LANSING COMMUNITY COLLEGE

CURRICULUM GUIDE

Electrical Technology
Associate in Applied Science Degree

Curriculum Code: 0134 (Effective Fall 2016 – Summer 2021)

Students in this program may select one of three specialties; construction, machine control and maintenance, or power generation. Construction electricians install electrical wiring and systems in homes, offices, stores or industrial plants. Automation and machine control designers are responsible for designing control systems that operate automated work cells in manufacturing facilities.. Maintenance electricians work in industry maintaining and troubleshooting power and control circuits on machinery. Power Generation technicians operate and maintain engine or turbine-driven generators in stand-alone or integrated facilities. All three specialties require mechanical aptitude, logical thinking and problem-solving skills. Employment opportunities vary with each specialty.

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 Electrical Technology Program, West Campus Building, Room M127, telephone number (517) 483-1570 (Website: www.lcc.edu/utility/electrical/) or Student Services West Campus, West Campus Building, Room M106, telephone number (517) 267-5452.

REQUIREMENTS — TOTAL: 36 CREDITS

CODE	TITLE	CREDIT HOURS
ELTE 102	Industrial/Construction Safety (See Note 1)	2
ELTE 108	Practical Electricity I (See Note 1 & 2)	2
ELTE 109	Practical Electricity II (See Note 1 & 2)	2
ELTE 111	Intro to Industrial Automation	4
ELTE 112	Basic Wiring Installation	2
ELTE 121	Electrical Mathematics (See Note 1)	5
ELTE 123	Motors and Transformers	5
ELTE 131	Machine Controls I	4
ELTE 141	National Electrical Code I	4
ELTE 145	Electrical Prints for Building	4
ELTE 150	Electric Motor Maintenance	2

LIMITED CHOICE REQUIREMENTS **TOTAL: 31-39 CREDITS**

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

CHOICE 1: General Education Core Areas **13-17 Credits**

(Click the link above for information on how to fulfill these requirements. Core area proficiency exams, where appropriate, are available for each core area.)

	Communication Core Area	3-4
	Global Perspectives and Diversity Core Area	3-4
	Mathematics Core Area (See Note 3)	0
	Science Core Area	4-5
	Writing Core Area	3-4

CHOICE 2: Electrical Specialization (Choose one Subchoice) **20-25 Credits**

Subchoice 2A: Construction Specialization (20 credits)

BLDT 120	Structural Framing (See Note 1)	4
CITN 115	Home Technology Integration	5
DCTM 101	Drafting/Intro to CAD	3
ELTA 160	PLC Overview for Electricians	1
ELTE 142	National Electrical Code II	4
ELTE 240	Electrical Estimating	3

Subchoice 2B: Automation and Control Specialization (25 credits)

ELTE 122	Industrial Contl Electronics	5
ELTE 132	Control Panel Assembly	2
ELTE 232	Machine Controls II	4
ELTE 260	Programmable Controllers I	4
ELTE 261	Programmable Controllers II	6
METS 115	Intro to Mechanical Systems	4

Subchoice 2C: Power Generation Specialization (24 Credits)

ELTE 132	Control Panel Assembly	2
ELTE 251	Energy Generation & Control I	4
ELTE 252	Energy Generation & Control II	4
ELTE 255	Power Instrumentation	4
ELTE 260	Programmable Controllers I	4
ELTE 261	Programmable Controllers II	6

MINIMUM TOTAL **69**

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 BLDT 120, ELTE 108, ELTE 109, and ELTE 121.
2. ELTE 108 is offered the first 8 weeks of the semester and ELTE 109 is offered the 2nd 8 weeks of the semester so they can be taken in the same semester. If a student has already taken ELTE 110, it can be substituted for ELTE 108 and 109.
3. Students completing "REQUIREMENTS" have fulfilled the requirements for this Core area.

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.

Subchoice 2A: Construction Specialty

I	II	III	IV
ELTE 102	ELTE 112	DCTM 101	BLDT 120
ELTE 108	ELTE 121	ELTA 160	CITN 115
ELTE 109	ELTE 131	ELTE 123	ELTE 240
ELTE 111	ELTE 141	ELTE 142	Lim.Ch.1
Lim.Ch.1	ELTE 150	ELTE 145	Lim.Ch.1
Lim.Ch.1			

Subchoice 2B: Control and Maintenance Specialty

I	II	III	IV
ELTE 102	ELTE 112	ELTE 123	ELTE 122
ELTE 108	ELTE 121	ELTE 145	ELTE 132
ELTE 109	ELTE 131	ELTE 232	ELTE 261
ELTE 111	ELTE 141	ELTE 260	METS 115
Lim.Ch.1	ELTE 150	Lim.Ch.1	Lim.Ch.1
Lim.Ch.1			

Subchoice 2C: Power Generation Specialty

I	II	III (Summer)	IV
ELTE 102	ELTE 121	ELTE 112	ELTE 123
ELTE 108	ELTE 131	Lim.Ch.1	ELTE 145
ELTE 109	ELTE 141		ELTE 251
ELTE 111	ELTE 150		ELTE 260
Lim.Ch.1	Lim.Ch.1		

V
ELTE 132
ELTE 252
ELTE 255
ELTE 261
Lim.Ch.1