

Electrical Engineering Technology

Associate Degree in Applied Science

Program Description

Introduces the basic principles of electricity and proceeds to the concepts of solid state components such as diodes, transistors, integrated circuits, and microprocessor systems. Advanced courses show how these fundamental principles are applied to machine control, computers, power supplies, amplifiers, oscillators, industrial control, and instrumentation systems. Courses simulate actual working conditions in five fully-equipped laboratories where students put electrical-electronics theory into practice. Along with laboratory experiences setting up circuits, troubleshooting, and calibrating systems, computer-simulated circuit analysis is used in the majority of the courses.

Program Learning Outcomes

Upon successful completion of this program, students should be able to:

1. Apply laws to the design, construction, analysis, and measurement of electric, hydraulic, and pneumatic circuits.
2. Interpret and develop technical drawings, schematics, and diagrams.
3. Create documents based on technical information using descriptive writing, diagrams, mathematical expression, computation, and graphs.
4. Perform electrical/mechanical assembly/disassembly, repair, troubleshoot, and calibration of components and devices.
5. Apply electrical/mechanical laws to the operation and control of machines.
6. Apply critical thinking skills to solving electro-mechanical problem.
7. Communicate and perform effectively within a team environment.
8. Develop PLC, HMI, and robot programs for the control of electro-mechanical systems.
9. Analyze a set of specifications and create a LabView virtual instrument.
10. Apply electro-mechanical laws to the application of specific industrial sensors/transducers.
11. Evaluate sensor/transducer output based on computer generated data for the purpose of creating a lab report using Microsoft Office products.

Career Opportunities

- Computer Service
- Instrumentation Set-up
- Machine Service
- Quality Control
- Research and Development
- Machine Controls
- Instrumentation Repair
- Microprocessor Systems
- Product Evaluation
- Sales

Articulation/Transfer Agreements

3+1 Articulation with Eastern Michigan University, Bachelor of Science in Electrical Engineering Technology. 3+1

Articulation with Ferris State, Bachelor in Applied Science in Industrial Technology & Management.

Bachelor of Science in Electronic Engineering Technology 2+2 agreement with Eastern Michigan University