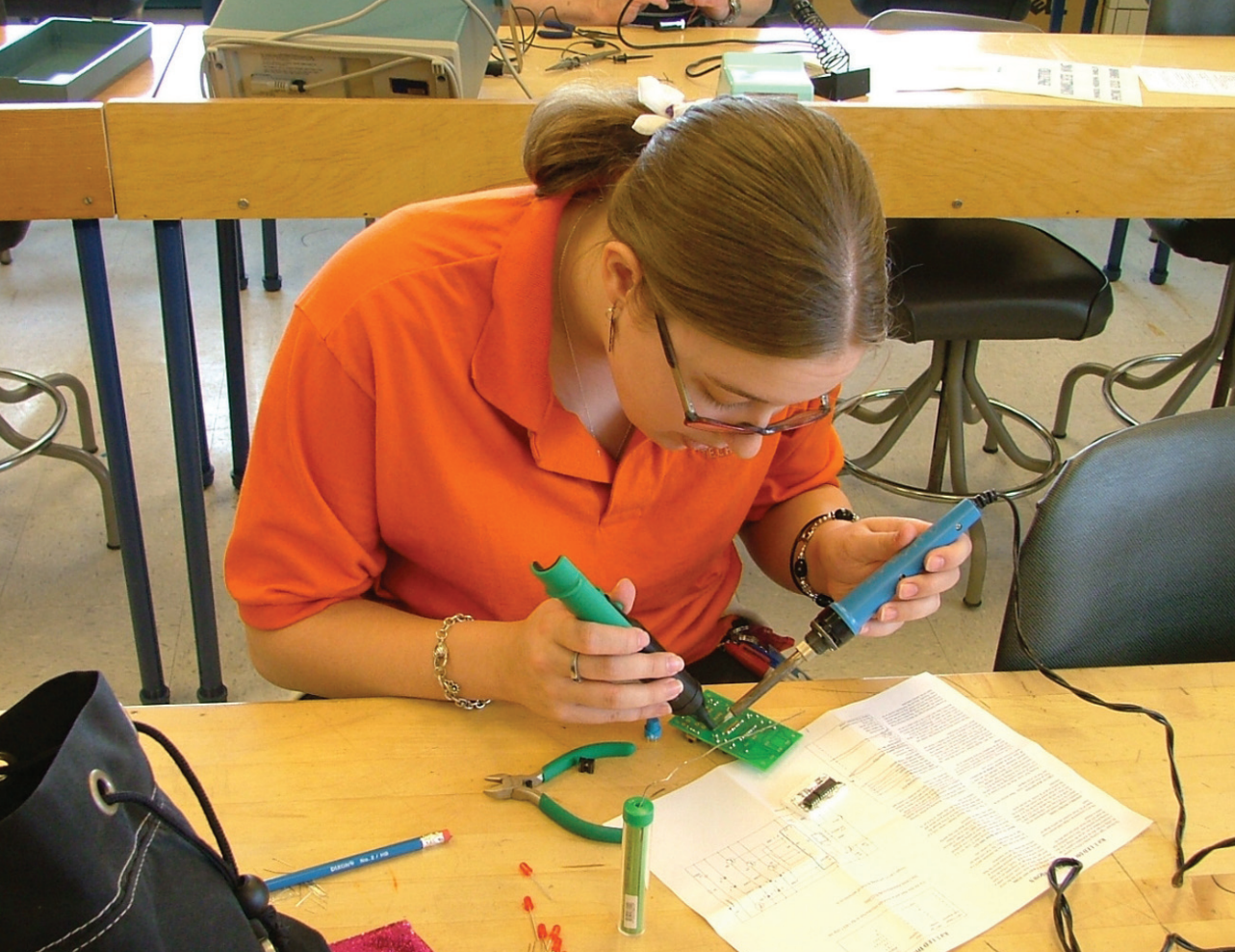


T H E



C E N T E R

ELECTRICAL ENGINEERING TECHNOLOGY



Liz-Beth Daniels is participating in the Electronics Challenge, a part of Rhodes State College's 12th annual Engineering Day. A senior in the Electronics Engineering Technology Tech Prep program at Ohio Hi-Point Career Center, she has been accepted at Rhodes State College and Wright State University.

