Electrical Technology

MANCHESTER COMMUNITY COLLEGE

Why E-TECH?

The electrical field continues to grow in its scope and employment opportunities due to technological advances, as well as economic changes and expansion. Electrical work is becoming more complex with electronics, microprocessor-based controls and data communications integrated into residential, commercial and industrial electrical systems. This increasing complexity is creating an ever-growing need for well-trained and qualified licensed electricians and electrical technicians.

Classroom instruction highlights contemporary and evolving electrical technologies applications. Students enrolled in the program will have the opportunity to be issued a NH electrical apprentice identification card. The identification card will allow the student to earn practical working experience hours, as well as related classroom hours in accordance with NH electrical apprenticeship requirements.

Program Outcomes

Students who graduate from this program will:

- Be prepared with the required theory training for an electrician apprenticeship
- Be well-versed in fundamental electrical theory
- Demonstrate safe and appropriate use of electrical equipment
- Possess in-depth knowledge of the National Electrical Code
- Be prepared for entry-level positions

Technical Standards

It is highly recommended that applicants have:

- The physical strength necessary to move and lift moderately heavy objects
- Good manual dexterity
- Adequate vision for reading printed instructions and electrical diagrams and should not have color blindness (adaptive equipment is acceptable)
- Adequate hearing to distinguish various sounds and changes in pitch (adaptive equipment is acceptable)
- Ability to visualize and portray ideas graphically

Admission Requirements

In addition to college-wide admissions requirements, students must:

- Read at the college level. Placement into English classes will be determined by completing the MCC placement process. This includes review of previous educational experiences, or in some cases submitting a writing sample.
- Place into MATH135M (Numerical Algebra and Trigonometry)
- Interview with the Program Coordinator

Potential Jobs

- Electrician
- Electrical Maintenance Tech
- Electrical Research Tech
- Electrical Distribution Sales
- Electrical Relay Technician
- Electronics Troubleshooter

Potential Salary*

There is a wide range of jobs in the electrical technology industry. See below for the average annual salary range in NH for an ***Electrician.***

ENTRY LEVEL	MID-RANGE	EXPERIENCED
$39,374	$57,283	$66,788

**New Hampshire Occupational Employment & Wages 2021, published by the NH Economic + Labor Market Information Bureau — Salaries are based on 40 hours of work, not including overtime.*

Transfer Opportunities

- Ferris State University
- Granite State College
- Southern NH University
- UMass Amherst
- Wentworth Institute of Technology

...and many more!

Homes and businesses require more wiring than ever and electricians are needed to install the necessary components.

www.bls.gov

Degree & Certificate Requirements

Electrical Technology Degree

Degree Program - First Year

First Year	Fall Semester	TH	LAB	CR
ETEC110M	Electrical Fundamentals I *(1st 8 weeks)*	3	3	4
ETEC120M	AC Fundamentals and Residential Wiring	3	3	4
MATH135M	Numerical Algebra and Trigonometry	3	0	3
CIS110M	Microsoft® Computer Applications I	2	2	3
FYE100M	MCC Essentials	1	0	1
	Total	**12**	**8**	**15**

First Year	Spring Semester	TH	LAB	CR
ETEC150M	Power, Transformers and Rotating Machinery	3	3	4
ETEC160M	Commercial and Industrial Wiring	3	3	4
MATH151M or MATH151XM	Intermediate Algebra or Intermediate Algebra - Corequisite	4	0	4
ENGL110XM or ENGL110M	College Composition I with Corequisite or College Composition I	4	0	4
	Business Elective	3	0	3
	Total	**17**	**6**	**19**

Degree Program - Second Year

Second Year	Fall Semester	TH	LAB	CR
ETEC210M	Electrical and Electronic Motor Controls	3	3	4
ETEC220M	Communications and Low Voltage Building Systems	3	3	4
MATH155M	College Algebra with Trigonometry	4	0	4
ENGL206M	Professional Communication	3	0	3
	Social Science Elective	3	0	3
	Total	**16**	**6**	**18**

Second Year	Spring Semester	TH	LAB	CR
ETEC250M	Advanced Control - Digital Fundamentals - PLC Basics	3	3	4
ETEC260M	Renewable and Alternate Energy Systems	3	3	4
PHYS135M	College Physics I	3	3	4
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Total	**12**	**9**	**15**
				Total Credits - 67

The Associate degree classes are held during the day and in the evening to accommodate a variety of scheduling needs. Students who attend full time during the day are able to complete the program in two calendar years, once any necessary developmental coursework is completed. Evening students will take a minimum of four years to complete the program.

Electrical Technology Certificate

		TH	LAB	CR
ETEC110M	Electrical Fundamentals I	3	3	4
ETEC120M	AC Fundamentals and Residential Wiring	3	3	4
ETEC150M	Power, Transformers, and Rotary Machinery	3	3	4
ETEC160M	Commercial and Industrial Wiring	3	3	4
ETEC210M	Electrical and Electronic Motor Controls	3	3	4
ETEC220M	Communications & Low Voltage Building Systems	3	3	4
ETEC250M	Advanced Control - Digital Fundamentals - PLC Basics	3	3	4
ETEC260M	Renewable and Alternate Energy Systems	3	3	4
MATH135M	Numerical Algebra and Trigonometry	3	0	3
MATH151M or MATH151XM	Intermediate Algebra or Intermediate Algebra - Corequisite	4	0	4
				Total Credits - 39

Electrical Lineworker Certificate in Partnership with Eversource

Graduates of this certificate will be prepared to work in the electrical-power-utility industry or to transfer credits to the MCC Electrical Technology or Technical Studies degree programs. A key component of this training includes an internship with the International Brotherhood of Electrical Workers (IBEW), Local Unions 104 and 1837.

Semester I		TH	LAB	CR
HFIT102M	Wellness and Occupational Injury Prevention	1	0	1
ETEC110M	Electrical Fundamentals I	3	3	4
ETEC140M	Lineworker I	4	9	7
Semester II				
ETEC120M	AC Fundamentals and Residential Wiring	3	3	4
ETEC142M	Lineworker Co-op	0	12.5	1
ETEC240M	Lineworker II	4	9	7
				Total Credits - 24

EVERSOURCE

All courses and degree requirements are subject to change. For the most current information on MCC programs, **visit mccnh.edu**.