



ELECTRONICS AND ELECTRO- MECHANICAL TECHNOLOGY

 College of DuPage

ELECTRONICS TECHNOLOGY

Step into the future at College of DuPage.

Electronic components are nearly everywhere these days. From everyday consumer devices such as cameras, phones, and computers to the impressive automated industrial machines and robots used by manufacturing firms, it's hard to find an area of life that hasn't been touched by electronics. You will find electronic components in the offices and equipment of nearly every industry. Consequently, there is an increasing need for qualified workers who can assemble, inspect, install, operate, repair and otherwise maintain this amazing array of products and machines. According to the Workforce Board of Metropolitan Chicago's Critical Skill Shortage Report, multidisciplinary technology is one of the highest-paid professions in the technology field.

The Electronics Technology program at College of DuPage provides students with a broad exposure to the fundamentals of electricity and electronics, including digital electronics and microprocessors. Students can earn an Associate in Applied Science (A.A.S.) degree or choose from a number of certificate programs in various fields of electronics. These practical, hands-on programs are regularly updated to meet the needs of industry and the educational needs of the workforce in the 21st century.

For a complete list of courses in this program visit:

cod.edu/catalog





WHY COLLEGE OF DuPAGE IS RIGHT FOR YOU

Whether you are preparing for a career in electronics, planning to transfer to a four-year baccalaureate-granting institution, or updating your skills, College of DuPage has the right program for you. We offer:

- Dedicated instructors with years of practical industry experience, certification, and licensing.
- Instruction in top-notch facilities and on cutting-edge equipment.
- Flexible schedules with day, evening and weekend classes.
- Practical, hands-on experience as well as classroom-based studies.
- Affordable programs that get you on the fast track to success without breaking the bank.
- Partnerships with area firms prepare students and workers for employment and advancement through industry-led projects.
- An Advisory Committee made up of industry professionals ensures that College of DuPage's Electronics program offers up-to-date training on equipment and in skills that are relevant and in demand by today's employers.
- Dual credit agreements offer high school students a head start on their higher education and career goals.
- Transfer options to universities.



“COD helped me focus interests that I had from a young age, but which I was not certain what to do with.”

—Chris Hall, InET Graduate

ASSOCIATE IN APPLIED SCIENCE (A.A.S.) DEGREES IN ELECTRONICS TECHNOLOGY

The Electronics Technology program provides training in a wide variety of skill areas of electronics. The degree options in the program are Electronics Technology, Biomedical Engineering Technology, and Integrated Engineering Technology.

Biomedical Engineering Technology

This degree program is designed to prepare the student for careers as biomedical equipment technicians in health agencies, hospitals, and businesses that manufacture and maintain electronic and biomedical instruments. Students will learn to design, implement and maintain health care components such as rehabilitation and therapeutic products, medical imaging systems and computer-based systems used in the biomedical technology field. The Associate in Applied Science degree program requires 64 credits.

Electronics Technology

This degree program provides students with fundamentals of electricity and electronics, including digital electronics and microcomputer repair, specialized manufacturing electronics, industrial automation, and electronic communications. Students in this program are required to complete 64 credits of coursework.

Integrated Mechatronics and Manufacturing Technology

This degree program is designed to meet industry needs for multi-functional technicians competent in manufacturing, electro-mechanics and electronics technology. InET engineering technicians apply scientific and engineering concepts to the implementation of existing technologies. Areas of focus include installation, operation and maintenance of manufacturing and automated systems. Students in this program are required to complete 64 credits in coursework.

CERTIFICATES IN ELECTRONICS TECHNOLOGY

The Electronics Technology program currently offers various certificate programs designed to enable students to train for entry-level positions and working professionals to upgrade their skills.

Additional electronics elective courses are highly suggested as a way to gain additional exposure to advanced and emerging technologies, learn about systems not included in the required classes, and gain advantages over stiff competition in the job market.

Electricity and Electronics Technology Certificate

The Electricity and Electronics Technology certificate program prepares students for entry-level positions with basic skills and competencies in analog and digital electrical and electronic devices. Students in this program are required to complete 13 credit hours of coursework in electrical and electronic fundamentals including studies in materials, fabrication, and automated systems.

