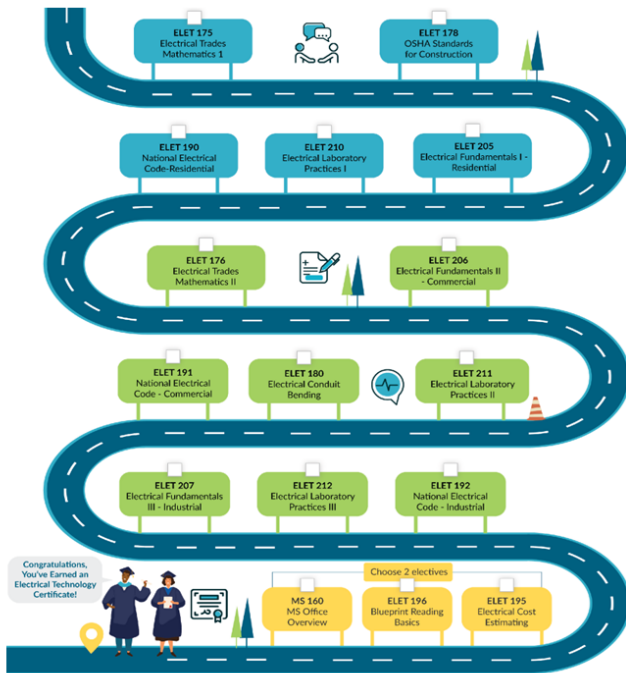


ELECTRICAL TECHNOLOGY



Certificate of Completion

Program Code: 3P37591

Students prepare for entry-level employment in numerous electrical and electrically related trades. Upon completion of the Electrical Technology program, the student will be able to install, maintain, and repair electrical equipment and systems in a safe and workmanlike manner. Students prepare for careers as Electricians, Electrician Trainees, Electrician's Helper, Electrical Technician, and Electrical Repair Person.

Code	Title	Hours
Required Core Courses (680 Hours)		
ELET 175	Electrical Trades Mathematics I	54
ELET 178	OSHA Standards for Construction	32
ELET 205	Electrical Fundamentals I - Residential	54
ELET 210	Electrical Laboratory Practices I	54
ELET 176	Electrical Trades Mathematics II	54
ELET 206	Electrical Fundamentals II - Commercial	54
ELET 211	Electrical Laboratory Practices II	54
ELET 190	National Electrical Code - Residential	54
ELET 207	Electrical Fundamentals III - Industrial	54
ELET 212	Electrical Laboratory Practices III	54
ELET 191	National Electrical Code - Commercial	54
ELET 180	Electrical Conduit Bending	54
ELET 192	National Electrical Code - Industrial	54
Required Elective Courses (90 Hours)		
Must Choose 2 of 3:		90
ELET 195	Electrical Cost Estimating	54
ELET 196	Blueprint Reading Basics	54

MS 160	Microsoft Office, Overview	36
Total Hours		770

Plan of Study

First Year

First Semester	Hours	Second Semester	Hours
ELET 175		54 ELET 176	54
ELET 178		32 ELET 206	54
ELET 210		54 ELET 211	54
ELET 205		54 ELET 190	54
194		216	

Second Year

First Semester	Hours	Second Semester	Hours
ELET 207		54 ELET 180	54
ELET 212		54 ELET 192	54
ELET 191		54 ELET 195, 196, or MS 160 (Must Choose One)	54
ELET 195, 196, or MS 160 (Must Choose One)		54	
216		162	

Total Hours 788

List of Courses

ELET 175 **54 Hours**
Electrical Trades Mathematics I

Advisory: Challenge exam may be completed with a passing grade of 75% or higher.

A study of mathematics used in the electrical and construction trades including topics such as arithmetic, fractions, decimals, percents, graphing, measurement, and an introduction to algebra. Textbook Required. (Apportionment)

ELET 176 **54 Hours**
Electrical Trades Mathematics II

Prerequisite(s): ELET 175 Electrical Trades Mathematics I.

