Engineering technicians are in demand, find out about these career opportunities.
Engineering Technology

Engineering technicians and technologists use the principles and theories of science, engineering and mathematics to solve technical problems or assist engineers in design and drawing. Their work is more practically-oriented than engineers. Most technologists are graduates of a 4-year academic program. Technicians are most likely graduates of a 2-year academic program or have extensive experience in the field.¹


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While this brochure highlights only six engineering technology occupations, there are over 15 different specialty areas of engineering technology offered at Delaware Tech. Associate of applied science degrees offered in the area of engineering technology at Delaware Tech include:

**Manufacturing/Production/Operations Occupations**
Focus on Mechanical, Electrical, and Electronic Equipment & Components (Italicized occupations are offered, but not featured in this publication)

- Building Automation Systems
- Computer-Aided Drafting & Design (CAD) Technology
- Design Engineering Mechanical Engineering Technology
- Electromechanical Engineering Technology
- Electronics Engineering Technology with options in Computer, Biomedical, and Instrumentation Technology
- Mechanical Engineering Technology

**Building/Design/Specifications Occupations**
Focus on Construction, Drawing, Design, & Compliance with Codes & Regulations

- Architectural Engineering Technology
- Civil Engineering Technology
- Construction Management
- Environmental Engineering Technology
- Surveying & Geomatics Engineering Technology

**Where will I work?**
Engineering technicians find work in the following types of companies:

- Manufacturing
- Utilities
- Wholesale Trade and Distribution
- Construction
- Engineering Firms
- State and Local Government
- Healthcare Facilities
- Educational Institutions

**How much money can I make?**
Average annual wages for engineering technicians vary by specialization and the region in which you find employment. The following are median annual wages for the State of Delaware according to the U.S. Bureau of Labor Statistics:

- Electrical & Electronics Engineering Techs ($59,100)
- Mechanical Engineering Techs ($57,600)
- Civil Engineering Techs ($47,780)
- Architectural Engineering Techs ($48,800)
- Electromechanical Engineering Techs ($51,300)
- Surveying Technicians ($40,670)
- Environmental Engineering Techs ($46,160)

What will I be able to do as a mechanical engineering technician?

At work, a mechanical engineering technician might do any of the following:

• Design basic mechanical systems with the use of computer-aided drafting equipment.
• Conduct basic machining and welding operations and perform basic programming of computer/numerically-controlled (CNC) machines.
• Calculate forces, properly size structures and mechanical components, and perform standard materials testing procedures.
• Select appropriate materials for basic mechanical applications and review and/or design basic hydraulic/pneumatic power systems.

What types of courses will I take?

• Modern Manufacturing Techniques
• Engineering Graphics/CAD
• Fluid Mechanics
• Strength of Materials
• Electro-Mechanical Systems
• Machine Design
• Material Science
• Engineering Project

How much money does a mechanical engineering technician make?

According to the U.S. Bureau of Labor Statistics, the median annual salary for mechanical engineering technicians in the State of Delaware is $57,600. Competitive starting salaries range from $35,000-$45,000.
 Associate of Applied Science in Design Engineering Mechanical (DEM)

You will learn through hands-on activities with professional who provide you with skills necessary for a job in mechanical design and manufacturing. You will learn the latest manufacturing techniques and technologies necessary for a successful career in this field!

http://go.dtcc.edu/dem

Where is this program offered? Owens Campus — Georgetown

What types of courses will I take?

- Engineering Drafting & Design I, II & III
- Machine Trades Blueprint Reading
- Algebra, Trigonometry I & II (or Precalculus and Calculus)
- General Physics I
- Intro to CAD using AutoCAD
- Solid Modeling
- Modern Manufacturing Techniques
- Electrical Circuits I
- Strength of Materials
- Advanced MFG Techniques

Did you know?

95% of 2013 Delaware Tech graduates are currently employed or are continuing their education.

What will I be able to do as a mechanical design technician?

