

Civil Engineering Technologists and Technicians

SOC: 17-3022 • Career Profile Report

■ Key Facts

\$64,200

Median Salary

64,900

Employment

+2.0%

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

8.0/10 - 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

Critical-thinking skills, Decision-making skills, Math skills, Observational skills, Problem-solving skills, Writing skills

✓ Strengths

- High Demand
- Flexible Work
- Continuous Learning

■ Challenges

- Burnout Risk
- Rapid Technological Change

■ What They Do

Civil Engineering Technologists and Technicians assist civil engineers in **designing, constructing, and maintaining infrastructure projects**. They collect and analyze data, prepare drawings, and oversee construction activities. Their work is critical in building roads, bridges, buildings, and public works.

This career is well suited for individuals who enjoy engineering, problem-solving, and hands-on work in construction and infrastructure projects.

What Do Civil Engineering Technologists and Technicians Do?

These professionals support civil engineers by implementing designs, conducting tests, and managing construction projects.

Common responsibilities include:

- Collecting and analyzing survey data for construction projects
- Preparing technical drawings, plans, and specifications
- Assisting in the design of structures, transportation systems, and utilities
- Monitoring construction activities and ensuring compliance with plans
- Testing materials such as concrete, asphalt, and soil
- Using computer-aided design (CAD) and modeling software
- Collaborating with engineers, contractors, and project managers

Key Areas of Civil Engineering Assistance

Technologists and technicians may specialize in specific projects, materials, or construction methods:

- Structural and Infrastructure Support: Assisting in the design and construction of buildings, bridges, and roads
- Surveying and Site Analysis: Collecting field data and mapping project sites
- Materials Testing: Evaluating construction materials for quality and compliance
- Project Documentation and CAD: Creating and maintaining technical plans and reports
- Construction Oversight: Monitoring work to ensure safety, accuracy, and regulatory compliance

Skills and Abilities Needed

These professionals combine technical, analytical, and practical skills.

Core Professional Skills

Personal Qualities That Matter

Education and Career Pathway

This role typically requires formal education and technical training:

- Associate or Bachelor's Degree: Civil engineering technology or related field
- Internships or Co-op Programs: Gaining hands-on experience in engineering projects
- Certification (optional but recommended): Engineering technician credentials or specialized certifications
- On-the-Job Training: Developing skills in surveying, CAD, and construction oversight
- Continuous Learning: Staying current on construction techniques, software, and regulations

Where Do Civil Engineering Technologists and Technicians Work?

They are employed in organizations that design, construct, and maintain infrastructure:

- Civil Engineering Firms
- Construction Companies

- Government Agencies
- Consulting and Design Services
- Public Works and Transportation Departments

Work environments include offices, laboratories, construction sites, and field locations.

Is This Career Difficult?

This career requires technical knowledge, analytical skills, and attention to detail. Technologists and technicians must ensure designs are implemented correctly, materials meet standards, and projects progress efficiently.

Who Should Consider This Career?

This career may be a strong fit if you:

- Enjoy engineering and technical problem-solving
- Are detail-oriented and analytical
- Can work independently or as part of a construction team
- Have an interest in infrastructure, construction, or public works
- Want a career supporting the design and maintenance of structures and systems

How to Prepare Early

- Take courses in mathematics, physics, drafting, and computer-aided design
- Participate in internships, co-op programs, or volunteer projects in construction or engineering
- Develop technical skills in surveying, CAD, and materials testing
- Explore associate or bachelor programs in civil engineering technology
- Gain hands-on experience with fieldwork, construction, or laboratory testing

Civil engineering technologists and technicians support engineers in designing, constructing, and maintaining infrastructure, ensuring safe, functional, and efficient public and private works.

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