ENGINEERING TECHNOLOGY

Manufacturing Engineering Technology

Careers

Manufacturing engineering technicians use the principles and theories of science, engineering and mathematics to solve technical problems in research and development, manufacturing, sales, construction, inspection and maintenance. Their work is more practically oriented than that of scientists and engineers. Many engineering technicians assist engineers and scientists, especially in research and development. Others work in quality control – inspecting products and processes, conducting tests or collecting data. In manufacturing, they may assist in product design and development, process design or production.

Manufacturing engineering technicians study the efficient use of personnel, materials and machines in factories, stores, repair shops and offices. They prepare layouts of machinery and equipment, plan the flow of work, make statistical studies and analyze production costs. They may work with computer numerically controlled systems in industries like plastics and metalworking.

Manufacturing engineering technicians help engineers design, develop, test and manufacture industrial machinery, mechanical parts and other equipment. They make sketches and rough layouts, record data, make computations, analyze results and write reports. When planning production, mechanical engineering technicians prepare layouts and drawings of the assembly process and of parts to be manufactured. They estimate labor costs, equipment life and plant space. Some test and inspect machines and equipment in manufacturing departments or work with engineers to eliminate production problems.

Job Outlook

Overall employment of engineering technicians is expected to grow seven percent between 2006 and 2016, about as fast as the average for all occupations. Competitive pressures will force companies to improve and update manufacturing facilities and product designs, resulting in more jobs for engineering technicians. Growth of engineering technician employment in some design functions may be dampened by increasing globalization of the development process. However, much of the work of engineering technicians requires on-site presence, so demand for engineering technicians within the U.S. should continue to grow-particularly in the environmental, civil, and industrial specialties. Because engineering technicians work closely with engineers, employment of engineering technicians is often influenced by the same local and national economic conditions that affect engineers. As a result, the employment outlook varies with industry and specialization.

Earnings

Median annual earnings in May 2006 of engineering technicians by specialty are shown in the following tabulation. Aerospace engineering and operations technicians $53,300. Electrical and electronic engineering technicians $50,660. Industrial engineering technicians $46,810. Mechanical engineering technicians $45,850. Electro-mechanical technicians $44,720. Civil engineering technicians $40,560. Environmental engineering technicians $40,560.

Related Careers

- Automation engineer
- Electronic engineer
- Welder

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Manufacturing Engineering Technology Careers

Educational Opportunities in Manufacturing Engineering Technology at LCCC

Certificate of Proficiency in Manufacturing Engineering Technology – Computer Aided Design Operator
This program provides students with the knowledge and cognitive skills necessary for the competent performance as an entry-level CAD operator. This program may be completed in one year, if taken on a full-time basis.

Certificate of Proficiency in Manufacturing Engineering Technology – Computer Aided Machining Operator
This program provides students with the knowledge, skills and competencies in programming, set-up and operating CNC machines in a manufacturing setting. This program may be completed in one year, if taken on a full-time basis.

Certificate of Proficiency in Manufacturing Engineering Technology – Quality Control
This program provides students with the knowledge and cognitive skills required to work as quality-control inspectors. Graduates may assist quality engineers in basic engineering and statistical process control charting.

Associate of Applied Science in Manufacturing Engineering Technology – Computer Aided Machining
This program prepares students with the knowledge, skills and hands-on experience needed to program, set up and operate computer numerically controlled (CNC) machines, specifically the Machining and Turning Center.

Associate of Applied Science in Manufacturing Engineering Technology – Mechanical Design
This program provides students with the knowledge and cognitive skills necessary for the competent performance as an entry-level mechanical drafter/designer or computer-aided design operator. This program may be completed in two years, if taken on a full-time basis.

Associate of Applied Science in Manufacturing Engineering Technology – Quality Assurance
This program provides students with the knowledge and cognitive skills necessary for the computer proficiencies as an entry-level quality technician.