Electronics Technology Certificate

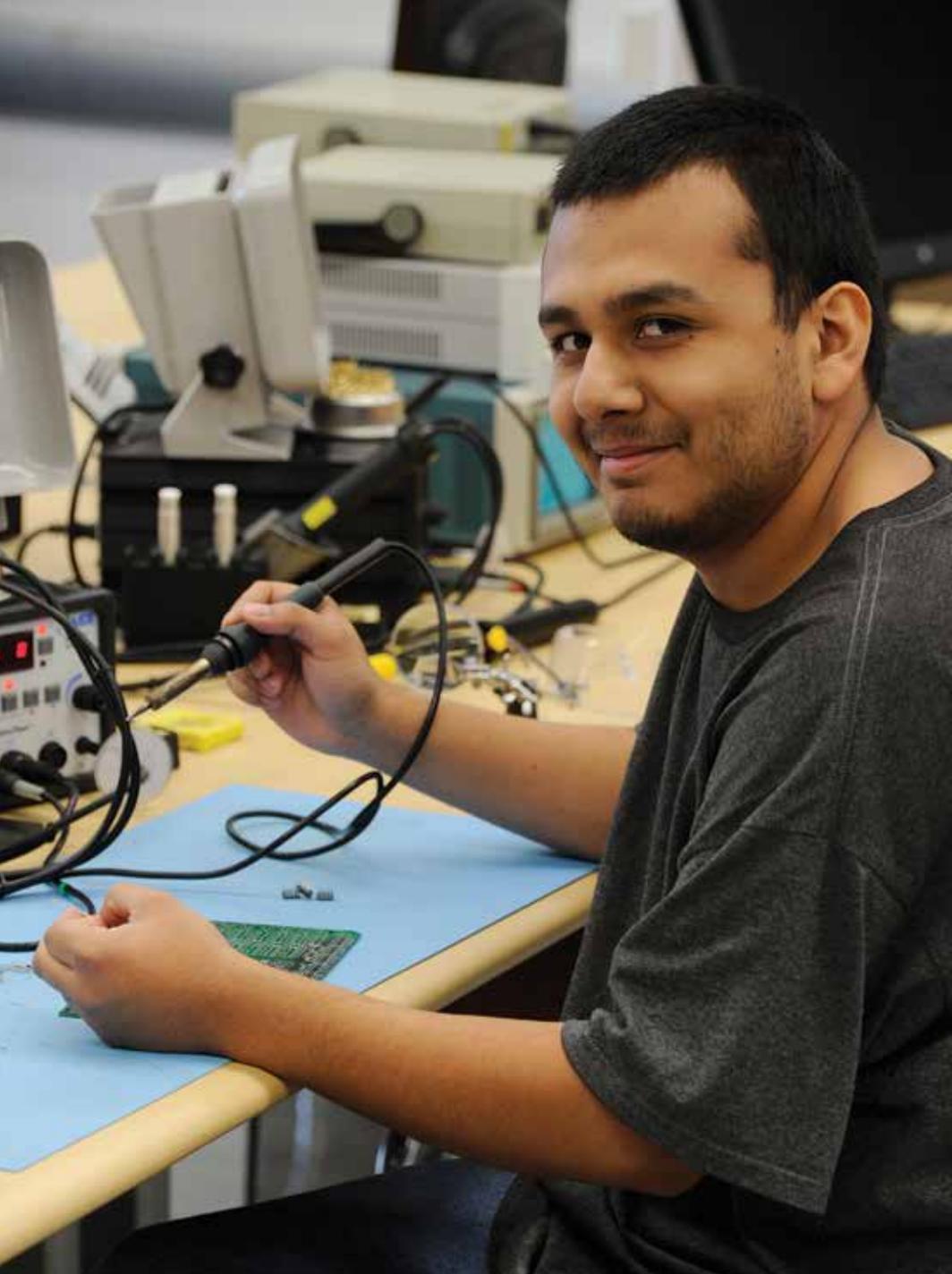
The Electronics Technology certificate program offers a broad range of instruction in electricity, electronics, digital applications and systems, industrial controls and systems, materials, fabrication, and renewable energy. Students in this program are required to complete 19 credits of coursework.

Industrial Controls and Automation Certificate

The Industrial Controls and Automation certificate program provides fundamental education in the study of state-of-the-art controls and automation used in today's industrial field. Students in this program are required to complete 25 credits in a variety of disciplines including fundamentals of electricity and electronics, materials and fabrication, industrial controls, automation and robotic technology, and motion control.

