



ENGINEERING TECHNOLOGY

Automation Engineering Technology

Careers

Automation 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. Others work with programmable logic controllers (PLCs), a hot field in the area of automation engineering technology that involves working with special-purpose computers to synchronize all of the technologies used for a manufacturing process. PLC professionals program set up and use these special-purpose computers.

Automation engineering technology is applied to a wide variety of systems such as communications and process controls. Automation engineering technicians combine fundamental principles of mechanical engineering technology with knowledge of electrical and electronic circuits to design, develop, test and manufacture electrical and computer controlled mechanical systems, which are becoming the foundation of operation in industry.

The automation industry is a branch of the electronics field and is one of the fastest growing areas of our national and international high-technology economy. It combines the fields of electronics, electrical, and mechanics and includes the interaction and control of motors, computers, pneumatics, hydraulics and other processes used in manufacturing.

The program prepares students to work as automation and robotics engineering technicians in all phases of industry where the control of production, distribution and/or manufacturing is conducted by an automated process.

Graduates of the Automation Engineering Technology program may develop and test industrial process control systems, supervise the building and testing of prototypes, or supervise and conduct the installation and operation of such systems. They may calibrate operating systems and components, or write specifications, schedules and reports in addition to controlling schedules and budgets. They may carry out research under the direction of scientists or engineers, or set up and operate specialized test equipment to test, diagnose and analyze performance. They may troubleshoot and offer suggestions for improvement and functionality of automated control systems.

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 of wage-and-salary electrical and electronics engineering technicians were \$50,660 in May 2006. The middle 50 percent earned between \$39,270 and \$60,470. The lowest 10 percent earned less than \$30,120, and the highest 10 percent earned more than \$73,200.

Related Careers

- Electronic Engineering Technology
- Manufacturing Engineering Technology

Automation Engineering Technology Careers

Educational Opportunities in Automation Engineering Technology at LCCC

Associate of Applied Science in Automated Engineering Technology – Maintenance/Repair

This program teaches students to repair, troubleshoot and maintain automated equipment commonly used in industry such as robots and computer numerical control (CNC) equipment.

Associate of Applied Science in Automated Engineering Technology – Systems Specialist

This program instructs students to be systems specialists. Concentration of abilities for installing and operating robots and other industrial material handling and processing technologies, as well as engineer and program equipment for systems integration.

Other Educational Opportunities in Engineering Technology at LCCC

- Certificate of proficiency in electronic engineering technology – computer maintenance and networking
- Certificate of proficiency in manufacturing engineering technology – computer aided design operator
- Certificate of proficiency in manufacturing engineering technology – computer aided machining operator
- Certificate of proficiency in manufacturing engineering technology – quality control
- Associate of applied science in electronic engineering technology – applied electronics
- Associate of applied science in electronic engineering technology – computer maintenance and networking
- Associate of applied science in manufacturing engineering technology – computer aided machining
- Associate of applied science in manufacturing engineering technology – mechanical design
- Associate of applied science in manufacturing engineering technology – quality assurance

Educational Opportunities at LCCC through its University Partnership

The University of Akron

Bachelor of Science in Automated Manufacturing Technology

Many manufacturing companies 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's of science in automated manufacturing technology program, which is offered on the LCCC campus through the University Partnership at LCCC. Companies want and need technically qualified people to help them compete at the highest possible levels of quality and productivity in today's extremely competitive world marketplace.

Ohio University

Master of Science in Engineering- Engineering Management

The Russ College of Engineering offers a graduate program of study with an emphasis in Engineering Management. This program is designed for, but not limited to, individuals holding undergraduate degrees in engineering, chemistry, physics or other technical degrees. You will develop the appropriate skills for the management of technology-based companies. The program includes courses emphasizing the skills required of technology managers including coursework in information technology, supply chain management, finance and statistics.

About Lorain County Community College

Lorain County Community College is one of Ohio's leading colleges delivering distance learning education via the Internet. The College has expanded its delivery of its programs and services through the opening of the Learning Center at St. Joseph Community Center in Lorain, the LCCC Wellington Center, Lorain County Growth Partnership in downtown Elyria and the Midpoint Campus Center in Brunswick. Partnerships with Lorain County's K-12 school districts have also led to important developments for the community. More than 1300 high school students participate in the Post Secondary Enrollment Options program by enrolling in LCCC classes, making LCCC the state's largest community college provider of PSEO. More than 35 percent of Lorain County's top high school graduates choose to attend LCCC.

LCCC is one of Ohio's fastest growing colleges because of the variety of learning opportunities it provides. Students can choose from more than 80 educational programs. Students can complete the first half — and sometimes more — of a bachelor's degree. The University Partnership brings eight universities to the LCCC campus offering 37 bachelor's and master's degree programs. With the University Partnership at LCCC, the College partners with the state's finest universities to bring the best in bachelor's and master's degree programs right to the LCCC campus. Students can earn degrees that get them jobs immediately. Students can upgrade, retrain and improve current life skills. Students can learn in the classroom, at home and over the Internet.

LCCC offers a complete college experience. We understand that there's more to college life than attending classes. We offer many of the programs, sports, and activities available at large four-year universities and colleges. But, students will not have to stand in line behind juniors and seniors in the classroom, on the playing field, or in leadership positions. Students can immediately act in a play, sing in a musical group, serve as editor for the college newspaper, plan social activities, compete on the playing field, or set policy as a student government member.

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. Classes are small. Individual attention is plentiful.

An LCCC education, prepares students for real jobs and real futures. To find out more, call (800) 995-LCCC or visit LCCC's Connections Center, the Learning Center at St. Joseph Community Center in Lorain, the LCCC Learning Center in Wellington, the Lorain County Growth Partnership in downtown Elyria or the Midpoint Campus Center in Brunswick for all of your enrollment service needs, including admissions, registration, advising and counseling.



**Lorain County
Community College**



**The University
Partnership**

of Lorain County Community College

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