

LANSING COMMUNITY COLLEGE

Computer, Engineering/Manufacturing Industrial Technologies

Curriculum Code:
0134 (Effective
Fall 2017 –
Summer 2022)

Electrical Technology A.A.S. Pathways

Students in this program **choose one of three pathways: 1) Construction 2) Automation and Control, or 3) Power Generation** to determine the courses to take each semester. 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.

CONSTRUCTION PATHWAY

Semester I	Course Title	Prerequisites	Credit/ Billing Hours
Writing Core Area - <i>Select 1</i>			
ENGL 121 (formerly WRIT 121)	Composition I	Reading Level 5 and Writing Level 6	4 / 4
ENGL 124 (formerly WRIT 124)	Technical Writing	(Reading Level 5 and Writing Level 6) or AASD 105 concurrently	3 / 3
ENGL 127 (formerly WRIT 127)	Business Writing	(Reading Level 5 and Writing Level 6) or AASD 105 concurrently	3 / 3
Global Perspectives and Diversity Core Area - <i>Select 1</i>			
GEOG 200	World Regional Geography	Reading Level 5 and Writing Level 6 and Math Level 4	4 / 4
MGMT 234	Diversity in the Workplace	Reading Level 5 and Writing Level 6	3 / 3
SOCL 120	Introduction to Sociology	Reading Level 5 or AASD 105 concurrently	4 / 4

Program of Study Requirements			
ELTE 102	Industrial/Construction Safety	Reading Level 3 and Writing Level 2	2 / 3
ELTE 108	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	2 / 3
ELTE 109	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 ELTE 118 or concurrently)) and Reading Level 3 and Writing Level 2 and Math Level 3	2 / 3
ELTE 111	Intro to Industrial Automation	Reading Level 3	4 / 6
Credits			16-18 / 21-23
Semester II	Course Title	Prerequisites	Credit/Billing Hours
Math Core Area - <i>Select 1</i>			
ELTE 121	Electrical Mathematics	Minimum 2.0 in (ELTE 100 or ELTE 102 or DCTM 102 or HVAC 102 or METS 102 or WELD 102) and (ELTE 110 or ELTE 108 or ELTE 118) and (minimum 2.0 in MATH 107 or MATH 114 or Math Level 5) and Reading Level 5	5 / 6

Program of Study Requirements			
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 131	Machine Controls I	Minimum 2.0 in (ELTE 110 or ELTE 108 or ELTE 118) and Reading Level 3 and Writing Level 2 and Math Level 3	4 / 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
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			17 / 21
Semester III	Course Title	Prerequisites	Credit/Billing Hours
Program of Study Requirements			
DCTM 101	Drafting/Intro to CAD	Reading Level 4 and Writing Level 4 and Math Level 4	3 / 4
ELTA 160	PLC Overview for Electricians	Minimum 2.0 in ELTE 131 and Reading Level 3 and Writing Level 2 and Math Level 3	1 / 2
ELTE 123	Motors and Transformers	Minimum 2.0 in ELTE 121 and Reading Level 5 and Writing Level 2 and Math Level 5	5 / 7
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 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			17 / 22

Semester IV	Course Title	Prerequisites	Credit/Billing Hours
Science Core Area - <i>Select 1</i>			
BIOL 120	Environmental Science	(Reading Level 5 or AASD 105 concurrently) and Writing Level 6	4 / 6
Communication Core Area - <i>Select 1</i>			
ARTS 102	Design & Communication	(Reading Level 5 or READ 170 concurrently or AASD 105 concurrently) and Writing Level 6	3 / 4
COMM 110 (formerly SPCH 110)	Oral Comm in the Workplace	(Reading Level 5 and Writing Level 6) or AASD 104 concurrently	3 / 3
Program of Study Requirements			
BLDT 120	Structural Framing	Minimum 2.0 in (DCTM 102 or ELTE 102 or HVAC 102 or METS 102 or WELD 102 or concurrently) and Reading Level 4 and Writing Level 4 and Math Level 4	4 / 6
CITN 115	Home Technology Integration	Reading Level 4 and Writing Level 4	5 / 6
ELTE 240	Electrical Estimating	Minimum 2.0 in (ELTE 112 and ELTE 145) and Reading Level 3 and Writing Level 2 and Math Level 3	3 / 4
Credits			19 / 25-26
Total Credits			69-71 / 89-92

