302	ECE 315 (1)		
<u>Government/political science:</u>		ECE 338 (3)		
POLS 235 (3)	GOVT 2305	ECE 339 (3)		
POLS 236 (3)	GOVT 2306	ECE 319 (1)		
<u>Social and behavioral sciences:</u>		ECE 432 (3)		
ECON 231 (3)	ECON 2301	ECE 412 (1)		
<u>Institutional Options:</u>		ECE 430 (3)		
SC 135 or 136 (3)	SPCH 1321 or SPCH 1315	ECE 433 (3) ECE 437 (3) ECE 438 (3) ECE 441 (4)		
ECE 130 (3)***		ECE-ECX (0)		
		Technical Elective (3)^		

*Students should be advised by a major advisor prior to registering for any credit, particularly any core curriculum credit as listed.

**MATH 241 will be taken in lieu of Math 136 to satisfy the mathematics core requirement. For engineering majors only.

***ECE 130 will be taken in lieu of CS116 to satisfy the institutional option of core requirement.

^ Technical Electives may be selected from ECE 336 (3), ECE 435 (3), ECE 430 (3), ECE 333, & ECE 239(3)

**BACHELOR OF SCIENCE DEGREE IN ELECTRICAL AND COMPUTER ENGINEERING
COMPUTER ENGINEERING CONCENTRATION**

4 YEAR DEGREE PLAN - TOTAL CREDITS: 124

First Year	<i>First Semester</i>		<i>Second Semester</i>	
	ECE 110 Introduction to ECE	1	ECE 131 Circuit Analysis I	3
	ECE 130 Programming for Engr. Applications	3	ECE 111 Circuit Analysis Lab I	1
	ENG 131 Freshman English I	3	ENG 132 Freshman English II	3
	ENGR 131 Engineering Graphics	3	HIST 231 Social & Political History of U.S. I	3
	MATH 241 Calculus & Analytic Geometry I	4	MATH 242 Calculus & Analytic Geometry II	4
	MUSIC 239/ART 131 Intro to Music or Art	3	CHEM 131 General Chemistry I	3
			CHEM 111 General Chemistry I Lab	1
	17 hrs		18 hrs	

Second Year	<i>Third Semester</i>		<i>Fourth Semester</i>	
	SC 135 Business and Prof. Communication	3	MATH 251 Differential Equation	3
	MATH 243 Calculus & Analytic Geometry III	4	PHYS 252 University Physics II	3
	PHYS 251 University Physics I	3	PHYS 218 University Physics II Lab	1
	PHYS 217 University Physics I Lab	1	ECE 235 Digital System	3
	ECE 231 Circuit Analysis II	3	ECE 215 Digital System Lab	1
	ECE 211 Circuit Analysis Lab II	1	ENG 2xx Upper level English	3
	POLS 235 American Political System I	3	ECE 236 Java Programming	3
	18 hrs		17 hrs	

Third Year	<i>Fifth</i>		<i>Sixth Semester</i>	
	ECE 330 Engineering Mathematical Analysis	3	ECE 336 Introductory to VLSI Design	3
	ECE 331 Electronic Circuits	3	ECE 337 Operating System	3
	ECE 311 Electronic Circuits Lab	1	ECE 338 Computer and Wireless Networks	3
	ECE 332 Microprocessor Architecture	3	ECE 339 Real-time Embedded Systems	3
	ECE 312 Microprocessor Architecture Lab	1	ECE 319 Real-time Embedded Systems Lab	1
	HIST 232 Social & Political History of US. II	3	ENGR 333 Ethics in Prof. Engr. Practice	1
		14 hrs		14 hrs

Fourth Year	<i>Seventh Semester</i>		<i>Eighth Semester</i>	
	ECE 434 Data Communications	3	ECE 437 Digital Signal Processing	3
	ECE 414 Data Communications Lab	1	ECE 439 Applied Cyber Security	3
	ECE 436 Artificial Intelligence	3	Technical Elective	3
	ECON 231 Principle of Economics I	3	ECE 441 Senior Project	4
	POLS 236 American Political System II	3	ECE-ECX ECE Comprehensive Exam	0
	13 hrs		13 hrs	

Technical Elective: ECE 333 Software Engineering
ECE 435 Network Programming
ECE 239 **Electromechanical Energy Conversions**

**CURRICULUM SUMMARY FOR THE
BACHELOR OF SCIENCE DEGREE
IN
ELECTRICAL AND COMPUTER ENGINEERING
COMPUTER ENGINEERING CONCENTRATION**

TOTAL CREDITS REQUIRED: 124

CORE CURRICULUM (STANDARD)*	TCCNS	MAJOR (ECE)	OTHER REQUIREMENTS	MINOR
43 credits	EQUIVALENT	60 credits	21 credits	
<u>Communication:</u>		ECE 110 (1)	CHEM 111 (1)	
ENG 131 (3)	ENGL 1301	ECE 111 (1)	MATH 242 (4)	
ENG 132 (3)	ENGL 1302	ECE 131 (3)	MATH 243 (4)	
<u>Mathematics:</u>		ECE 231 (3)	MATH 251 (3)	
MATH 241 (4) **	MATH 2312	ECE 211(1)	ENGR 131 (3)	
<u>Life and physical sciences:</u>		ECE 235 (3)	PHYS 217 (1)	
CHEM 131 (3)	CHEM 1311	ECE 215 (1)	PHYS 218 (1)	
PHYS 251 (3)	PHYS 2325	ECE 330 (3)	ENGR 333 (1)	
		ECE 236 (3)	PHYS 252 (3)	
<u>Language, philosophy, and culture:</u>		ECE 331 (3)		
ENG 2xx (3)		ECE 311 (1)		
<u>Creative arts:</u>		ECE 332 (3)		
MUSIC 239 (3)	HUMA 1315	ECE 312 (1)		
<u>American history:</u>		ECE 336 (3)		
HIST 231 (3)	HIST 1301	ECE 337 (3)		
HIST 232 (3)	HIST 1302	ECE 338 (3)		
<u>Government/political science:</u>		ECE 339 (3)		
POLS 235 (3)	GOVT 2305	ECE 319 (1)		
POLS 236 (3)	GOVT 2306	ECE 434 (3)		
<u>Social and behavioral sciences:</u>		ECE 414 (1)		
ECON 231 (3)	ECON 2301	ECE 436 (3)		
<u>Institutional Options:</u>		ECE 437 (3)		
SC 135 or 136 (3)	SPCH 1321 or SPCH 1315	ECE 439(3) ECE 441 (4) ECE-ECX (0)		
ECE 130 (3)***		Technical Elective (3)^		

*Students should be advised by a major advisor prior to registering for any credit, particularly any core curriculum credit as listed.

**MATH 241 will be taken in lieu of Math 136 to satisfy the mathematics core requirement. For engineering majors only.

***ECE 130 will be taken in lieu of CS116 to satisfy the institutional option of core requirement.

^ Technical Electives may be selected from ECE 333 (3), ECE 435 (3), & ECE 239(3).

