

Electrical & Automation Technology

PROGRAM DESCRIPTION



The Electrical and Automation Technology program prepares students for exciting and well-paying career paths in the field of industrial control and automation. All manufacturing processes rely on electricity, electronics, sensors, communications, hydraulics and pneumatics, and computer control. The program provides sound theory reinforced by laboratory applications which reflect the expectations and responsibilities of graduates in the workplace.

Students receive a solid foundation in DC/AC theory, electrical machines and transformers, power distributions, basic wiring techniques, motor controls, programmable automation controllers, industrial electronics, digital electronics, data communications, hydraulics and pneumatics. Graduates are eligible to sit for the State of Maine Journeyman Electrician Exam. After having passed it, as well as having met the on-the-job experience requirements of the State Electrician Examining Board, they will receive their Journeyman Electrician license. Graduates assume employment in many different positions including industrial electrician and instrument technician, maintenance technician, engineering assistant, construction electrician, field representative, and many others.

The Electrical and Automation Technology program is an active partner with the Federal Aviation Administration (FAA) Collegiate Training Initiative (CTI) providing an internship and allowing graduates to apply directly to the FAA as a technician or specialist. EMCC is also a Certified Training and Education Site and FANUC Robotics Material Handling Program Software.

KEY LEARNING OBJECTIVES

Graduates with the associate in applied science degree will have strengths in the building, testing, operation, and maintenance of electrical systems. Graduates will have demonstrated knowledge and hands-on competence with:

- Electrical and electronic circuit analysis using algebra, trigonometry, and advanced mathematical techniques
- Electrical and electronic drawings
- Pneumatic and hydraulic fluid power components and systems
- Process instrumentation and controls
- Electrical control systems, programmable automation controllers, and associated software
- The National Electrical Code
- Test equipment
- Industrial workplace safety procedures

PREREQUISITES

AAS Degree: high school level Algebra I, Algebra II, Geometry, and Physics or Chemistry with Lab required. Must be familiar with Microsoft Office, e-mail, and the Internet.

STILL IN HIGH SCHOOL? Concurrent enrollment agreements with many high schools and technical education centers are available. Information can be found on <http://www.emcc.edu/academics//programs/dual-enrollment/>



Programs of Study

Automotive
Building Construction
Business Management-Career Option
Business Management-Transfer Option
Business Management-Small Business
Career Studies
Computer Systems Technology
Criminal Justice
Culinary Arts
Diesel, Truck & Heavy Equipment
Digital Graphic Design
Early Childhood Education
Education-Career & Technical Ed
Education-Elementary Ed
Education-Secondary Ed
Electrical and Automation
Electricians Technology
Emergency Medical Services
Fine Woodworking & Cabinet Making
Fire Science
Human Services
Liberal Studies
Medical Assistant
Medical Office-Coding Option
Medical Office-Health Care Secretary
Medical Radiography
Nursing
Outdoor Recreation & Tourism
Plumbing
Refrigeration, Air Conditioning & Heating
Restaurant & Food Service Management
Surgical Technology
Trade & Technical Occupations
Welding

Admissions Office—EMCC

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FAX: 207-974-4683

Email: admissions@emcc.edu

www.emcc.edu

ELECTRICAL AND AUTOMATION TECHNOLOGY Associate in Applied Science Degree

FIRST SEMESTER

CAD 101	Introduction to CADD	3
EPT 116	DC Circuits	3
EPT 176	Programmable Controllers	3
EPT 245	Digital Electronics	3
Restricted Elective *Math sequence see below		3-4

SECOND SEMESTER

EPT 123	Power Distribution	3
EPT 125	AC Electricity	3
EPT 167	Fluid Power Technology	3
EPT 173	DC/AC Machines	3
ENG101	College Composition	3

THIRD SEMESTER

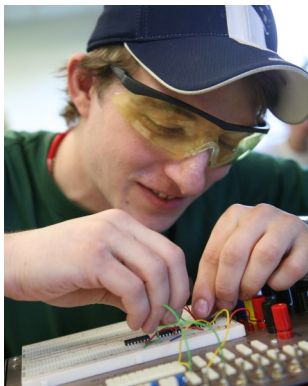
EPT 228	Industrial Electronics	3
EPT 241	Linear Circuits	3
EPT 296	Automation Projects I	3
ENG 215	Business and Technical Writing	3
PHY 121	Physics I	3
PHY 122	Physics I Laboratory	1
Restricted Elective *Math sequence see below		3-4

FOURTH SEMESTER

EPT 155	National Electrical Code	3
EPT 251	Control Systems	3
EPT 298	Automation Projects II	3
Restricted Elective: Any Humanities/Social Science <small>(100 level or higher)</small>		3
SPE 101	Oral Communication	3
TOTAL AAS DEGREE CREDITS		64-66

* Math sequence choices:

MAT 119 College Algebra & MAT 120 College Trigonometry OR
 MAT 120 College Trigonometry & MAT 161 Introduction to Statistics OR
 MAT 120 College Trigonometry & MAT 217 Pre-Calculus OR
 MAT 123 College Algebra and Trigonometry & MAT 161 Introduction to Statistics OR
 MAT 225 Calculus I, MAT 226 Calculus II



DID YOU KNOW?

EMCC provides campus housing
for over 260 students.



EMCC's Student Success Center
offers tutoring services free of
charge to our students.

 EMCC's Athletic Department
sponsors many on-
campus intramural
sports and
recreational events.

EMCC students enjoy small class
sizes, supportive faculty,
transferable courses and
leadership/engagement
opportunities all for under \$4,000
per year

(most programs, based on 30 credit
hours, in-state rate)

Campus tours are available.

Call 207-974-4857 or schedule an
appointment through our website.

For more information or to apply
online, visit us on the web at

www.emcc.edu

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*EMCC is an equal opportunity/affirmative
action institution and employer. For more info,
please call 207-974-4633.*