COMPUTER 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 offered under a co-operative arrangement between the University of West Florida and the University of Florida. Both degrees are awarded by the University of Florida and are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (EAC/ABET).

Student Learning Outcomes
UWF Computer 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, and complex variables, discrete mathematics
  - Core electrical and computer engineering topics: basic circuit analysis, signals and systems, electronics, control systems, communications, digital logic
  - Microprocessors, computer architecture and data structure.
  - Probability and statistics
  - Computer hardware and software
  - Interaction between hardware and software
  - Discrete mathematics
- 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
- Identify, formulate and solve novel electrical engineering problems
- Design and conduct scientific and engineering experiments including analysis and interpretation of data
Communication
- Communicate effectively in writing
- Convey technical material through oral presentations

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

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

Assessment of Student Learning Outcomes
The electrical and computer engineering department uses the following assessment tools to determine the outcome achievements for computer 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) student portfolio consisting of graded work from different courses, (3) Exit Interview Surveys by graduating seniors, (4) Alumni Surveys, and (5) Employer surveys.

Job Prospects for Computer Engineering Graduates
Computer engineers find career opportunities in a wide variety of companies or organizations involving the design, development, building, testing, and operation of computer systems. Computer engineers deal with both hardware and software (programming) problems. In designing a computer system, computer engineers must decide how much of the computer logic to put into hardware and how much to put into software. The work of the computer engineers and computer scientists is closely related. Computer engineers tend to be more involved with the computer hardware, whereas computer scientists tend to be more involved with the computer software and less emphasis on hardware. The typical job functions include research, design, develop, and test computer or computer-related equipment for commercial, industrial, military, or scientific use. Many supervise the manufacturing and installation of computer or computer-related equipment and components. 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/ocos031.htm#nature
For US Occupational Employment & Wages:
  http://www.bls.gov/oes/current/oes172071.htm

Find Out More about Computer Engineering at UWF:
http://uwf.edu/ece

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