AUTOMATION AND CONTROL PATHWAY			
Semester I	Course Title	Prerequisites	Credit/ Billing Hours
Writing Core Area - <i>Select 1</i>			
ENGL 121 (formerly WRIT 121)	Composition I	Reading Level 5 and Writing Level 6	4 / 4
ENGL 124 (formerly WRIT 124)	Technical Writing	(Reading Level 5 and Writing Level 6) or AASD 105 concurrently	3 / 3
ENGL 127 (formerly WRIT 127)	Business Writing	(Reading Level 5 and Writing Level 6) or AASD 105 concurrently	3 / 3
Global Perspectives and Diversity Core Area - <i>Select 1</i>			
GEOG 200	World Regional Geography	Reading Level 5 and Writing Level 6 and Math Level 4	4 / 4
MGMT 234	Diversity in the Workplace	Reading Level 5 and Writing Level 6	3 / 3
SOCL 120	Introduction to Sociology	Reading Level 5 or AASD 105 concurrently	4 / 4
Program of Study Requirements			
ELTE 102	Industrial/Construction Safety	Reading Level 3 and Writing Level 2	2 / 3
ELTE 108	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	2 / 3
ELTE 109	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 ELTE 118 or concurrently)) and Reading Level 3 and Writing Level 2 and Math Level 3	2 / 3
ELTE 111	Intro to Industrial Automation	Reading Level 3	4 / 6
Credits			16-18 / 21-23

Semester II	Course Title	Prerequisites	Credit/Billing Hours
Math Core Area - <i>Select 1</i>			
ELTE 121	Electrical Mathematics	Minimum 2.0 in (ELTE 100 or ELTE 102 or DCTM 102 or HVAC 102 or METS 102 or WELD 102) and (ELTE 110 or ELTE 108 or ELTE 118) and (minimum 2.0 in MATH 107 or MATH 114 or Math Level 5) and Reading Level 5	5 / 6
Program of Study Requirements			
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 131	Machine Controls I	Minimum 2.0 in (ELTE 110 or ELTE 108 or ELTE 118) and Reading Level 3 and Writing Level 2 and Math Level 3	4 / 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
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			17 / 21
Semester III	Course Title	Prerequisites	Credit/Billing Hours
Science Core Area - <i>Select 1</i>			
BIOL 120	Environmental Science	(Reading Level 5 or AASD 105 concurrently) and Writing Level 6	4 / 6

Program of Study Requirements			
ELTE 123	Motors and Transformers	Minimum 2.0 in ELTE 121 and Reading Level 5 and Writing Level 2 and Math Level 5	5 / 7
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
ELTE 232	Machine Controls II	Minimum 2.0 in ELTE 131 and Reading Level 3 and Writing Level 2 and Math Level 3	4 / 6
ELTE 260	Programmable Controllers I	Minimum 2.0 in ELTE 131 and Reading Level 3 and Writing Level 2 and Math Level 3	4 / 6
Credits			21 / 30
Semester IV	Course Title	Prerequisites	Credit/Billing Hours
Communication Core Area - <i>Select 1</i>			
ARTS 102	Design & Communication	(Reading Level 5 or READ 170 concurrently or AASD 105 concurrently) and Writing Level 6	3 / 4
COMM 110 (formerly SPCH 110)	Oral Comm in the Workplace	(Reading Level 5 and Writing Level 6) or AASD 104 concurrently	3 / 3
Program of Study Requirements			
ELTE 122	Industrial Control Electronics	Minimum 2.0 in ELTE 111 and Reading Level 5 and Writing Level 2 and Math Level 5	5 / 7
ELTE 132	Control Panel Assembly	Minimum 2.0 in (ELTE 131 or concurrently) and Reading Level 3 and Writing Level 2 and Math Level 3	2 / 3
ELTE 261	Programmable Controllers II	Minimum 2.0 in (ELTE 260 or ELTA 160) and Reading Level 3 and Writing Level 2 and Math Level 3	6 / 8
METS 115	Intro to Mechanical Systems	Reading Level 4 and Writing Level 4 and Math Level 4	4 / 6
Credits			20 / 27-28
Total Credits			74-76 / 99-102

