Electrical and Electronic Engineering Technologists and Technicians

SOC: 17-3023 • Career Profile Report

■ Key Facts

$77,180	93,700	+1.0%
Median Salary	Employment	Growth Rate

■ Requirements & Salary Range

Education: Associate's degree

■ Automation Risk Assessment

Low Risk - 17.0% probability of being automated in the next 10-20 years.

This job is relatively safe from automation due to its creative, social, or complex problem-solving requirements.

■■ Work-Life Balance

8.6/10 - Excellent work-life balance

■ Personality Fit (RIASEC)

Higher scores indicate better personality fit for this career type.

Realistic	8.2/10	**Investigative**	8.8/10
Artistic	6.4/10	**Social**	5.2/10
Enterprising	5.8/10	**Conventional**	6.6/10

■ Top Skills Required

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✓ Strengths

■ Challenges

• High Demand
• Flexible Work
• Continuous Learning
• Burnout Risk
• Rapid Technological Change

■ What They Do

Electrical and Electronic Engineering Technologists and Technicians are technical professionals who support engineers by installing, testing, maintaining, and troubleshooting **electrical and electronic systems and equipment**. They work hands-on with circuits, control systems, instrumentation, and electronic devices used in manufacturing, power generation, telecommunications, healthcare, and technology industries. Their role bridges theory and application, turning engineering designs into working systems.

This career is well suited for individuals who enjoy applied technology, problem-solving, and working directly with electrical and electronic equipment.

What Do Electrical and Electronic Engineering Technologists and Technicians Do?

These professionals assist in the development, operation, and maintenance of electrical and electronic systems. Their responsibilities focus on testing, implementation, and technical support.

Common responsibilities include:

- Building, installing, and testing electrical or electronic equipment
- Assisting engineers with system design and development
- Troubleshooting circuits, wiring, and electronic components
- Using diagnostic tools to identify system faults
- Collecting and analyzing test data
- Calibrating instruments and control systems
- Documenting technical procedures and results

Areas of Specialization

Electrical and electronic engineering technologists and technicians may specialize by system or industry:

- Electrical Technicians: Work with power distribution, wiring, and electrical controls.
- Electronics Technicians: Focus on circuit boards, microcontrollers, and electronic devices.
- Instrumentation Technicians: Maintain sensors, measurement, and control systems.
- Automation and Controls Technicians: Support robotics and industrial automation.
- Telecommunications Technicians: Work with communication and networking equipment.
- Test and Quality Technicians: Perform performance and safety testing.

Skills and Abilities Needed

These professionals combine technical knowledge with precision and troubleshooting ability.

Core Professional Skills

Personal Qualities That Matter

Education and Training Pathway

Most electrical and electronic engineering technologists and technicians enter the field through technical education and applied training:

- Associate Degree or Bachelor’s Degree: In electrical or electronic engineering technology

- Hands-On Laboratory Training: Practical coursework with real equipment
- Internships or Co-op Programs: Industry experience during education
- On-the-Job Training: Learning employer-specific systems
- Professional Certifications (optional): Industry or vendor credentials

Where Do Electrical and Electronic Engineering Technologists and Technicians Work?

These professionals are employed across a wide range of industries:

- Manufacturing and Industrial Facilities
- Power Generation and Utilities
- Telecommunications and Networking Companies
- Healthcare and Medical Equipment Firms
- Aerospace and Defense Industries
- Technology and Electronics Companies

Work environments include labs, factories, offices, and field sites.

How Much Do Electrical and Electronic Engineering Technologists and Technicians Earn?

Earnings vary by specialization, education level, and industry:

- Entry-Level Technicians: Typically earn competitive technical wages
- Experienced Technologists: Often earn higher pay with advanced skills
- Specialized or Automation Roles: May earn more due to technical complexity

Compensation often includes benefits and overtime opportunities.

Is This Career Difficult?

This career is technically demanding and detail-intensive. Professionals must work accurately with electrical systems where mistakes can cause equipment failure or safety hazards. The challenge lies in diagnosing complex problems, keeping up with evolving technology, and maintaining strict safety standards.

Who Should Consider This Career?

This career may be a strong fit if you:

- Enjoy applied electronics and electrical systems
- Prefer hands-on technical work over purely theoretical roles
- Like troubleshooting and fixing problems
- Are detail-oriented and safety-conscious
- Want a versatile technical career across many industries

How to Prepare Early

- Study algebra, physics, and basic electronics
- Learn to read circuit diagrams and schematics
- Practice using electrical test equipment safely
- Explore technical or engineering technology programs
- Gain experience through internships or technical projects

Electrical and electronic engineering technologists and technicians turn engineering designs into working reality, supporting the systems and technologies that power modern industry, communication, and innovation.