

LANSING COMMUNITY COLLEGE

CURRICULUM GUIDE

Electrical Apprenticeship
Certificate of Achievement

Curriculum Code: 1570 (Effective Fall 2015 – Summer 2020)

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.

PREREQUISITES

Students should see [Course Descriptions](#) for course prerequisite information. See [Academic Assessment and Placement Testing for Student Success](#) for skills assessment and advising information.

INFORMATION

Contact the Utility & Energy Systems Program, West Campus Building, Room M127, telephone number (517) 483-1570 (Website: www.lcc.edu/utility/electrical/electrical_appr_main.aspx).

REQUIREMENTS

CODE	TITLE	TOTAL: 16.5 CREDITS CREDIT HOURS
ELTA 105	Elect. Industry Orientation	.5
ELTA 180	Introduction to Fire Alarms	1
ELTE 110	Practical Electricity (See Note 1)	3
ELTE 131	Machine Controls I	4
ELTE 141	National Electrical Code I	4
ELTE 145	Electrical Prints for Building	4

LIMITED CHOICE REQUIREMENTS

TOTAL: 15-22 CREDITS

Complete the indicated number of credits from **EACH CHOICE** listed below.

CHOICE 1: Safety

1-2 Credits

ELTA 101	Electrical Safety	1
ELTE 102	Industrial/Construction Safety (See Note 1)	2

CHOICE 2: Math and Theory	4–5 Credits
ELTA 106 Basic Electrical Calculations	2
ELTA 120 AC Fundamentals – Electrician	2
ELTE 121 Electrical Mathematics (See Note 1)	5
CHOICE 3: Motors and Transformers	4–5 Credits
ELTA 155 Transformer Fundamentals	2
ELTE 123 Motors and Transformers	5
ELTE 150 Electric Motor Maintenance	2
CHOICE 4: Programmable Logic Controllers	1–4 Credits
ELTA 160 PLC Overview for Electricians	1
ELTE 260 Programmable Controllers I	4
CHOICE 5: Electives	5–6 Credits
ELTE 112 Basic Wiring Installation	2
ELTE 122 Industrial Control Electronics	5
ELTE 132 Control Panel Assembly	2
ELTE 142 National Electrical Code II	4
ELTE 143 National Electrical Code III	4
ELTE 232 Machine Controls II	4
ELTE 240 Electrical Estimating	3
ELTE 261 Programmable Controllers II	6
MINIMUM TOTAL	31.5

NOTES:

1. 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 courses may also be used to fulfill the prerequisite for ELTE 110 and ELTE 121.
2. Current State of Michigan rules limit the number of hours individuals can count towards their required education as an apprentice electrician outside the time they are registered with a company as an apprentice in the state. Students should see a program advisor before pursuing this curriculum.
3. Lansing Community College provides related trade instruction for apprenticeships but does not sponsor apprentices directly. Apprenticeships must be pursued with individual electrical contractors or businesses.
4. To receive a certificate of achievement from Lansing Community College, a student must maintain a grade point average of 2.0 or above in the courses required for the certificate. Apprenticeship sponsors may have additional grade point average requirements.

5. Students who start the curriculum in a spring semester and/or select ELTE courses in “CHOICES 3, 4 or 5” should contact a faculty member in the Utility & Energy Systems Program for advising on sequencing their courses.

SUGGESTED COURSE SEQUENCE

Students should see course descriptions to find out when departments plan to offer courses. Students who for any reason are unable to follow the course sequence suggested below (for example, those who are part-time, have transferred in courses from another school, or have prerequisites to fulfill) should contact an academic advisor for help with adjustments.

I – Fall	II – Spring	III – Fall	IV– Spring
ELTE 110 Lim. Ch. 1	ELTA 105 Lim. Ch. 2	ELTE 141 Lim. Ch. 2	ELTE 131
V – Fall	VI – Spring	VII – Fall	VIII – Spring
ELTE 145	Lim. Ch. 3 Lim. Ch. 3 Lim. Ch. 4	ELTA 180 Lim. Ch. 5	Lim. Ch. 5