POWER GENERATION PATHWAY			
Semester I	Course Title	Prerequisites	Credit/ Billing Hours
Writing Core Area - <i>Select 1</i>			
ENGL 121 (formerly WRIT 121)	Composition I	Reading Level 5 and Writing Level 6	4 / 4
ENGL 124 (formerly WRIT 124)	Technical Writing	(Reading Level 5 and Writing Level 6) or AASD 105 concurrently	3 / 3
ENGL 127 (formerly WRIT 127)	Business Writing	(Reading Level 5 and Writing Level 6) or AASD 105 concurrently	3 / 3
Program of Study Requirements			
ELTE 102	Industrial/Construction Safety	Reading Level 3 and Writing Level 2	2 / 3
ELTE 108	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	2 / 3
ELTE 109	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 ELTE 118 or concurrently)) and Reading Level 3 and Writing Level 2 and Math Level 3	2 / 3
ELTE 111	Intro to Industrial Automation	Reading Level 3	4 / 6
Credits			13-14 / 18-19

Semester II	Course Title	Prerequisites	Credit/Billing Hours
Global Perspectives and Diversity Core Area - <i>Select 1</i>			
GEOG 200	World Regional Geography	Reading Level 5 and Writing Level 6 and Math Level 4	4 / 4
MGMT 234	Diversity in the Workplace	Reading Level 5 and Writing Level 6	3 / 3
SOCL 120	Introduction to Sociology	Reading Level 5 or AASD 105 concurrently	4 / 4
Math Core Area - <i>Select 1</i>			
ELTE 121	Electrical Mathematics	Minimum 2.0 in (ELTE 100 or ELTE 102 or DCTM 102 or HVAC 102 or METS 102 or WELD 102) and (ELTE 110 or ELTE 108 or ELTE 118) and (minimum 2.0 in MATH 107 or MATH 114 or Math Level 5) and Reading Level 5	5 / 6
Program of Study Requirements			
ELTE 131	Machine Controls I	Minimum 2.0 in (ELTE 110 or ELTE 108 or ELTE 118) and Reading Level 3 and Writing Level 2 and Math Level 3	4 / 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
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			18-19 / 21-22
Semester III	Course Title	Prerequisites	Credit/Billing Hours
Science Core Area - <i>Select 1</i>			
BIOL 120	Environmental Science	(Reading Level 5 or AASD 105 concurrently) and Writing Level 6	4 / 6

Program of Study Requirements			
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
Credits			6 / 9
Semester IV	Course Title	Prerequisites	Credit/ Billing Hours
Program of Study Requirements			
ELTE 123	Motors and Transformers	Minimum 2.0 in ELTE 121 and Reading Level 5 and Writing Level 2 and Math Level 5	5 / 7
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
ELTE 251	Energy Generation & Control I	Reading Level 3	4 / 5
ELTE 260	Programmable Controllers I	Minimum 2.0 in ELTE 131 and Reading Level 3 and Writing Level 2 and Math Level 3	4 / 6
Credits			17 / 23
Semester V	Course Title	Prerequisites	Credit/Billing Hours
Communication Core Area - <i>Select 1</i>			
ARTS 102	Design & Communication	(Reading Level 5 or READ 170 concurrently or AASD 105 concurrently) and Writing Level 6	3 / 4
COMM 110 (formerly SPCH 110)	Oral Comm in the Workplace	(Reading Level 5 and Writing Level 6) or AASD 104 concurrently	3 / 3

Program of Study Requirements			
ELTE 132	Control Panel Assembly	Minimum 2.0 in (ELTE 131 or concurrently) and Reading Level 3 and Writing Level 2 and Math Level 3	2 / 3
ELTE 252	Energy Generation & Control II	Reading Level 3	4 / 5
ELTE 255	Power Instrumentation	Reading Level 3	4 / 5
ELTE 261	Programmable Controllers II	Minimum 2.0 in (ELTE 260 or ELTA 160) and Reading Level 3 and Writing Level 2 and Math Level 3	6 / 8
			Credits
			19 / 24-25
			Total Credits
			73-75 / 95-98