Division of Science, Technology, Engineering and Mathematics

Associate in Science in Electrical and Computer Engineering

This program provides students with an overview of the electrical and computer engineering field and an introduction to industry-standard tools and software. Students explore areas such as computer hardware, digital electronics, computer science, and engineering. Upon program completion, students can transfer to a four-year degree program in Electrical and Computer Engineering or apply for an entry-level position such as an electronics technician. Students graduating from the Associate in Science in Electrical and Computer Engineering program will achieve proficiency in the college-wide learning outcomes.

Successful graduates of the program will be able to:

1. Describe and utilize basic structures and operations of microprocessors;
2. Create programming codes for electronic systems;
3. Collect current and voltage data from electrical circuits using industry standard measuring tools such as multi-meters and oscilloscopes;
4. Construct and analyze solid-state, DC, AC, and digital logic circuits, consisting of elements such as diodes and transistors, and components such as gates and Integrated Circuits (IC);
5. Collaborate effectively with diverse clients and peers in a variety of disciplines, such as mechanical engineering, computer science and biotechnology;
6. Apply analytical reasoning, creative processes, and knowledge of electronics and digital systems to resolve design issues;
7. Extrapolate information, data and specifications from technical resources and standards for application on electrical systems and project documentation;
8. Write clear, concise scientific reports based on laboratory experiments;
9. Consider safety, effectiveness, efficiency and sustainability in all design solutions, while attending to constraints of power consumption, size, cost, and speed;
10. Use appropriate software and technology to design circuit schematics, write algorithms, solve numerical problems, and create reports.