

## Electromechanical Technology

### Associate of Applied Science Electrical/Electronic Engineering Technology Electromechanical Technology

The field of electromechanical technology has revolutionized the way we live. Our entire economy and culture depend on such systems as electromagnetic induction for power generation; transformers for the delivery of electricity to homes, businesses and industry; motors, drives and programmable logic controllers for industrial process control, hydraulics and pneumatics for the transmission and control of forces and velocities. These systems can be found in virtually every kind of technology we use, from automotive, aircraft and spacecraft to agricultural and offshore-technology industries.

### Career Opportunities

Students who are interested in electromechanical technology can pursue a four-year bachelor's degree or a two-year associate degree. The demand for technologists with the bachelor's degree who can make informed decisions based on technical knowledge and experience is increasing. A student with a two-year associate degree will enter industry and work with engineers, technologists and other engineering technicians. Technicians are often involved in the manufacture, testing, trouble-shooting, sale and field service of electrical, electronic and computer systems. They are expected to keep up with the latest technological advancements. Typical job titles include: industrial electronic systems technician, electrical technician, electronic technician, installation technician, automation specialist, field-service representative, technical representative and engineering technician.

### Employment Outlook

According to the U.S. Dept. of Labor, competitive pressures will force companies to improve and update manufacturing facilities and product design, resulting in more jobs for engineering technicians. However, the growing use of advanced technologies such as computer

simulation and computer-aided design and drafting will continue to increase productivity and limit job growth. Along with growth, many job openings will stem from the need to replace technicians who retire or leave the job force. Opportunities will be best for individuals with an associate degree or extensive job training in engineering technology. As technology becomes more sophisticated, employers will continue to look for technicians who are skilled in new technology and require a minimum of additional job training. U.S. Dept. of Labor statistics indicate an average growth in job opportunities through the year 2012. Currently, 42% of all Engineering Technology jobs (478,000) are in the area of Electromechanical (204,000), with a median salary of \$42,950.

### Curriculum Program Requirements

**Communications (6 hours minimum)**  
English  
Speech Communications

**General Studies (6 hours minimum)**  
Choose coursework from the following sections, with no more than one from each section:

Social and Behavioral Sciences  
Arts and Humanities  
Cultural Diversity  
Natural Sciences

### Basic Courses (14 hours minimum)

College Algebra & Trigonometry, or  
Pre-calculus  
[Based on placement tests, additional  
MATH may also be required.]  
[MATH 090 and MATH 095 does not  
count toward graduation.]  
Choose three courses from:  
Computer Programming or Information  
Management Systems or  
Microcomputer Systems  
Occupational Safety and Hygiene and/or  
Technical Writing and/or  
Applied Statistics  
Six Sigma Systems

**Electromechanical Technology Major  
(40 hours minimum)**  
Design & Engineering Graphics

Computer Aided Design I  
Energy, Power, Instrumentation and  
Control  
Electric Circuits  
Electronic Circuits  
Digital Electronic Components and  
Systems  
Electric Machinery and Controls  
Programmable Logic Controllers  
Electrical Measurements and  
Instrumentation  
Intro to Lean Processes/Systems  
Basic Metrology  
Metallic Materials & Processes  
Fluid Power Transmission

### For Further Information

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### Your University Opportunity

BGSU Firelands, located in Huron, Ohio, is a regional campus and one of the seven undergraduate colleges of Bowling Green State University. We offer many of the advantages and resources of a major university, but in a smaller, more personal environment.

Generally, students are able to complete at least two years of coursework toward most of the 200-degree programs at BGSU before transferring to the main campus, or to another college or university.

BGSU Firelands offers students a wireless environment campus wide. Kiosks and public-access computers

located in most campus buildings provide easy Internet access. In addition, there are several on-campus computer labs with a variety of computers and software programs.

The library, containing more than 30,000 volumes, is computer-linked to the more than 4 million items available through BGSU's libraries to provide excellent research opportunities.

Academic advisors work individually with students to plan their degree programs and small class sizes allow students to have close, personal contact with their professors. Free tutoring is readily available through the Teaching and Learning Center. Scholarships, grants and loans are available to assist students with tuition.

NOTE: Information in this guide is subject to change without notice. To learn more about the official program of study for Electromechanical Technology, please check the undergraduate catalog online at: **[www.bgsu.edu/catalog/FIR/FIR37.html#EMT](http://www.bgsu.edu/catalog/FIR/FIR37.html#EMT)**