



Mechanical Engineering Technicians

SOC Code 17-3027 • Projected Growth (2020)

Description

What Mechanical Engineering Technicians Do

Mechanical engineering technicians help mechanical engineers design, develop, test, and manufacture industrial machinery, consumer products, and other equipment. They may make sketches and rough layouts, record and analyze data, make calculations and estimates, and report their findings.

Duties

- Evaluate drawing designs for new or changed tools by measuring dimensions on the drawing and comparing them with the original specifications
- Prepare layouts and drawings of parts to be made and the process for putting them together
- Discuss changes with coworkers—for example, in the design of the part, in the way it will be made and put together, and in the techniques and process they will use
- Review instructions and blueprints for the project to ensure the test specifications, procedures, and objectives
- Plan, make, and put together new or changed mechanical parts for products, such as industrial machinery or equipment
- Set up and conduct tests of complete units and of parts as they would really be used, as a way to investigate proposals for improving equipment performance
- Record test procedures and results, numerical and graphical data, and recommendations for changes in product or test methods
- Analyze test results in regarding design specifications and test objectives

Training Opportunities Linked to Those Jobs

[\(Degree Types and Colleges/Universities\)](#)

How to Become a Mechanical Engineering Technician

Most employers prefer to hire someone with an associate's degree or other postsecondary training in mechanical engineering technology. Prospective engineering technicians should take as many science and math courses as possible while in high school.

Education and Training

Prospective mechanical engineering technicians usually take courses in fluid mechanics, thermodynamics, and mechanical design in a program leading to an associate's degree. The Technology Accreditation Commission of [ABET](#) (formerly the Accreditation Board for Engineering and Technology) accredits programs that include at least college algebra, trigonometry, and basic science courses.

Associate's degree programs are in the following types of institutions:

- Vocational-technical schools, which include postsecondary public institutions that serve local students and emphasize training needed by local employers.
- Community colleges, which offer programs similar to those in technical institutes but include more theory-based and liberal arts coursework.

There are also programs in mechanical engineering technology that lead to a bachelor's degree, although most technicians graduate from associate's degree programs. Those who complete a bachelor's degree work as mechanical engineering technologists, rather than as technicians. In some cases, they are considered applied mechanical engineers because they put current mechanical engineering concepts to immediate use. Completing an associate's degree in mechanical engineering technology opens the way to studying for a bachelor's degree.

Important Qualities

Communication skills. Mechanical engineering technicians follow instructions from mechanical engineers or mechanical engineering technologists. They must be able to clearly understand and follow instructions or, if they do not understand, to ask their supervisors to explain.

Creativity. Mechanical engineering technicians help to bring plans and designs to life.

Detail oriented. Mechanical engineering technicians must make precise measurements and keep accurate records for mechanical engineers.

Interpersonal skills. Mechanical engineering technicians must be able to take instructions and offer advice when it is needed.

Math skills. Mechanical engineering technicians use mathematics for analysis, design, and troubleshooting in their work.

Mechanical skills. Mechanical engineering technicians must apply theory and instructions from engineers by making new components for industrial machinery or equipment. They need to be able to operate machinery such as drill presses, grinders, and engine lathes.

Technical skills. Mechanical engineering technicians must be able to help engineers keep production machinery running and use equipment to record important data.

Postsecondary Education

Texas Southmost College	South Texas College	Texas State Technical College	The University of Texas at Brownsville	The University of Texas - Pan American
	Associated of Science in Engineering		Bachelors of Science in Engineering Physics	Bachelors of Science in Mechanical Engineering

Local Employers

Ambiotec Civil Engineering Grp	Brownsville	Lockheed Martin Corp	Harlingen
Cameron County Irrigation	San Benito	South Texas Tropical Weather	Brownsville
Ferris & Flinn	Harlingen	Valley Solvents & Chemicals	Combes

Career Options

(Specific Job Types)

- Engineering Technician
- Mechanical Designer
- Research and Development Technician
- Equipment Engineer
- Process Technician
- Design Engineer
- Designer
- Engineering Lab Technician
- Engineering Technical Analyst
- Lab Technician

