

# Electrical and Computer Engineering Technology- Associate in Applied Science

For information contact the Department of Engineering Technology at 513-758-1804. Offices are located in Hamilton - 207 Phelps Hall or Middletown - 205MJ Thesken Hall.

This department offers associate degree programs in electrical and computer engineering technology and mechanical engineering technology. They also provide bachelor completion programs with concentrations in Electrical and Computer Engineering Technology, Electro-Mechanical Technology, Mechanical Engineering Technology, and Robotics Engineering Technology.

Students are strongly encouraged to participate in engineering technology internships. Internship information is available through the Regional Office of Career Services and Professional Development: 513-227-3390, [miamiregionalscareer@MiamiOH.edu](mailto:miamiregionalscareer@MiamiOH.edu).

## Department Educational Objectives

We consider program educational objectives as the general characteristics our graduates demonstrate to the workplace, graduate school, the military, or their endeavors after they leave Miami. We typically measure these characteristics initially at graduation by asking graduates if they feel they have achieved these characteristics and then periodically thereafter through employer surveys, letters from graduates, advisory council, graduate school accomplishments, and surveys of graduates who have been out for a while. These characteristics should become most evident within the first few years after graduation.

The Engineering Technology Department's graduates are able to:

- apply math and physics principles to the solution of engineering technical problems.
- use applied skills to identify, evaluate, and solve complex technical problems.
- use engineering computer software to facilitate engineering problem solving.
- function effectively in team-oriented activities.
- demonstrate the knowledge of expected standards of ethical and professional conduct.
- verbally communicate ideas.
- prepare well-written technical reports.

In addition, our graduates will have the necessary fundamentals to pursue life-long learning.

This program includes course work in both electrical and electronic and computer fields. It provides depth and breadth in the fundamentals as well as in the advanced technology found in modern electrical/electronic and computing systems. Hands-on labs are used to reinforce concepts taught in the classroom. Students develop the ability to analyze, synthesize, and solve technical problems. Topics of study include AC and DC circuit analysis, analog and digital electronics, programmable logic controllers, microprocessors, local

area networks (LAN), and C++ and assembly language programming. This program is accredited by the Engineering Technology Accreditation Commission of ABET (111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone 410-347-7700, <http://www.abet.org/>.)

Graduates work as electronic technicians, electrical maintenance technicians, computer maintenance and network technicians, engineering assistants, computer and PLC programmers, and many other related paraprofessional positions. Graduates may also choose to continue their education toward a Bachelor of Applied Science degree.

## Program-Specific Educational Objectives

### Electrical and Computer Engineering Technology (A.A.S.)

The ECET program produces graduates who:

- analyze digital and analog electrical and electronic circuits, identify problem areas, and maintain these systems.
- function effectively as electrical and computer engineering technicians in state and regional industries.

## Program Requirements

(55 semester hours)

| Code                               | Title  | Credit Hours |
|------------------------------------|--|--------------|
| APC 136                            | Introduction to Interpersonal Communication  | 3            |
| CIT 163<br>or CIT 153              | Introduction to Computer Programming<br>Introduction to C/C++ Programming                                | 3            |
| ECO 201<br>or ECO 202              | Principles of Microeconomics<br>Principles of Macroeconomics   | 3            |
| EGS 215<br>or ENG 313              | Workplace Writing<br>Technical Writing   | 3            |
| ENG 111                            | Composition and Rhetoric   | 3            |
| ENT 135                            | Computer-Aided Drafting  | 3            |
| ENT 137                            | Introduction to Engineering Technology   | 1            |
| ENT 192<br>& ENT 193               | Circuit Analysis I<br>and Circuit Analysis II  | 6            |
| ENT 196                            | Electronics  | 3            |
| ENT 293                            | Digital Systems  | 3            |
| ENT 294                            | Local Area Networks  | 3            |
| ENT 295                            | Microcontrollers   | 3            |
| ENT 296                            | Programmable Logic Controllers   | 3            |
| MTH 124                            | Trigonometry   | 3            |
| MTH 151                            | Calculus I   | 4            |
| PHY 161<br>or PHY 181<br>& PHY 183 | Physics for the Life Sciences with Laboratory I<br>General Physics I<br>and General Physics Laboratory I | 4-5          |

|                           |   |              |
|---------------------------|---|--------------|
| PHY 162                   | Physics for the Life Sciences with<br>Laboratory II     | 4-5          |
| or PHY 182<br>& PHY 184   | General Physics II<br>and General Physics Laboratory II |              |
| <b>Total Credit Hours</b> |   | <b>55-57</b> |