ELECTRICAL ENGINEERING

Degree: Bachelor of Science in Electrical Engineering
Minor: Electrical Engineering
Certificate: Electrical Engineering
Department: Electrical and Computer Engineering
Building 70, Room 116(850) 474-2963
http://uwf.edu/ece
ece@uwf.edu
College: Arts and Sciences
Semester Hours Required for Degree: 129

Faculty: M. Rashid (Chairperson), E. Bakhoum, A. Fuchs, T. Gilbar, S. Gorman, D. Harrell, M. Islam, M. Khabou, R. Manseur, K.T. Rigby, B. Shaer, W. Weber

The mission of the Department of Electrical and Computer Engineering (ECE) is to offer baccalaureate degree programs in electrical and computer engineering which serve the needs of the West Florida region, the State, and the nation.

The goal of the baccalaureate degree program is to prepare students to embark upon a professional career in electrical engineering or to begin graduate study.

Graduates will be known for the accomplishments in the early stage of their careers and they should:

A. Develop electrical engineering solutions individually and through interdisciplinary teams within a global and societal context.

B. Professionally and ethically engage in technical or business activity through engineering ability, communication skills, and knowledge.

C. Continue professional growth through post-graduate education, continuing education, or professional activity.

D. Contribute to the Northwest Florida regional economic development.

Electrical Engineering is science-oriented and primarily concerned with all phases and development of the transmission and utilization of electric energy and intelligence. The study of electrical engineering is commonly divided into the academic areas of circuits, electronics, electromagnetics, electrical energy systems, communications, control, and computer engineering. Because of the extremely rapid growth and changes relating to the application of electrical engineering principles, the curriculum is designed to concentrate on a solid core of foundation courses. Thirteen hours of electives are included to permit a student to delve deeply into selected subject matter.

Electrical Engineers find career opportunities in a wide area of settings such as aerospace contractors, manufacturers of consumer electronics, telecommunications, energy distribution, and public-sector positions with federal, state, and local governments.

Students who complete the program listed in previous University catalogs before December 2008 participate in the UF/UWF Joint Program and receive their degrees from the University of Florida. Students completing the program after that date will earn their degrees from the University of West Florida.

Contact the department for information concerning the certificate.

PROGRAM REQUIREMENTS

Students must complete all seven common prerequisite courses with a grade of “C” or better in each technical course with an overall GPA of 2.3 (4.0 scale) by the term they are admitted. Laboratories are required for chemistry and both physics courses, but the grades are not considered in the technical GPA. Only the last attempt will be considered in computing the technical GPA for admission.

Students are required to have a laptop tablet PC. Students should check with the department for minimum hardware configurations.

In addition to general University requirements, students seeking the B.S. in Electrical Engineering must meet the requirements listed below. A minimum course grade of “C” or better is required in all electrical engineering core courses (EEL3111, 3112, 3135, 3304, 3396, 3472, and 3701), and in all computer science courses (COT, CEN, CIS or COP prefix) and all other electrical engineering courses that serve as prerequisites to EEL and CS courses and labs. A minimum grade of “C” is also required on EGN 4410 and EGN 4411L, ENC 3240, STA 4321, and all computer science courses.

The electrical engineering curriculum is designed to yield 13 outcomes. Each upper division course in the program contributes to at least one of these outcomes. A student must demonstrate each outcome achievement in at least two courses to satisfy the graduation requirements. Contact the department for a list of the outcomes.

All students must complete an exit interview with their advisor and submit a copy of their senior design report before graduating.

Students should consult with their academic advisor for courses which may satisfy both the General Studies requirements and common prerequisites.

General Studies (24 sh)

It is recommended that students take a course in literature, ECO 2013, EUH 1001, PHI 2603, fine arts, and behavioral science.

Common Prerequisites (27sh)

State mandated common prerequisites must be completed prior to admission to the program. Courses in brackets indicate substitutes from Florida public community/junior colleges and universities.

+	CHM	2045/L	General Chemistry I/Lab	4
			[CHS x440]	
+	MAC	2311	Analytic Geometry & Calculus I	4
			[MAC x311, x281]	
+	MAC	2312	Analytic Geometry & Calculus II	4
			[MAC x312, x382]	
	MAC	2313	Analytic Geometry & Calculus III	4
			[MAC x313, x283]	
	MAP	2302	Differential Equations	3
			[MAC x302]	

+ PHY	2048/L	University Physics I/Lab	4
PHY	2049/L	University Physics II/Lab	4

+ Indicates common prerequisites which can be used to satisfy General Studies requirements.

Major (69 sh)

EEL	3111	Circuits I	3
EEL	3112	Circuits II	3
EEL	3135	Discrete-Time Signals & Systems	3
EEL	3211	Basic Electric Energy Engineering	3
EEL	3303L	Electric Circuits Laboratory	1
EEL	3304	Electronic Circuits I	3
EEL	3396	Solid-State Electronic Devices	3
EEL	3472	Electromagnetic Fields & Applications I	3
EEL	3701/L	Digital Logic & Computer Systems/Lab	4
EEL	4304L	Electronics Laboratory	1
EEL	4306/L	Electronic Circuits II/Lab	4
EEL	4514/L	Communication Systems & Components/Lab	4
EEL	4657/L	Linear Control Systems/Lab	4
EEL	4744/L	Microprocessor Applications/Lab	4
EEL	4834	C++ Programming for Electrical Engineers	3
EGM	2500	Engineering Mechanics - Statics	2
EGM	4313	Intermediate Engineering Analysis	3
EGN	3203	Engineering Software Tools	1
EGN	4034	Professional Ethics	1
EGN	4410	Capstone Design I	1
EGN	4411L	Capstone Design II	2
EEL Electives			13

Maximum of 3 sh in EEL 4949 and maximum of 3 sh in EEL 4905, and maximum of 6 sh in EEL 4905/4949 (combination). Consult the department for the current list of approved EEL elective courses.

Major-Related (9 sh)

ENC	3240	Technical Writing	3
STA	4321	Introduction to Mathematical Statistics I	3

Choose one:

EGM	3401	Engineering Mechanics - Dynamics	3
EIN	4354	Engineering Economy	3

Consult the department for the current list of approved technical elective courses.

MINOR

This minor provides an opportunity for students majoring in other areas to take a limited number of electrical engineering courses to complement their majors. The Minor in Electrical Engineering is open to all UWF students with the exception of computer and electrical engineering majors. Students applying for the minor must have a declared major. Students may not take a course and its prerequisite during the same semester.

Students must complete all seven common prerequisite courses with a grade of "C" or better in each technical course with an overall GPA of 2.3 (4.0 scale) by the term they are admitted. Laboratories are required for chemistry and both physics courses, but the grades are not considered in the technical GPA. Only the last attempt will be considered in computing the technical GPA for admission.

Students seeking the Minor in Electrical Engineering must have a minimum course grade of "C" or better in all electrical engineering courses and prerequisites to other EEL courses and labs.

Common Prerequisites (27sh)

CHM	2045/L	General Chemistry I/Lab	4
PHY	2048/L	University Physics I/Lab	4
PHY	2049/L	University Physics II/Lab	4
MAC	2311	Analytic Geometry I	4
MAC	2312	Analytic Geometry II	4
MAC	2313	Analytic Geometry III	4
MAP	2302	Differential Equations	3

Required courses:

EEL	3111	Circuits I	3
EEL	3303L	Electric Circuits Laboratory	1

EEL Electives:

Any EEL 3000-4000 courses, except EEL 3003 and EEL 4834	11

Students may use EGN 4034 Professional Ethics (1 credit) as an elective, but a minimum grade of C is required.