Renewable Energy Technology Certificate

The Renewable Energy Technology certificate program provides training for technicians in the disciplines of electronics, electricity, mechanics, and computers related to the applications in the field of renewable and green energies. Students in this program are required to complete 14 credits of coursework in electricity, electronics, and renewable and green energy fundamentals and systems.



“I was lost before coming to COD, but now I have a college degree, and I don’t have to wonder anymore if I was good enough to do it.” — Jesus Pineda, Electronics Graduate



ELECTRO-MECHANICAL TECHNOLOGY

The Electro-Mechanical Technology program offers fundamental and advanced training in the areas of mechanical maintenance, process control instrumentation, and programmable controllers. Depending on the field of study, program coursework may include theoretical background in industrial electricity, national electrical code, schematic interpretation, robotics and artificial intelligence, critical thinking for technology applications, and maintenance and repair coupled with extensive lab time spent in a “hands-on” learning environment. This program stresses the electrical and electronic, the mechanical, and the robotic and automation aspects of industrial and manufacturing processes.

ASSOCIATE IN APPLIED SCIENCE (A.A.S.) DEGREES IN ELECTRO-MECHANICAL TECHNOLOGY

The Electro-Mechanical Technology A.A.S. degree program prepares students or workers to enter the industrial and manufacturing workplace with knowledge and skills in programmable controllers, process control, and instrumentation and mechanical maintenance. This program focuses on the electrical and electronic, as well as the mechanical aspect of industrial and manufacturing processes. Students in this program are required to complete 66 credits of coursework, which includes 39 credits in core requirements, 9 credits in approved elective classes, and 18 credits in general education classes.

For more information about the Electro-Mechanical Technology program at College of DuPage, visit:

cod.edu/programs/electronics/electro_mechanical.

CERTIFICATES IN ELECTRO-MECHANICAL TECHNOLOGY

The Electro-Mechanical Technology program currently offers six certificate programs designed to enable students to train for entry-level positions and working professionals to upgrade skills.

Advanced Multi-skilled Technician Certificate

The Advanced Multi-skilled Technician certificate program prepares students to enter the workforce in the high-end technology areas of mechanics, electricity, electronics, and manufacturing. Students in this program are required to complete 33-34 credits including coursework in electronics and electro-mechanical technology.



Electrician's Preparation Certificate

The Electrician's Preparation certificate program provides knowledge, skills, and core competencies for work in residential, commercial, and industrial wiring. This certificate does not provide licensure or certification to perform electrical work. Students in this program are required to complete 15 credits in coursework including residential, commercial and industrial wiring, National Electric Code, and fundamentals of electricity and electronics.

Mechatronics Certificate

Mechatronics Technology (MET), a one-year program, is designed to meet industry needs for multifunctional technicians competent in mechanics, computers and electrical/electronic technology. This project-based certificate program allows students to learn and work in collaborative teams. As MET technicians, graduates may work as members of technological teams, applying design concepts to creation of new technologies in the areas of automated systems operation and maintenance.

Process Control Instrumentation Certificate

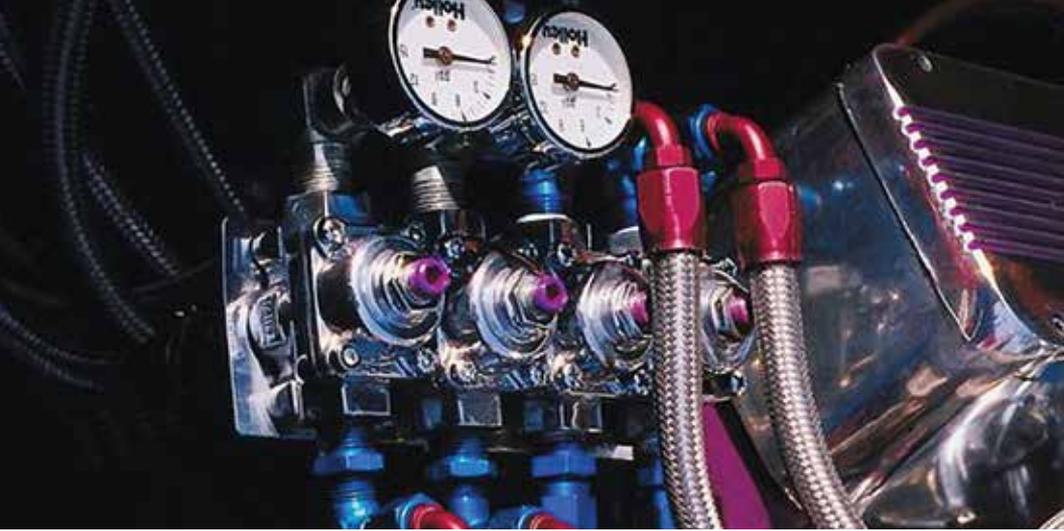
The Process Control Instrumentation certificate program trains students to inspect, calibrate, troubleshoot, and repair various temperature, pressure, flow, and level measurement instruments. Students in this program are required to complete 21 credits including coursework in automation, electricity and electronics, fundamentals of motors and generators, hydraulics and pneumatics, industrial controls, and programmable controllers.