At work, a mechanical design technician might do any of the following:

- Apply knowledge and technical competency in regard to engineering materials, applied mechanics and manufacturing methods.
- Conduct standard tests and measurements as well as conduct, analyze and interpret experiments.
- Demonstrate in-depth technical competency in applied drafting practices emphasizing mechanical components and systems.
- Demonstrate technical competency in the in-depth application of physics, having emphasis in mechanical components and design.

How much money does a mechanical design technician make?

According to the U.S. Bureau of Labor Statistics, the median annual salary for mechanical design technicians (mechanical drafters) in the State of Delaware is $60,400. Competitive starting salaries range from $30,000-$40,000.
Associate of Applied Science in Electronics Engineering Technology (EEN)

This program will give you the training necessary to work with computer simulation and robotics. You will learn to use modern tools and techniques to design or improve electrical/electronic systems. Use of engineering software will provide you with the knowledge needed to analyze and solve technical problems. Much of the coursework in this program is hands-on, which provides you with the technical skills necessary for immediate employment in this high-demand field.

http://go.dtcc.edu/een

Where is this program offered? Stanton Campus — Newark
Terry Campus — Dover • Owens Campus — Georgetown

What types of courses will I take?

- Computer Assembly & Maintenance
- Analog Electronics I, II & III
- Digital Electronics
- Algebra and Trigonometry I & II
- Electrical Circuits I & II
- Microcontroller Fundamentals & Applications
- General Physics I
- Programmable Logic Controllers

What will I be able to do as an electronics engineering technician?

At work, an electronics engineering technician might do any of the following:

- Conduct, analyze and interpret experiments using analysis tools and troubleshooting methods.
- Perform entry-level technician duties utilizing skills, tools, theory, and techniques of electronics engineering technology.
- Identify, analyze and solve narrowly defined electronics engineering technology problems related to this field.
- Demonstrate basic management, organizational and leadership skills which commit to quality, timeliness and continuous improvement.

Did you know?

Eligible Delaware high school graduates can attend Delaware Tech tuition free.

How much money does an electronics engineering technician make?

According to the U.S. Bureau of Labor Statistics, the median annual salary for electronics engineering technicians in the State of Delaware is $59,100. Competitive starting salaries range from $30,000–$50,000.
What types of courses will I take?

- Electrical Circuits I & II
- Algebra and Trigonometry I & II
- Analog Electronics I
- Digital Electronics
- Intro to Instrumentation
- Microcontroller Fundamentals & Applications
- General Physics I
- Programmable Logic Controllers
- Process Instrumentation I

Did you know?

70% of Delaware Tech students graduate debt free.

What will I be able to do as an instrumentation engineering technician?

At work, an instrumentation engineering technician might do any of the following:

- Conduct, analyze and interpret experiments using analysis tools and troubleshooting methods.
- Perform entry-level technician duties utilizing skills, tools, theory and techniques of instrumentation engineering technology.
- Identify, analyze and solve narrowly defined instrumentation engineering technology problems related to this field.
- Design, install, calibrate and maintain electronic, digital and pneumatic equipment, control systems and develop procedures for maintenance and problem solving.

Associate of Applied Science in Electronics Engineering Technology – Instrumentation Option (INR)

A career in this field may lead you to work in the chemical processing, food processing, oil and gas production, energy production industries, or other highly technical fields. You could be involved in the design, installation, calibration and maintenance of electronic digital and pneumatic equipment, control systems and development of procedures for maintenance and problem solving. Coursework includes a strong component of practical applications, hands on laboratory experience and basic theoretical concepts. Computer simulation and applications are an important part of the curriculum. As a graduate, you can contribute immediately as a team player with technical knowledge, problem-solving experience and communication skills.

http://go.dtcc.edu/inr

Where is this program offered? Stanton Campus — Newark

How much money does an instrumentation engineering technician make?

According to the U.S. Bureau of Labor Statistics, the median annual salary for electronics/instrumentation engineering technicians in the State of Delaware is $59,100. Competitive starting salaries range from $30,000-$50,000.
How much money does an electromechanical engineering technician make?

According to the U.S. Bureau of Labor Statistics, the median annual salary for electromechanical engineering technicians nationally is $51,300. Competitive starting salaries range from $30,000-$40,000.

