

# ACADEMIC MAP

## Electrical Engineering, Bachelor of Science



First Year			Third Year		
<b>Fall</b>			<b>Fall</b>		
UNIV 1101	University Seminar I	1	EEEN 3315	Electrical Circuits II	3
ENGL 1301	Writing and Rhetoric I	3	EEEN 3418	Microprocessors and Microcontrollers	4
ENGR 1201	Introduction to Engineering	2	MATH 3311	Linear Algebra	3
CHEM 1411	General Chemistry I	4	MATH 3345	Statistical Modeling and Data Analysis	3
MATH 2413	Calculus I	4	POLS 2305	U.S. Government and Politics	3
HIST 1301	U.S. History to 1865	3			
	<b>Hours</b>	<b>17</b>		<b>Hours</b>	<b>16</b>
<b>Spring</b>			<b>Spring</b>		
UNIV 1102	University Seminar II	1	EEEN 3310	Electromagnetic Theory	3
ENGL 1302	Writing and Rhetoric II	3	EEEN 3320	Introduction to Communication Theory and Systems	3
or COMM 1311	or Foundation of Communication		EEEN 3330	Control Systems I	3
HIST 1302	U.S. History Since 1865	3	EEEN 3350	Electronic Systems Design	3
MATH 2414	Calculus II	4	Technical elective		3
MATH 2305	Discrete Mathematics I	3	Social and Behavioral Sciences Core Requirement		3
PHYS 2425	University Physics I	4			
	<b>Hours</b>	<b>18</b>		<b>Hours</b>	<b>18</b>
<b>Second Year</b>			<b>Fourth Year</b>		
<b>Fall</b>			<b>Fall</b>		
ENGR 2306	Digital Systems	3	ENGR 4420	Engineering Lab Measurements	4
ENGR 2106	Digital Systems Laboratory	1	ENGR 4240	Project Management	2
COSC 1320	C Programming	3	EEEN 4310	Signal Processing	3
MATH 2415	Calculus III	4	Technical elective		3
PHYS 2426	University Physics II	4	Language, Philosophy & Culture Core Requirement		3
Creative Arts Core Requirement		3			
	<b>Hours</b>	<b>18</b>		<b>Hours</b>	<b>15</b>
<b>Spring</b>			<b>Spring</b>		
ENGR 2325	Statics	3	ENGR 4370	Capstone Projects	3
ENGR 3316	Thermodynamics	3	EEEN 4333	Machine Vision and Image Processing	3
ENGR 3322	Materials Science	3	Technical elective		3
ENGR 2460	Circuit Analysis	4	POLS 2306	State and Local Government	3
MATH 3315	Differential Equations	3			
	<b>Hours</b>	<b>16</b>		<b>Hours</b>	<b>12</b>
				<b>Total Hours</b>	<b>130</b>



# CAREER MAP

## ELECTRICAL ENGINEERING

### Bachelor of Science



Electrical Engineers develop electrical systems using knowledge of physics, mathematics, circuit design, electromagnetic theory, communication theory, control systems and signal processing. Electrical engineering historically involved the generation, transmission, and utilization of electrical energy. Today, electrical engineering applications also include control systems, robotics, automation, plasma, sensors, computers and imaging. The Bachelor of Science in Electrical Engineering (BSEE) program emphasizes service, systems-based knowledge, and sustainability with an eye toward the interface of traditional electrical engineering with new and emerging fields, in particular unmanned aircraft systems, maritime sciences and marine biology that directly impact the Gulf Coast. All electrical engineering students must complete a senior-level capstone project in ENGR 4370 Capstone Projects (3 sch). Students will work with practicing engineers and mechanical engineering faculty. The Capstone Project will give engineering students practical, professional experience to prepare them for careers in electrical engineering.

## CONTACT INFORMATION

### Career Counselor:

Career and Professional Development Center  
UC 304 | 361.825.2628  
career.center@tamucc.edu

### Internship Coordinator:

Mayra Alvarado  
RFEB 215 | 361.825.6025  
mayra.alvarado@tamucc.edu

### Department Contact:

Department of Engineering  
RFEB 222 | 361.825.5849  
david.bridges@tamucc.edu

## ADDITIONAL PROGRAM REQUIREMENTS

Students are encouraged to take the NCEES (National Council for Examiners for Engineering and Surveying) Fundamentals of Engineering (FE) exam during their senior year. The FE exam is the first step in the process that leads to licensure as a Professional Engineer (P.E.).

For all students admitted into a pre-engineering program at TAMU-CC who wish to transfer into one of the TAMU-CC engineering programs (CEEN, EEEN, IEEN, MEEN), the cumulative GPA for all MATH, CHEM, PHYS, ENGR, COSC, CEEN, EEEN, IEEN, or MEEN courses that appear in the CEEN, EEEN, IEEN, or MEEN program curricula, plus any ENTC courses, taken at TAMU-CC, or their equivalents taken at other institutions, should be 2.5 or greater to be admitted into the CEEN, EEEN, IEEN, or MEEN programs at TAMU-CC. There should be a minimum of at least 12 hours of such courses taken at TAMU-CC or elsewhere before a transfer / admission to CEEN, EEEN, IEEN, or MEEN may be considered. All such students must also meet the requirements to take MATH 2413 Calculus I (4 sch) if they have not already done so.

## ADDITIONAL SOURCES OF INFORMATION

1. National Society of Professional Engineers
2. Society of Women Engineers
3. National Society of Black Engineers
4. Institute of Electrical and Electronics Engineers

## CAREER OPTIONS

• Electrical Engineer	• Quality Engineer
• Instrumentation Engineer	• Controls Engineer
• Test Engineer	• Project Engineer
• Hardware Electronics Engineer	• Design Engineer
• Aeronautical Engineer	

## STUDENT ORGANIZATIONS

• Society of Hispanic Professional Engineers
• Math Club
• Institute of Electrical and Electronics Engineers
• SACNAS Chapter at Texas A&M University - Corpus Christi

## SKILLS/ATTRIBUTES

• Critical Thinking/Problem Solving
• Teamwork/Collaboration
• Professionalism/Work Ethic
• Oral/Written Communication
• Digital Technology
• Concentration
• Math

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