Programmable Controllers Certificate

The Programmable Controllers certificate program prepares students to enter the workforce in the high-end technology areas of mechanics, electricity, electronics, and manufacturing. Students in this program are required to complete 18 credits including coursework in automation, electricity and electronics, fundamentals of motors and generators, and programmable controllers.

Mechanical Maintenance Certificate

Students earning this certificate learn skills in power trains, drive components, mechanical alignment of couplings, pumps and motors, and troubleshooting and repair of industrial components. This certificate requires 34 credits in coursework.



ELECTRICIAN APPRENTICESHIP

The Electrician Apprenticeship degree program at College of DuPage, offered in partnership with the Joint Apprenticeship and Training Committee (JATC) of the International Brotherhood of Electrical Workers (IBEW) Local Union, is open only to individuals admitted into the Electrician Apprenticeship Program of the IBEW. This program fulfills the classroom component of IBEW/JATC apprenticeship experience and the student earns the A.A.S. degree.

Students in this program are required to complete 64 credits of coursework, which includes 45 to 48 credits in core requirements and 19 to 22 credits in general education classes.

STATE-OF-THE-ART FACILITIES

Facilities for the electronics program are housed in the Technical Education Center and feature the newest equipment in industry today. Hands-on training equipment includes Lab-Volt trainers, Fanuc robots, and Allen-Bradley and GE-Fanuc Programmable Logic Controllers (PLCs).

AVAILABLE SCHOLARSHIPS

Students who are planning to enroll in the Manufacturing Technology program at College of DuPage may be qualified to receive a financial award through a variety of supported scholarships.

- College of DuPage Foundation Returning Adult Scholarship
- Edward R. Valintis Technology Scholarship

Visit cod.edu/scholarships for requirements and a full list of available scholarships.

TRANSFER OPPORTUNITIES

The Electronics Engineering Technology degree program is designed for students who plan to transfer to a four-year baccalaureate-granting institution.

The Illinois Articulation Initiative (IAI) facilitates the transfer of students from one Illinois institution to another. Both a general education core curriculum and a lower-division major recommendation course listing have been developed.

For more information on transfer opportunities at College of DuPage, visit cod.edu/academics/transfer_programs.

EMPLOYMENT OUTLOOK

Electrical and electronics engineering technicians help engineers design and develop computers, communications equipment, medical monitoring devices, navigational equipment, and other electrical and electronic equipment. They often work in product evaluation and testing, and use measuring and diagnostic devices to adjust, test and repair equipment. They are also involved in the manufacture and deployment of equipment for automation.

