



WAGE DATA

Rate Type / Statistical Type	Entry level	Mean	Experienced
Annual wage or salary	\$35,804	\$63,504	\$76,678
Hourly wage	\$17.21	\$30.31	\$36.86

JOB DESCRIPTION

Electromechanical Engineering Technologists - Assist electromechanical engineers in such activities as computer-based process control, instrumentation, or machine design. May prepare layouts of machinery or equipment, plan the flow of work, conduct statistical studies, or analyze production

DUTIES

- Collaborate with engineers to implement electromechanical designs in industrial or other settings.
- Consult with machinists or technicians to ensure that electromechanical equipment or systems meet design specifications.
- Install or program computer hardware or machine or instrumentation software in microprocessor-based systems.
- Analyze engineering designs of logic or digital circuitry, motor controls, instrumentation, or data acquisition for implementation into new or existing automated, servo-mechanical, or other electromechanical systems.
- Fabricate or assemble mechanical, electrical, or electronic components or assemblies.
- Modify, maintain, or repair electrical, electronic, or mechanical components, equipment, or systems to ensure proper functioning.
- Select electromechanical equipment, materials, components, or systems to meet functional specifications.
- Produce electrical, electronic, or mechanical drawings or other related documents or graphics necessary for electromechanical design, using computer-aided design (CAD) software.
- Translate electromechanical drawings into design specifications applying principles of engineering, thermal or fluid sciences, mathematics, or statistics.
- Select and use laboratory, operational, or diagnostic techniques or test equipment to assess electromechanical circuits, equipment, processes, systems, or subsystems.

TOOLS and TECHNOLOGY

Tools used in this occupation:

Coordinate measuring machines CMM — Three dimensional laser scanners

Milling machines — Computerized numerical control CNC machining centers, Machining centers, Manual mills

Multimeters — Digital multimeters

Oscilloscopes — Analog oscilloscopes, Digital oscilloscopes

Signal generators — Function generators

Technology used in this occupation:

Analytical or scientific software — Automation Studio, The MathWorks MATLAB, The MathWorks Simulink

Computer aided design CAD software — Autodesk AutoCAD software, Dassault Systemes SolidWorks software, National Instruments Ultiboard, PTC Pro/ENGINEER software

Development environment software — National Instruments LabVIEW

Graphics or photo imaging software — McNeel Rhino

Spreadsheet software — Microsoft Excel

KNOWLEDGE

Engineering and Technology — Knowledge of the practical application of engineering science and technology. This includes applying principles, techniques, procedures, and equipment to the design and production of various goods and services.

Mechanical — Knowledge of machines and tools including their designs, uses, repair, and maintenance.

Computers and Electronics — Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software including applications and programming.

Physics — Knowledge and prediction of physical principles, laws, interrelationships, and applications to understanding fluid, material, and atmospheric dynamics and mechanical, electrical, atomic and sub-atomic structures and processes.

Mathematics — Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.

Design — Knowledge of design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models.

Production and Processing — Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods.

Clerical — Knowledge of administrative and clerical procedures and systems such as word processing, managing files and records, stenography and transcription, designing forms, and other office procedures and terminology.

Public Safety and Security — Knowledge of relevant equipment, policies, procedures, and strategies to promote effective local, state, or national security operations for the protection of people, data, property, and institutions.

SKILLS

Active Listening — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

Critical Thinking — Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.

Reading Comprehension — Understanding written sentences and paragraphs in work related documents.

Active Learning — Understanding the implications of new information for both current and future problem-solving and decision-making.

Complex Problem Solving — Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.

Monitoring — Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.

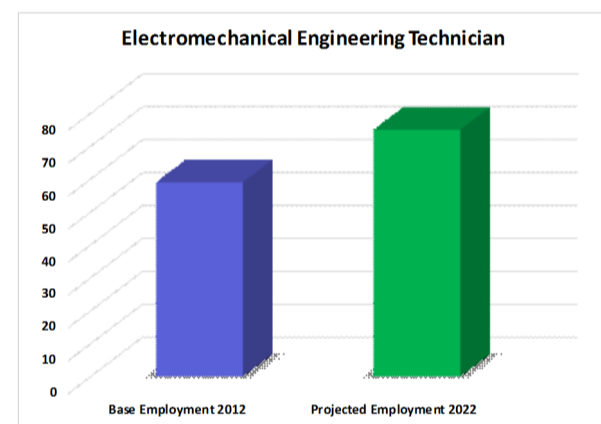
Quality Control Analysis — Conducting tests and inspections of products, services, or processes to evaluate quality or performance.

Speaking — Talking to others to convey information effectively.

Systems Analysis — Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.

Systems Evaluation — Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.

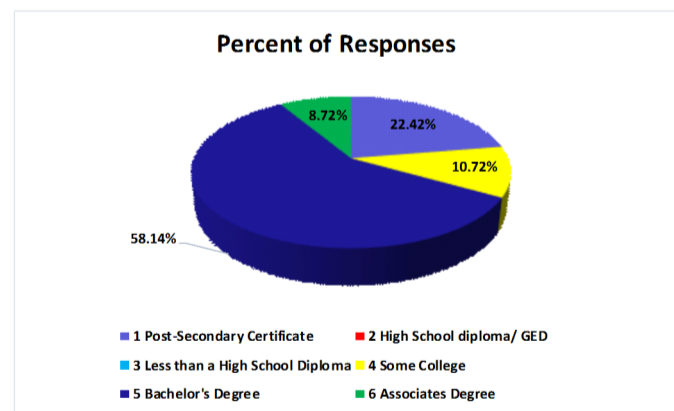
EMPLOYMENT PROJECTION



This information is based on LMI Gateway Data

EDUCATION

The graph below shows the results of a national survey listing the most common required level of education for Electromechanical Engineering Technicians.



EDUCATION FOR THIS JOB

- 2014 Catalogue of Colorado Advanced Manufacturing Program and Skill Resources
<http://www.coloradomanufacturingcareers.com/>
- Approved Colorado Community College Manufacturing Cluster education programs
<http://www.coloradocommunitycolleges.com/go/programs/skilled-trades-technical-sciences/>
<http://www.coloradocommunitycolleges.com/go/>
- Colorado Four Year Colleges and Universities
<http://higher.ed.colorado.gov/academics/colleges/public4year.asp>
- Locations to Get Manufacturing Certificates
<http://www.coloradomanufacturingcareers.com/>