Other Educational Opportunities in Engineering Technology at LCCC

- Associate of Applied Science Programs
- Alternative Energy Technology –Wind Turbine
- Automation Engineering Technology – Maintenance/Repair
- Automation Engineering Technology – Systems Specialist
- Electronic Engineering Technology – Applied Electronics
- Computer Engineering Technology – Computer and Digital Forensics
- Computer Engineering Technology – Industrial Computing Applications Specialist
- Electronic Engineering Technology – Computer Maintenance and Networking
- Electric Power Utility Technology – Overhead Line Technology
- Electric Power Utility Technology – Substation Technology
- Manufacturing Engineering Technology – Computer Aided Machining
- Manufacturing Engineering Technology – Mechanical Design
- Manufacturing Engineering Technology – Quality Assurance
- Welding Technology

One Year Technical Certificate / Certificate of Proficiency

- Alternative Energy Technology -Wind Turbine
- Computer Engineering Technology -Computer and Digital Forensics
- Computer Engineering Technology -Industrial Computing Applications Specialist
- Electronic Engineering Technologies – Computer Maintenance and Networking
- Manufacturing Engineering Technologies – Computer Aided Design Operator
- Manufacturing Engineering Technologies – Computer Aided Machining Operator
- Manufacturing Engineering Technologies – Quality Control
- Welding Technology – Welding Operator

Short-Term Technical Certificate/ Certificate of Completion

- Alternative Energy Technology – Wind Turbine
- Electronic Engineering Technologies – Computer Maintenance and Networking
- Manufacturing Engineering Technology – Computer Aided Design
- Manufacturing Engineering Technologies – Computer Aided Machining/Manufacturing Processes
- Manufacturing Engineering Technologies – Quality Inspector
- Welding Technology – Welding

Educational Opportunities through LCCC's University Partnership

University of Akron

Bachelor of Science in Automated Manufacturing Engineering Technology
Many manufacturing companies in Ohio and nationwide are providing career opportunities for highly trained professionals in the field of production supervision and management, quality assurance, production control, manufacturing, and plant engineering — all positions filled by graduates of The University of Akron's bachelor of science in automated manufacturing engineering technology program.

About Lorain County Community College

Lorain County Community College continues to experience enrollment growth because attending LCCC is the most economical way to reach educational goals that help graduates become valuable players in the future economic growth of the county and region. Because of the variety and quality of learning opportunities LCCC provides, enrollment has grown 78 percent since 2000.

Lorain County Community College, which opened in 1963, is one of Ohio's leading colleges delivering credit programs at its Elyria campus and outreach centers in downtown Elyria, Lorain, Wellington and Brunswick. Plus more than 200 courses are offered via distance-learning education options, and the Associate of Arts degree can be completed entirely online.

Students can choose from more than 80 educational programs. Students can complete the first half — and sometimes more — of a bachelor's degree through LCCC's University Partnership, which brings eight universities to the LCCC campus offering 40 bachelor's and master's degree programs. Students can upgrade, retrain and improve current life skills.

In addition to providing a great education for those who enter college with aspirations of a degree, LCCC helps those who have changed their career goals, who want to broaden their horizons, and who want to return to work. LCCC provides learning and training for those who want to move up but find they need new or improved skills for the kind of professional opportunities they seek.

LCCC faculty is recognized locally and nationally for their work as professors and in other areas. They all have advanced degrees and real world experience and understand their primary responsibility at LCCC is to teach classes.

LCCC is fully accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools, which is the regional accrediting authority for Ohio colleges and universities. Since opening its doors, LCCC has served more than 300,000 people. More than six million students enroll annually in credit courses at America's community colleges, representing about 46 percent of all students in higher education and about 56 percent of all first-time college entrants.

Lorain County Community College

The University Partnership
of Lorain County Community College

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Source: Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, 2009-10 Edition*, on the Internet at http://www.bls.gov/oco.

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