



## Energy Industry Fundamentals C.C.

Curriculum Code: 1777

Effective: Fall 2021 – Summer 2026

### Description

This Certificate provides a foundational understanding of the structure of the United States energy industry and the opportunity to study for and earn pre-employment certifications developed for the industry. Competencies addressed include employment skills, industrial safety, mathematics, electrical theory, problem solving, blueprint reading, rigging and troubleshooting.

### Additional Information

Students who have already completed DCTM 102, HVAC 102, METS 102 or WELD 102 with a grade of 2.5 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 108, ELTE 109, ELTE 156 and METS 140.

Students must complete all courses on this pathway with a minimum 2.5 grade to receive this certificate.

Students who plan to pursue the Electrical Technology, Associate in Applied Science Degree (0134) should choose ELTE 121 and ELTE 123. ELTE 121 will also fulfill the General Education Applied Mathematics requirement.

### Contact 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.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ELTE 102	Industrial/Construction Safety	2 / 3
ELTE 104	Employee Worksite Basics	1 / 1
ELTE 108	Practical Electricity I	2 / 3
ELTE 109	Practical Electricity II	2 / 3
ELTE 154	Utility Prints and Diagrams	3 / 3
ELTE 173	Energy Industry Fundamentals I	2 / 2
ELTE 174	Energy Industry Fundamental II	2 / 2

**Program of Study Required Courses – Select either ELTA 106 and ELTA 120, or ELTE 121**

Course Code	Course Title	Credit / Billing Hours
ELTA 106	Basic Electrical Calculations	2 / 2
ELTA 120	AC Fundamentals - Electrician	2 / 3
ELTE 121	Electrical Mathematics	5 / 6

**Program of Study Required Courses – Select one**

Course Code	Course Title	Credit / Billing Hours
ELTA 155	Transformer Fundamentals	2 / 3
ELTE 123	Motors and Transformers	5 / 7

**Program of Study Required Courses, Limited Choice – Select one**

Course Code	Course Title	Credit / Billing Hours
ELTE 131	Machine Controls I	4 / 5
ELTE 156	Lineworker/Utility Rigging	3 / 4
METS 140	Rigging	3 / 4.5

**Total Credit Hours**

23-28 credits / 29-35 billing hours

**Recommended Course Sequence**

Semester I	Semester II (Spring)
ELTA 106 (Second 8 weeks) – if selected	ELTA 120 (First 8 weeks) or ELTE 121
ELTE 102	ELTA 155 (Second 8 weeks)
ELTE 104 (First 8 weeks)	ELTE 154
ELTE 108 (First 8 weeks)	ELTE 173 (First 8 weeks)
ELTE 109 (Second 8 weeks)	ELTE 174 (Second 8 weeks)
	Limited Choice

Semester III (Fall)
ELTE 123 – if selected