

## **ELECTRICAL & COMPUTER ENGINEERING TECHNOLOGY PROGRAM (ECET)**

### **Educational Objectives**

1. Our graduates will establish productive careers in technology-based organizations in such diverse positions as design, manufacturing, teaching, management, system engineering, application engineering, and technical sales.
2. Our graduates will participate in lifelong learning activities including graduate school and other professional education.

### **Student Outcomes**

- a. An ability to select and apply the knowledge, techniques, skills, and modern tools of the discipline to broadly-defined engineering technology activities;
- b. An ability to select and apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require the application of principles and applied procedures or methodologies;
- c. An ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes;
- d. An ability to design systems, components, or processes for broadly-defined engineering technology problems appropriate to program educational objectives;
- e. An ability to function effectively as a member or leader on a technical team;
- f. An ability to identify, analyze, and solve broadly-defined engineering technology problems;
- g. An ability to apply written, oral, and graphical communication in both technical and nontechnical environments; and an ability to identify and use appropriate technical literature;
- h. An understanding of the need for and an ability to engage in self-directed continuing professional development;
- i. An understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity;
- j. A knowledge of the impact of engineering technology solutions in a societal and global context;
- k. A commitment to quality, timeliness, and continuous improvement.

### **Program Criteria**

1. the application of circuit analysis and design, computer programming, associated software, analog and digital electronics, and microcomputers, and engineering standards to the building, testing, operation, and maintenance of electrical/electronic(s) systems; and
2. the application of natural sciences and mathematics at or above the level of algebra and trigonometry to the building, testing, operation, and maintenance of electrical/electronic systems.
3. the ability to analyze, design, and implement one or more of the following: control systems, instrumentation systems, communications systems, computer systems, or power systems;
4. the ability to apply project management techniques to electrical/electronic(s) systems; and
5. the ability to utilize differential and integral calculus, as a minimum, to characterize the performance of electrical/electronic systems.
6. the application of electric circuits, computer programming, associated software applications, analog and digital electronics, microcomputers, operating systems, local area networks, and engineering standards to the building, testing, operation, and maintenance of computer systems and associated software systems; and
7. the application of natural sciences and mathematics at or above the level of algebra and trigonometry to the building, testing, operation, and maintenance of computer systems and associated software systems.
8. the ability to analyze, design, and implement hardware and software computer systems;
9. the ability to apply project management techniques to computer systems; and
10. the ability to utilize statistics/probability, transform methods, discrete mathematics, or applied differential equations in support of computer systems and networks.