



Electrical Technology - Certificate (2022-2023 Catalog)

SEMESTER-BY-SEMESTER PROGRAM MAP FOR FULL-TIME STUDENTS

Courses are listed in preferred order of completion
 Plans can be modified to fit student needs by adding more semesters
Choose your courses with your Advisor.

Developmental Education Courses (if required)		<input type="checkbox"/>	MATH020	Pre-Algebra	
<input type="checkbox"/>	ACLS050	Introduction to Academic Literacy	<input type="checkbox"/>	MATH022	Elementary Algebra
<input type="checkbox"/>	ENGL027	Writing Skills Workshop	<input type="checkbox"/>	MATH026	Intermediate Algebra

complete	Course #	Course Title	Credits	Gen Ed	Pre-requisites / Co-requisites	
Semester 1	<input type="checkbox"/>	COLS101	College Success	1		
	<input type="checkbox"/>	CISC101	Introduction to Information Technology	3		
	<input type="checkbox"/>	ELTC101	Electrical Fundamentals	3		
	<input type="checkbox"/>	EMEC114	Mechanical Skills for the Trades	2		
	<input type="checkbox"/>	MATH103	Technical Mathematics	3	QL	
	<input type="checkbox"/>	OSAH101+ or OSAH102	Construction Industry Outreach Safety Education+ or General Industry Outreach Safety Education**	1		
		Total Semester Credits:	13			
Semester 2	<input type="checkbox"/>	CMGT104	Construction Print Reading	3		
	<input type="checkbox"/>	ELTC107	Electrical Wiring I	3		PRE: ELTC101
	<input type="checkbox"/>	ELTC135	Electrical Motors and Controls	4		PRE: ELTC101
	<input type="checkbox"/>	EMEC140	Sensors, Wiring, and Troubleshooting	1		PRE: ELTC101
	<input type="checkbox"/>		Technical Elective+	3/4		Depends on course selected
		Total Semester Credits:	14-15			
Semester 3	<input type="checkbox"/>	ELTC109	Electrical Wiring II	3		PRE: ELTC107
	<input type="checkbox"/>	EMEC240	Industrial Control Systems I	4		PRE: ELTC101; PRE or CO: EMEC140
	<input type="checkbox"/>	ENGL101	English I	3	Comm.	PRE: ENGL Placement Policy
	<input type="checkbox"/>		Technical Elective+	3/4		Depends on course selected
		Total Semester Credits:	12-13			
		Total Degree Credits	39-41			

Technical Electives	
CADM235	Revit Fundamentals
ELTC222	Solar Photovoltaic Systems I
ELTC265	Electrical Cabling Systems I
EMEC125	Process & Automation Diagrams
EMEC130	Introduction to Process Control
EMEC245	Industrial Control Systems II
HVAC101	Fundamentals of HVAC/R I

Notes:

+Eligible Technical Electives: any ELTC, HVAC, CADM, EMEC, ELEC, ENGG, CHEM, CISC, or WELD. Ineligible electives: CADM100, CADM117, EMEC115, ENGG100, or ENGG117.

** OSAH101 is the recommended selection

***It is the student's responsibility to be knowledgeable of NCC graduation requirements and to verify transfer requirements with the 4-year institution. Courses listed on the program map are based upon the assumption that prerequisites and courses taken in previous semesters will be successfully completed**

Program Narrative:

- There has never been a more rewarding time to consider entering the electrical trades. With a large number of electricians approaching retirement age and the increasing technical complexity of new equipment, skilled electrical technicians are consistently in demand now and into the future. If you enjoy hands-on physical activities combined with complex problem solving opportunities, the electrical trade offers you a rewarding career path.
- Northampton's electrical technology program offers a range of stackable degrees; starting with a specialized diploma that can be completed in one-year, a certificate requiring a minimum of 39 credits, and an AAS degree requiring a minimum of 64 credits.
- All of our electrical programs are designed to be completed on either a full time or a part time basis, with most courses available in the evenings as well as during the day.

Program Features

- The Electrical Technology Certificate offers students an advanced technical credential for those interested in starting a career in the electrical trades or the advanced manufacturing sector. Students completing this certificate will gain a broad understanding of fundamental electrical principles, residential and commercial wiring practices, and basic PLC / VFD programming/operation and troubleshooting.
- All of the credits earned in this program may be applied toward our Associate of Applied Science (AAS) degree in Electrical Technology.
- Our program is designed to be completed either on a full time or part time basis, with most courses available in the evenings as well as during the day.
- Graduates from this program will have employment opportunities as electricians, electrical service technicians, and electrical maintenance personal in both the construction and manufacturing sectors.
- All course work in this program may be directly applied toward Northampton's more comprehensive Associate of Applied Science (AAS) degree in electrical technology.

Program Learning Outcomes:

Students who complete the Electrical Technology Specialized Diploma will be able to:

- Demonstrate an ability to work independently and collaboratively.
- Demonstrate skills in collecting, analyzing and applying technical information.
- Explain basic electrical theories, including Ohm's, Kirchhoff's, and Watt's laws.
- Properly use test equipment to troubleshoot electrical circuits.
- Interpret technical information in the form of architectural drawings, schematics and electrical specifications.
- Describe the function and application of electrical equipment as used in residential, commercial and industrial environments.
- Construct, analyze, and troubleshoot common industrial circuits used in control and distribution.
- Properly interpret and apply the National Electric Code in common residential, commercial, and industrial applications.
- Demonstrate electrical safety practices when working with electrical control and distribution equipment.

Career Information:

Journeyman electrician (residential, commercial)

Industrial electrician

Electrical maintenance technician

See <https://northampton.emsicc.com/programs/electrical-construction-technology-aas/214379>