What will I be able to do as an electromechanical engineering technician?

At work, an electromechanical engineering technician might do any of the following:

• Apply techniques, skills and knowledge of the use of modern tools.
• Apply analysis tools and problem-solving methods learned in the mathematics, sciences, electrical and electronics courses.
• Utilize critical thinking in the design or improvement of quality systems, components and processes.
• Use verbal and written communication as a member of a work team.

What types of courses will I take?

• Electrical Circuits I
• Engineering Graphics/CAD
• Digital Electronics
• General Physics I & II
• Industrial Networks
• Fluid Power
• Algebra and Trigonometry I & II
• Programmable Logic Controllers
• Industrial Automation
• Electromechanical Internship

Associate of Applied Science in Electromechanical Engineering Technology (ELM)

You will gain the theoretical knowledge and hands-on skills required to maintain and repair robots, production equipment and motor control circuits. You will learn to test and evaluate pneumatic/hydraulic circuits and to build electrical, electronic and mechanical devices.

http://go.dtcc.edu/elm

Where is this program offered?  Terry Campus — Dover
What types of courses will I take?

- Engineering Drafting/Design, I, II & III
- Algebra and Trigonometry I & II
- Intro to CAD Using AutoCAD
- Advanced CAD
- Engineering Drafting-Piping
- Engineering Drafting-Structural
- General Physics
- Building Service Systems

Associate of Applied Science in Computer-Aided Drafting and Design (CAD)

You will be able to use computers to create two-dimensional and three-dimensional drawings that transform an engineer’s ideas into reality. You will use a combination of computer-aided design software and hand drafting techniques to develop and present engineering and design construction documents.

http://go.dtcc.edu/cad

Where is this program offered? Stanton Campus — Newark

What will I be able to do as a computer-aided drafting and design technician?

At work, a computer-aided drafting and design technician might do any of the following:

- Prepare detailed mechanical, machine, architectural, structural, HVAC, industrial piping, electrical/electronic drawings for light commercial, manufacturing and industrial companies.
- Perform routine structural design calculations required to size steel beams, columns and decking materials in accordance with AISC standards and reinforced concrete slabs, foundation footings in accordance with ACI standards.
- Provide meaningful and innovative assistance to supervising engineers or designers by developing layout design solutions to manufacturing problems, recommending alternate material substitutions or methods of production and applying reference resources to collect, organize and analyze required research data.
- Perform supportive activities such as reading and interpreting drawings and specifications, performing quantity surveys and organizing cost data for cost estimating functions, preparing or checking shop drawings, assisting in the planning or coordinating of manufacturing activities and coordinating the preparation and review of bid packages.

How much money does a computer-aided drafting and design technician make?

According to the U.S. Bureau of Labor Statistics, the median annual salary for mechanical/electrical/electronics CAD technicians for the State of Delaware is $59,115. Competitive starting salaries range from $30,000-$40,000.
Associate of Applied Science in Energy Management — Building Automation Systems (BAS) Option

If you are interested in applying advanced technologies to construct, maintain and repair buildings and support energy conservation and sustainability, you will be interested in the building automation systems option in the energy management program. Students will gain an understanding of building mechanical-electrical systems in today’s “built environment” and the tools to measure and improve energy efficiency. These skills will be applied to the monitoring and control of building systems with the goal of implementing operational solutions that will result in greater energy efficiency, systems reliability and occupant comfort and safety. The focus on direct digital controls is integrated with applied environmental systems practices in high performance buildings.

http://go.dtcc.edu/bas

Where is this program offered? Terry Campus — Dover

What types of courses will I take?
- Commercial Building Systems
- HVAC Energy Systems
- Industrial Networks
- Fundamentals of Control Systems
- Engineering Graphics/CAD
- Commercial HVAC Analysis
- Lighting Fundamentals & Applications
- Industrial Electricity
- Building Systems Integration
- Energy Control Strategies

Did you know?
In 2018, Harvard University predicts that 57% of all jobs in the U.S. economy will require an associate degree or other postsecondary credential.3

What will I be able to do as a BAS technician?
At work, a BAS technician might do any of the following:
- Assemble, install, service and repair direct digital controls, communications and interfaces for building electrical and mechanical systems.
- Program operational sequences for building equipment and systems, and integrate components to ensure reliable performance and compliance with building codes.
- Utilize building systems and energy technology hardware and software to gather data on energy efficiency and building operations.
- Analyze the interaction between energy-consuming building systems and make recommendations for improved energy management based on that analysis.

