

## **ELECTRICAL ENGINEERING**

### **Mission Statement**

*The mission of the Department of Electrical and Computer Engineering is to offer baccalaureate degree programs of excellence in electrical engineering and computer engineering that serve the needs of the West Florida region, the state, and the nation. The goal of the baccalaureate degree programs is to prepare students to embark upon a professional career in electrical engineering, computer engineering, or to pursue graduate study. The Bachelor of Science degrees in Electrical Engineering and Computer Engineering are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (EAC/ABET).*

### **Student Learning Outcomes**

UWF Electrical Engineering graduates should be able to do the following:

#### **Content**

- Recognize and apply concepts, principles and theories in the following areas:
  - Mathematics, including differential and integral calculus, differential equations, linear algebra, complex variables, and discrete mathematics
  - Core electrical and computer engineering topics: basic circuit analysis, signals and systems, electronics, digital logic, and microprocessors
  - Control systems, communications, electromagnetics, and electric power
  - Probability and statistics
- Describe the interrelatedness of contemporary issues in a global and society context with electrical engineering solutions

#### **Critical Thinking**

- Use modern engineering techniques, skills, and tools, including computer-based tools for analysis and design of electrical circuits and systems
- Identify, formulate and solve novel electrical engineering problems
- Design and conduct scientific and engineering experiments including analysis and interpretation of data

#### **Communication**

- Communicate technical material in writing
- Convey technical material through oral presentations

## **Integrity/Values**

- Describe the ethical and professional responsibilities of an engineer
- Make and defend ethical judgments in keeping with professional standards of electrical engineering
- Profess commitment to life-long learning to satisfy the ABET accreditation requirement

## **Project Management**

- Function effectively on multi-disciplinary teams
- Deliver electrical engineering results that meet performance standards for cost, safety, and quality

## **Evaluation of Student learning Outcomes**

The electrical and computer engineering department uses the following assessment tools to determine the outcome achievements for electrical engineering and for on-going continuous program improvements: (1) a major capstone design course which is based on the knowledge and skills acquired in earlier courses work within the curriculum, (2) collected sample graded work showing outcomes met by each course and a list of students who met those outcomes each semester, and separately collated to show that each student meets all outcomes of the program, (3) Exit Interview Surveys by graduating seniors, (4) Alumni Surveys, and (5) Employer surveys.

## **Job Prospects for Electrical Engineering Graduates**

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. The typical job functions include design, develop, test, or supervise the manufacturing and installation of electrical equipment, components, or systems for commercial, industrial, military, or scientific use. According to the US Federal Bureau of Labor Statistics, the demand for electrical engineering is expected to continue growing.

For US Occupational Outlook: <http://www.bls.gov/oco/ocos027.htm>

For US Occupational Employment & Wages: <http://www.bls.gov/oes/current/oes172071.htm>

Florida Job Statistics: <http://www.labormarketinfo.com/library/ep.htm>

***Find Out More about Electrical Engineering:***  
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