



Electromechanical Technology/Electromechanical Engineering Technology CIP Code 15.0403

Introduction – Program of Study

Electromechanical engineering technicians combine knowledge of mechanical engineering technology with knowledge of electrical and electronic circuits to design, develop, test, and manufacture electronic and computer controlled mechanical systems, such as robotic assembly machines. They also operate these machines in factories and other worksites. Their work often overlaps that of both electrical and electronic engineering technicians and mechanical engineering technicians.

Engineering technicians use the principles and theories of science, engineering, and mathematics to solve technical problems in research and development, manufacturing, sales, construction, inspection, and maintenance. Their work is more narrowly focused and application oriented than that of scientists and engineers. Many engineering technicians assist engineers and scientists, especially in research and development. Others work in quality control, inspecting products and processes, conducting tests, or collecting data. In manufacturing, they may assist in product design, development, or production.

Engineering technicians who work in research and development build or set up equipment, prepare and conduct experiments, collect data, calculate or record results, and help engineers or scientists in other ways, such as making prototype versions of newly designed equipment. They also assist in design work, often using computer aided design and drafting (CADD) equipment.

Mechanical engineering technicians help engineers design, develop, test, and manufacture industrial machinery, consumer products, and other equipment. For example, they may assist in product tests by setting up instrumentation for automobile crash tests. They may make sketches and rough layouts, record and analyze data, make calculations and estimates, and report on their findings. When planning production, mechanical engineering technicians prepare layouts and drawings of the assembly process and of parts to be manufactured. They estimate labor costs, equipment life, and plant space. Some test and inspect machines and equipment or work with engineers to eliminate production problems.

Assumptions of this Program of Study

High quality programs should meet the following standards:

1. Promote positive working relationships.

2. Implement a curriculum that fosters all areas of skill development
3. Use appropriate and effective teaching approaches.
4. Provide ongoing assessments of student progress.
5. Employ and support qualified teaching staff.
6. Establish and maintain relationships and use resources of the community.
7. Provide a safe and healthy learning environment.
8. Implement strong program organization and supervision policies that result in high quality teaching and learning.
9. Integrate academic skills and aptitudes necessary for postsecondary education, gainful employment and a foundation of lifelong learning.

CIP Code

15.0403 Electromechanical Technology/Electromechanical Engineering Technology

This is an instructional program that prepares individuals to apply basic engineering principles and technical skills in both the mechanical and electrical fields. Instruction is planned to provide preparation in the design, development and testing of electromechanical devices and systems such as automatic control systems, servomechanisms, vending machines, elevator controls, missile controls, tape control machines and auxiliary computer equipment. Instruction also includes feasibility testing of engineering concepts, systems analysis including designs, selection, testing, and application of engineering data; and, the preparation of written reports and test results in support of mechanical and electrical engineers.

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