This course will present basic algebra and trigonometry and their application to the solution of practical problems in the electrical construction field with an emphasis on trigonometric solutions to alternating current electrical theory. (Apportionment)

ELET 178 **32 Hours**
OSHA Standards for Construction

This course covers Occupational Safety and Health Administration (OSHA) policies, procedures, and standards, as well as construction safety and health principles. Topics include scope and application of the OSHA construction standards. Special emphasis is placed on those areas that are the most hazardous, using OSHA standards as a guide. Upon successful course completion, the student will receive an OSHA 30 Hour Construction Outreach Training Completion Card. (Apportionment)

ELET 180 Electrical Conduit Bending This course is a study of how to properly calculate, layout, and bend Electrical Metallic Tubing (EMT) and Rigid Metal Conduit (RMC) per industry and National Electrical Code standards. This course utilizes both hand bending tools and the use of mechanical and machine type bending equipment. (Apportionment)	54 Hours	ELET 207 Electrical Fundamentals III - Industrial <i>Prerequisite(s): ELET 205 Electrical Fundamentals I - Residential and ELET 206 Electrical Fundamentals II - Commercial.</i> <i>Corequisite(s): Must be taken concurrently with ELET 212 - Electrical Laboratory Practices III.</i> Course provides an overview of the National Electrical Code (NEC) and its application to industrial wiring. Topics include industrial wiring, conduit systems, conductor types and applications, over-current protection, electrical motors, motor circuit conductors, motor control circuits, and industrial electrical power installations in accordance to the National Electrical Code. (Apportionment)	54 Hours
ELET 190 National Electrical Code - Residential This course is an introduction to the National Electrical Code. The interpretation of electrical wiring diagrams, material use, installation methods and calculations of electrical loads to size feeders, branch circuits and conductors as they relate to residential occupancies is included. (Apportionment)	54 Hours	ELET 210 Electrical Laboratory Practices I <i>Corequisite(s): Must be taken concurrently with ELET 205 - Electrical Fundamentals I - Residential.</i> This course covers laboratory work associated with the fundamentals of DC electricity, electromagnetism, series, parallel and combination circuits, wiring practices, and hand tools. (Apportionment)	54 Hours
ELET 191 National Electrical Code - Commercial This course covers the National Electrical Code requirements for commercial, office, and light industrial wiring. The electrical layout and design of commercial buildings, feeder circuit calculations, branch circuit calculations and circuit overcurrent protection are included. (Apportionment)	54 Hours	ELET 211 Electrical Laboratory Practices II <i>Prerequisite(s): ELET 210 Electrical Laboratory Practices I.</i> <i>Corequisite(s): Must be taken concurrently with ELET 206 - Electrical Fundamentals II - Commercial.</i> This course includes lab work associated with the fundamentals of alternating current electricity. Alternating current principles, practices, and safe wiring with hand tools and instrumentation are included. Textbook Required. (Apportionment)	54 Hours
ELET 192 National Electrical Code - Industrial This course covers the National Electrical Code requirements for industrial application. Materials and wiring methods for heavy industrial applications, life safety, and hazardous systems are included. (Apportionment)	54 Hours	ELET 212 Electrical Laboratory Practices III <i>Prerequisite(s): ELET 211 Electrical Laboratory Practices II.</i> <i>Corequisite(s): Must be taken concurrently with ELET 207 - Electrical Fundamentals III - Industrial.</i> This course covers the theoretical and practical principles involving the control of alternating current motors with electromechanical and programmable logic controller (PLC) type equipment. Industry standard wiring practices and troubleshooting methods are covered. Textbook Required. (Apportionment)	54 Hours
ELET 195 Electrical Cost Estimating This course will present an introduction to electrical cost estimating, including take-off, and listing procedures. It is designed for students preparing to enter electrical estimating occupations or electrical contracting work. (Apportionment)	54 Hours	MS 160 Microsoft Office, Overview <i>Advisory: Knowledge of Windows and keyboarding.</i> Learn the basics of Word, Excel, PowerPoint and Access in one class. Topics include document formatting, working with graphics, basic formulas, queries and reports. This class serves as a foundation for other MS Office Courses. (Apportionment)	36 Hours
ELET 205 Electrical Fundamentals I - Residential <i>Prerequisite(s): ELET 175 Electrical Trades Mathematics I.</i> <i>Corequisite(s): Must be taken concurrently with ELET 210 Electrical Laboratory Practices I.</i> This course introduces the student to the elements of basic direct current circuits and residential type construction with an emphasis on wiring principles and basic residential design. The student will perform a "hands on" design of a basic residential blueprint with all components in strict accordance with the requirements of the National Electrical Code. (Apportionment)	54 Hours		
ELET 206 Electrical Fundamentals II - Commercial <i>Prerequisite(s): ELET 205 Electrical Fundamentals I - Residential and ELET 176 Electrical Trades Mathematics II.</i> <i>Corequisite(s): Must be taken concurrently with ELET 211 - Electrical Laboratory Practices II.</i> Course provides an overview of the National Electrical Code (NEC) and its application to commercial wiring. Topics include commercial wiring, conduit systems, conductor types and applications, over-current protection, single and three distribution systems and equipment, grounding, and lighting sources in accordance with the NEC. (Apportionment)	54 Hours		