

LANSING COMMUNITY COLLEGE

Computer, Engineering/Manufacturing Industrial Technologies

Curriculum Code: 1570 (Effective Fall 2017 – Summer 2022)	Electrical Apprenticeship C.A. Pathway		
Semester I Fall	Course Title	Prerequisites	Credit/ Billing Hours
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
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

Math and Theory Electives - <i>Select 1</i> <i>Courses may not be duplicated</i>			
ELTA 106	Basic Electrical Calculations	Reading Level 3 and Writing Level 2 and Math Level 4	2 / 2
ELTA 120	AC Fundamentals - Electrician	Minimum 2.0 in ((ELTE 110 or ELTE 108 or ELTE 118 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
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
Credits			2.5-5.5 / 2.5-6.5
Semester III Fall	Course Title	Prerequisites	Credit/Billing Hours
Program of Study Requirements			
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

Math and Theory Electives - <i>Select 1</i> <i>Courses may not be duplicated</i>			
ELTA 106	Basic Electrical Calculations	Reading Level 3 and Writing Level 2 and Math Level 4	2 / 2
ELTA 120	AC Fundamentals - Electrician	Minimum 2.0 in ((ELTE 110 or ELTE 108 or ELTE 118 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
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
Credits			6-9 / 6-10
Semester IV Spring	Course Title	Prerequisites	Credit/Billing Hours
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
Credits			4 / 5
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
Motors and Transformers Electives - <i>Select 1 or 2 courses for a minimum of 4 credits</i>			
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
ELTA 155	Transformer Fundamentals	Minimum 2.0 in (ELTE 121 or (ELTA 120 or concurrently)) and Reading Level 4 and Writing Level 2	2 / 3
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
Programmable Logic Controllers Electives - <i>Select 1</i>			
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 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			5-9 / 8-13
Semester VII Fall	Course Title	Prerequisites	Credit/Billing Hours
Program of Study Requirements			
ELTA 180	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

Electives - <i>Select 1 course for a minimum of 2 credits</i> <i>Courses may not be duplicated</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 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 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 and Reading Level 3 and Writing Level 2 and Math Level 3	4 / 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
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			3-7 / 4-9

Semester VIII Spring	Course Title	Prerequisites	Credit/Billing Hours
Electives - <i>Select 1-2 courses for a minimum of 3 credits</i> <i>Courses may not be duplicated</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 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 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 and Reading Level 3 and Writing Level 2 and Math Level 3	4 / 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
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			3-6 / 4-8
Total Credits			33.5-50.5/ 43.5-65.5