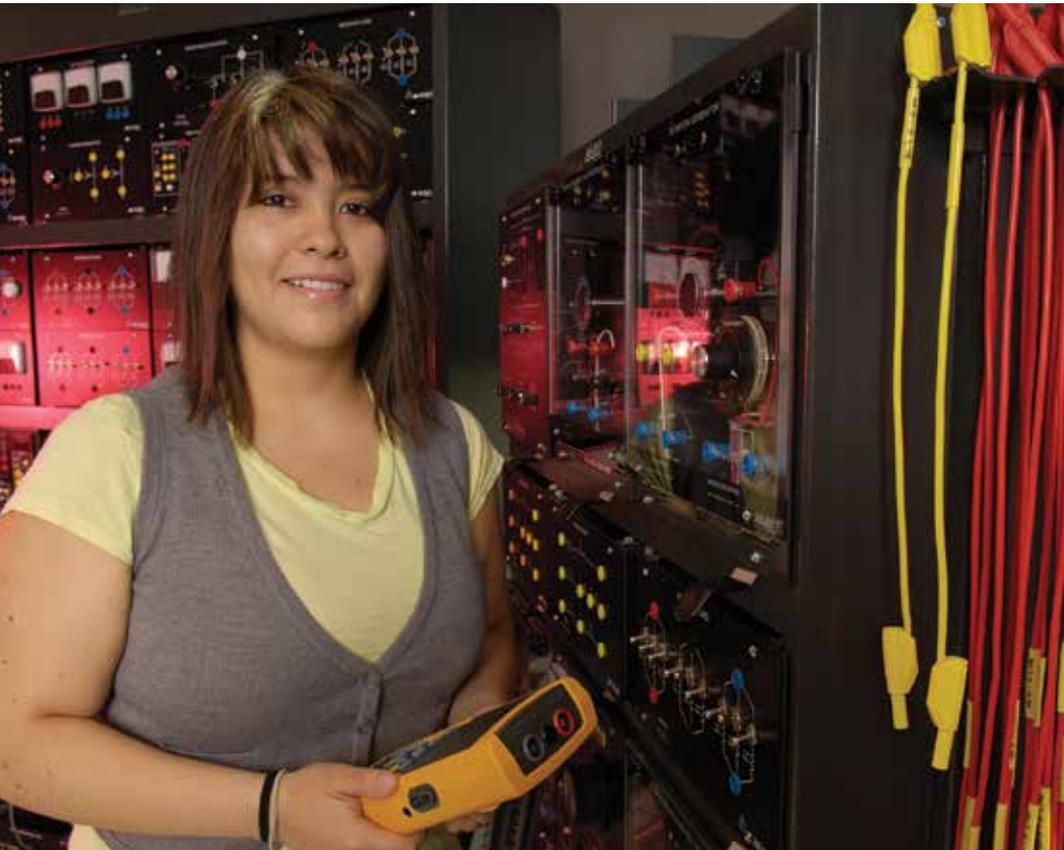
The U.S. Bureau of Labor Statistics (BLS) reports that the median annual wage of electrical and electronics engineering technicians was \$63,660 in May, 2017. Electrical and electronics engineering technicians also work closely with electrical and electronics engineers and computer hardware engineers in the computer systems design services industry. Demand for these technicians is expected to be sustained by the continuing integration of computer and electronics systems, especially automation systems. In addition, computer, cellular phone and Global Positioning System (GPS) technologies are being included in automobiles and various portable and household electronics systems.

For more information, visit www.bls.gov.



COMMON CAREERS FOR GRADUATES OF THE ELECTRONICS TECHNOLOGY PROGRAM

- **Automated Equipment Technician:** Builds, installs, tests, or maintains robotic equipment or related automated production systems.
- **Electrician:** Installs and maintains electrical systems in homes, businesses, and factories.
- **Electronics Technician:** Repairs, tests, adjusts, or installs electrical or electronic equipment.
- **Electrical/Electronics Engineer Technician:** Involved in the full process of creating devices such as communications, medical and navigational instruments, including designing to testing and manufacturing.
- **Electronics Assembler:** Uses machines and hand tools to assemble finished electronic equipment or sub-assembly components.
- **Precision Equipment Repairer/Service Technician:** Repairs, maintains, or installs computers, automated teller machines, and electronic office machines, such as duplicating and fax machines.
- **Quality Control Technician:** Examines products and materials for defects or deviations from manufacturers' or industry specifications.





GETTING STARTED

If you are considering this program as an area of study:

- Visit our website at cod.edu/programs/electronics
- Consult with a program coordinator or advisor:

Andreas Vrettos, Coordinator

Technical Education Center (TEC), Room 1052, (630) 942-3390,
vrettosa@cod.edu

Peter Deeman, Program Advisor

Technical Education Center (TEC), Room 1047, (630) 942-2548

- Contact the Business and Technology Division Office:
Berg Instructional Center (BIC), Room 2616, (630) 942-2592

The College will not discriminate in its programs and activities on the basis of race, color, religion, creed, ancestry, marital status, sexual orientation, arrest record, military status or unfavorable military discharge, citizenship status, or physical or mental handicap or disability.

For ADA accommodations, call (630) 942-2141 (voice) or (630) 858-9692 (TDD). Please call two weeks in advance.

For individuals who need language assistance, please contact Campus Central at (630) 942-2380.



 **College of DuPage**

425 Fawell Blvd.
Glen Ellyn, IL 60137-6599
www.cod.edu