Students with backgrounds in electronics may find themselves working in either electronic engineering technology or computer technology oriented occupations. Occupations in this area include the following:

Electrical and electronics engineering technicians help to design, develop, test, and manufacture electrical and electronic equipment such as communication equipment, radar, industrial and medical measuring or control devices, navigational equipment, and computers. They may work in product evaluation and testing, using measuring and diagnostic devices to adjust, test, and repair equipment. Occupations in this field are among the most available in industry today.

Electromechanical 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.

Electricians install, connect, test, and maintain electrical systems for a variety of purposes, including climate control, security, and communications. They also may install and maintain the electronic controls for machines in business and industry. Although most electricians specialize in construction or maintenance, a growing number do both. Electricity is essential for

light, power, air-conditioning, and refrigeration; so, there's no chance of electrician positions disappearing any time in the near future. Most electricians are trained through apprenticeship programs and/or through two-year degree colleges.

Computer technicians oversee the operation of computer hardware systems, ensuring that these machines are used as efficiently as possible. They may work with mainframes, mini-computers, or networks of personal computers. Computer operators must anticipate problems and take preventive action, as well as solve problems that occur during operations. As organizations continue to look for opportunities to increase productivity, automation is expanding into additional areas of computer operations. Sophisticated software, coupled with robotics, enables a computer to perform many routine tasks formerly done by computer operators. Scheduling, loading and downloading programs, mounting tapes, rerouting messages, and running periodic reports can be done without the intervention of an operator. Consequently, these improvements will change what computer operators do in the future. As technology advances, the responsibilities of many computer operators are shifting to areas such as network operations, user support, and database maintenance.

JOBS IN THIS FIELD

Job titles	Salary range*
<i>Median annual earnings of electronic engineering technicians by specialty is shown in the following tabulation.</i>	
Electrical and electronic engineering technicians	\$42,950
Electricians	\$41,390
Electro-mechanical technicians	\$38,120
Computer systems design and related services	\$30,280

*Salaries may vary depending on region and experience. Sources: Data is pulled from U.S. Department of Labor's Bureau of Labor Statistics

SKILLS REQUIRED

Engineering Technologists must have application-oriented scientific and mathematical backgrounds as well as creative minds. Most engineering technologies are requiring the use of computers to some degree. Because computer technology changes so rapidly, operators must be adaptable and willing to learn. Analytical and technical expertise also are needed, particularly by operators who work in automated data centers, to deal with unique or high-level problems that a computer is not programmed to handle. Operators must be able to communicate well, and to work effectively with programmers, users, and other operators. Computer operators also must be able to work independently because they may have little or no direct supervision.

WHERE/HOW TO GET TRAINING

Schooling

Engineering technicians are usually trained in two years. In some cases it is best for students to enroll in career center tech prep programs to get a head start in their profession. Engineering technology associate degree programs are found in many technical and community colleges. Many associate degree programs are offering internship opportunities as part of the college experience. There are many opportunities for associate degree graduates to enroll in 2+2 programs at colleges and universities with engineering technology bachelor degrees. Students with the mathematics aptitude can move onto traditional engineering degrees after two-year degrees.

High school students interested in pursuing a career in engineering technology should take as many science and math classes as possible.

Financial Aid

Grants, scholarships, loans, and work/study programs are available for college students. For most of this aid, high school seniors must submit a Free Application for Federal Student Aid, which is available from high school guidance offices and higher education financial aid offices. For more information on federal financial aid programs, or to apply electronically, visit the U.S. Department of Education's Web site at <http://www.ed.gov>.



For more information on federal financial aid programs, call (800) 4FEDAID

FUTURE JOB OPPORTUNITIES

The field of electronic engineering technology has more openings than any other engineering technology field. Electrical, electronic, and computer engineering technicians make up 42 percent of all engineering

technicians. About 39 percent of all engineering technicians work in manufacturing, mainly in the computer and electronic equipment, transportation equipment, and machinery manufacturing industries.

WORK ENVIRONMENT

Engineering technicians usually wear casual work attire. Protective clothing such as

hard hats or lab coats may be required depending on the field or location of the job.

RESOURCES - HOW TO FIND OUT MORE

ONLINE:

- www.asee.org (American Society for Engineering Education)
- www.abet.org (Accreditation Bureau of Engineering Technology)
- www.nait.org (National Association of Industrial Technology)
- www.ohiotechcareers.org (Ohio Tech Careers Eng & Industrial Tech Programs)
- www.ieee.org (The IEEE Institute for Electrical and Electronic Engineering)

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