

LANSING COMMUNITY COLLEGE

Computer, Engineering/Manufacturing Industrial Technologies

Curriculum Code: 1570
(Effective Fall 2018 –
Summer 2023)

Electrical Apprenticeship C.A. Pathway

This curriculum must be taken while working for an electrical contractor or other licensed employer as a registered apprentice. It is designed to provide electrical apprentices with a background in applied electrical theory and the basic skills necessary to a practicing electrician. This certificate fulfills all related trade instruction required for a United States Department of Labor, Office of Apprenticeship registered apprenticeship program in compliance with State of Michigan requirements for apprentice electricians.

Students interested in pursuing an Associate in Applied Science Degree in Electrical Technology should see a program advisor for course substitutions that would more readily transfer to that degree. Students who have previously taken electrical courses should also see an advisor for possible course substitutions.

For More Information

Contact the Electrical Technology Program at the West Campus Building, Room M127, telephone number (517) 483-1570 or Student Services West Campus, West Campus Building, Room M106, telephone number (517) 267-5452.

Semester I Fall	Course Title	Prerequisites	Credit/Billing Hours
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Program of Study Requirements

Students who have already completed DCTM 102, HVAC 102, METS 102 or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for ELTE 102. Any of these classes may also be used to fulfill the prerequisite for ELTE 108 and ELTE 109.

ELTE 102	Industrial/Construction Safety	Reading Level 3 and Writing Level 2	2 / 3
ELTE 108 <i>(1st 8 weeks)</i>	Practical Electricity I	Minimum 2.0 in (ELTE 102 or DCTM 102 or HVAC 102 or METS 102 or WELD 102 or concurrently) and Reading Level 3 and Writing Level 2 and (Math Level 3 or minimum 2.0 in MATH 105 or MATH 106)	2 / 3
ELTE 109 <i>(2nd 8 weeks)</i>	Practical Electricity II	Minimum 2.0 in ((ELTE 102 or DCTM 102 or HVAC 102 or METS 102 or WELD 102 or concurrently) and (ELTE 108 or concurrently)) and Reading Level 3 and Writing Level 2 and (Math Level 3 or minimum 2.0 in MATH 105 or MATH 106)	2 / 3
Credits			6 / 9

Semester II Spring	Course Title	Prerequisites	Credit/Billing Hours
Program of Study Requirements			
ELTA 105	Elect. Industry Orientation	Reading Level 3	.5 / .5
ELTE 141	National Electrical Code I	Minimum 2.0 in (ELTE 109 or ELTE 110 or HVAC 110) and Reading Level 3 and Writing Level 2 and Math Level 3	4 / 4
Credits			4.5 / 4.5
Semester III Fall	Course Title	Prerequisites	Credit/Billing Hours
Program of Study Requirements			
ELTA 106	Basic Electrical Calculations	Reading Level 3 and Writing Level 2 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106)	2 / 2
ELTE 150	Electric Motor Maintenance	Minimum 2.0 in (ELTE 109 or ELTE 110 or HVAC 110) and Reading Level 3 and Writing Level 2 and Math Level 3	2 / 3
Credits			4 / 5
Semester IV Spring	Course Title	Prerequisites	Credit/Billing Hours
Program of Study Requirements			
ELTA 120 <i>(1st 8 weeks)</i>	AC Fundamentals - Electrician	Minimum 2.0 in ((ELTE 110 or ELTE 108 or concurrently) and (minimum 2.5 in (ELTA 106 or MATH 114 or Math Level 5)) and Reading Level 3 and Writing Level 2	2 / 3
ELTA 155 <i>(2nd 8 weeks)</i>	Transformer Fundamentals	Minimum 2.0 in (ELTE 121 or (ELTA 120 or concurrently)) and Reading Level 4 and Writing Level 2	2 / 3
Credits			4 / 6
Semester V Fall	Course Title	Prerequisites	Credit/Billing Hours
Program of Study Requirements			
ELTE 145	Electrical Prints for Building	Minimum 2.0 in ELTE 141 and Reading Level 3 and Writing Level 2 and Math Level 3	4 / 5
Credits			4 / 5

Semester VI Spring	Course Title	Prerequisites	Credit/Billing Hours
Program of Study Requirements			
ELTE 131	Machine Controls I	Minimum 2.0 in (ELTE 108 or ELTE 110 or concurrently) and Reading Level 3 and Writing Level 2 and Math Level 3	4 / 5
Credits			4 / 5
Semester VII Fall	Course Title	Prerequisites	Credit/Billing Hours
Program of Study Requirements			
ELTA 180 <i>(2nd 8 weeks)</i>	Introduction to Fire Alarms	Minimum 2.0 in (ELTE 109 or ELTE 110) and Reading Level 3 and Writing Level 2 and Math Level 3	1 / 1
Programmable Logic Controllers Elective – <i>Select 1 course</i>			
ELTA 160 <i>(1st 8 weeks)</i>	PLC Overview for Electricians	Minimum 2.0 in (ELTE 130 or ELTE 131) and Reading Level 3 and Writing Level 2 and Math Level 3	1 / 2
ELTE 260	Programmable Controllers I	Minimum 2.0 in (ELTE 131 or (ELTE 129 and (ELTE 130 or concurrently))) and Reading Level 3 and Writing Level 2 and Math Level 3	4 / 6
Credits			2-5 / 3-7

Semester VIII Spring	Course Title	Prerequisites	Credit/Billing Hours
Electives - <i>Select 1 course</i>			
ELTE 112	Basic Wiring Installation	Minimum 2.0 in (ELTE 109 or ELTE 110 or HVAC 110) and Reading Level 3 and Writing Level 2 and Math Level 3	2 / 3
ELTE 132	Control Panel Assembly	Minimum 2.0 in (ELTE 130 or ELTE 131 or concurrently) and Reading Level 3 and Writing Level 2 and Math Level 3	2 / 3
ELTE 142	National Electrical Code II	Minimum 2.0 in ELTE 141 and Reading Level 3 and Writing Level 2 and Math Level 3	4 / 4
ELTE 232	Machine Controls II	Minimum 2.0 in (ELTE 131 or (ELTE 129 or (ELTE 130 or concurrently))) and Reading Level 3 and Writing Level 2 and Math Level 3	4 / 6
Credits			2-4 / 3-6
Total Credits			30.5-35.5/ 40.5-47.5