Salary Ranges

Wages for **Mechanical Engineering Technicians**

Location	Pay Period	2012				
		10%	25%	Median	75%	90%
United States	Hourly	\$16.04	\$19.83	\$24.99	\$31.16	\$36.86
	Yearly	\$33,400	\$41,200	\$52,000	\$64,800	\$76,700
Texas	Hourly	\$16.75	\$21.02	\$27.07	\$35.58	\$44.88
	Yearly	\$34,800	\$43,700	\$56,300	\$74,000	\$93,400
	Yearly	\$27,100	\$37,900	\$54,700	\$79,600	\$93,300

Professional Associations linked to the Careers

For more information on general engineering education and career resources, visit [Technology Student Association](#)

For information about accredited programs, visit [ABET](#)

Sources

The information provided in this document was collected from the following sources:

- Occupational Outlook Handbook (<http://www.bls.gov/ooh/>)
- O*NET OnLine (<http://www.onetonline.org/>)
- Texas CARES (<http://www.texascaresonline.com/>)
- CareerOneStop (<http://www.careeronestop.org/>)



Mechanical Engineering Technicians

Cluster Overview: Planning, managing, and providing scientific research and professional and technical services including laboratory and testing services, and research and development services.

Career Goal (O*NET Code): (17-3027) - Mechanical engineering technicians help mechanical engineers design, develop, test, and manufacture industrial machinery, consumer products, and other equipment. They may make sketches and rough layouts, record and analyze data, make calculations and estimates, and report their findings.

Student Name: _____
Grade: _____
School: _____

SUGGESTED COURSEWORK

EXTENDED LEARNING EXPERIENCES

Middle School	8th	HS Courses:	(Local districts may list high school credit courses here)	Curricular Experiences: Camp SOAR-Aerospace Engineering-Texas A&M University Aerospace Academy-San Jacinto College Project Lead the Way Skills USA Technology Student Association The Infinity Project Career Learning Experiences: Career Preparation Job Shadowing Internship	Extracurricular Experiences: Destination ImagiNation High School Students United with NASA International Bridge Building Contest Marine Advanced Technology Education Center National Engineering Design Competition UIL Academic Competitions Aerospace Summer Camps Service Learning Experiences: Campus Service Organizations Community Service Volunteer Peer Mentoring/Peer Tutoring	
High School	9th	Core Courses:	English I Algebra I Biology			World Geography Languages other than English I Physical Education
		Career-Related Electives:	Introduction to Engineering Design			
	10th	Core Courses:	English II Geometry Chemistry			World History Languages other than English II
		Career-Related Electives:	Principles of Engineering			
	11th	Core Courses:	English III Algebra II Physics	United States History Professional Communications		
	Career-Related Electives:	Digital Electronics				
	12th	Core Courses:	English IV Precalculus/Engineering Mathematics Engineering Design & Problem Solving	Government/Economics Fine Arts recommended *Calculus		
		Career-Related Electives:	Engineering Design and Development, Civil Engineering Design and Architecture, Computer Integrated Manufacturing			

COLLEGE CREDIT OPPORTUNITIES -- High School

Students should take Advanced Placement (AP), International Baccalaureate (IB), dual credit, Advanced Technical Credit (ATC), or locally articulated credit courses, if possible. List those courses that count for college credit on your campus.

How to Become a Mechanical Engineering Technician Most employers prefer to hire someone with an associate's degree or other postsecondary training in mechanical engineering technology. Prospective engineering technicians should take as many science and math courses as possible while in high school.		Career Options:	Professional Associations: Technology Student Association ABET
Postsecondary	Texas Southmost College South Texas College Texas State Technical College	<ul style="list-style-type: none"> • Engineering Technician • Mechanical Designer • Equipment Engineer • Research and Development Technician • Process Technician • Design Engineer • Designer • Engineering Lab Technician • Engineering Technical Analyst • Lab Technician 	
	Associated of Science in Engineering		
	University of Texas at Brownsville University of Texas - Pan American		
	Bachelors of Science in Engineering Physics Bachelors of Science in Civil Engineering		

Students may select other elective courses for personal enrichment purposes.

This plan of study serves as a guide, along with other career planning materials, for pursuing a career path and is based on the most recent information as of 2012. All plans meet high school graduation requirements as well as college entrance requirements.