How much money does a building automation systems technician make?
Given that BAS is an emerging field, national and state wage data for technicians is not available. However, in a survey conducted by Delaware Tech’s Center for Industry Research & Workforce Alignment, employers of BAS technicians indicated that experienced technician salaries range between $55,000 and $65,000. Competitive starting salaries from $30,000 - $45,000.

3Symonds, W., Schwartz, R. & Ferguson, R. (February 2011). Pathways to Prosperity: Meeting the Challenge of Preparing Young Americans for the 21st Century. Issued by Harvard Graduate School of Education.
If you thought college wasn’t in your future
THINK AGAIN!

College tuition doesn’t always fit into every budget, and finances sometimes keep good students from going to college. That’s why the SEED Scholarship program was started. If you keep your grades up in high school and stay out of trouble, you can go to Delaware Tech tuition-free.*

* Course fees and books are not covered by the SEED Scholarship.

7 STEPS to your FREE tuition at Delaware Tech!

1. Apply for financial aid and submit a Free Application for Federal Student Aid (FAFSA) by the priority deadline of June 1 through the federal website (https://fafsa.ed.gov). A student must apply for financial aid by submitting a FAFSA. (FAFSA application is available after January 1.)

2. Submit the SEED Scholarship Application by the priority deadline of April 15* to the campus Financial Aid Office.

3. Submit an Application for Admission with a non-refundable $10 application fee. Students may apply online via the Web (www.dtcc.edu/admissions), or applications may be requested by phone, mail, or from your high school counselor. Apply early for admission!

4. Participate in the college testing and placement program or provide official scores from SAT/Accuplacer tests to the campus Admissions Office.

5. Visit your campus advisement center for advisement and course registration.

6. Submit your final official high school transcript by June 30* to the campus Financial Aid Office.

7. Wait for campus notification of your SEED Scholarship eligibility. Notifications are sent after July 16.

How to apply for FINANCIAL AID

All SEED Scholarship applicants should apply for financial aid by April 15.

Apply early! The process will take several weeks. Complete and submit the Free Application for Federal Student Aid (FAFSA) on the Web at www.fafsa.ed.gov. Keep copies of everything. Mistakes mean delays! For help completing the FAFSA, contact the campus Financial Aid Office.

If the Financial Aid Office requests additional information, respond immediately.

Applications for the SEED Scholarship program will be subject to available funding for each fiscal year.

www.dtcc.edu/financialaid

* If the date falls on a weekend or holiday, the due date will be the following business day.

Contact us for more INFORMATION

Dover
100 Campus Drive, Dover, DE 19904
Financial Aid (302) 857-1040
Admissions (302) 857-1020

Georgetown
21179 College Drive, Georgetown, DE 19947
Financial Aid (302) 259-6080
Admissions (302) 259-6053

Stanton
400 Stanton-Christiana Road, Newark, DE 19713
Financial Aid (302) 453-3706
Admissions (302) 454-3954

Wilmington
333 N. Shipley Street, Wilmington, DE 19801
Financial Aid (302) 434-5552
Admissions (302) 571-5343
You can be eligible for the SEED scholarship if you:

- Graduate from a public or non-public Delaware high school.
- Meet the residency requirements.
- Have a cumulative GPA of 2.5 on a 4-point scale or 80% on a 100-point scale, as indicated on the student’s official high school transcript.
- Have not been convicted of a felony.
- Enroll at Delaware Tech no later than the fall immediately following graduation.

Further information about the SEED scholarship, visit [www.dtec.edu/seed](http://www.dtec.edu/seed).