

# ELECTRICAL TECHNOLOGY (ELEC)

## **ELEC 1120 - Basic Electricity (5 Credit Hours)**

This course is an introduction to the occupation, shop safety, fire prevention, electrical safety hazards and prevention and OSHA regulations. It also includes tools and equipment-some laboratory required for functions of common tools and equipment. Concepts taught include DC/AC electricity fundamentals, matter and atomic theory; a study of Ohm's Law, series, and series-parallel circuits and meters. Employability skills are also a component of this course.

Prerequisite(s): None  
(4/1/5)

## **ELEC 1210 - Residential Wiring (5 Credit Hours)**

The course includes the identification of various types of conductors in residential wiring, connections, types of boxes, parts of a breaker panel and service entrance, switches, and installation devices.

Prerequisite(s): None  
(4/1/5)

## **ELEC 1220 - Electrical Raceways (3 Credit Hours)**

An introduction to various methods of installing AC cable, EMT, rigid metallic conduit, PVC, flexible and surface raceway. Lab requirements include cutting, bending, and installing conduit.

Prerequisite(s): None  
(0/3/3)

## **ELEC 1230 - National Electric Code (4 Credit Hours)**

A study of the NEC calculations including: voltage/drops, fill capacities for boxes and conduits, service sizing, box sizing, grounding, and bonding.

Prerequisite(s): None  
(2/2/4)

## **ELEC 1311 - Residential Wiring Installation (3 Credit Hours)**

A study of the NEC calculations including: voltage/drops, fill capacities for boxes and conduits, service sizing, box sizing, grounding, and bonding.

Prerequisite(s): None  
(0/3/3)

## **ELEC 1330 - Generators/Motors&Transformers (4 Credit Hours)**

This course includes the fundamentals and principles of single phase and three phase motors and generators and transformer theory, application, and characteristics.

Prerequisite(s): None  
(2/2/4)

## **ELEC 1420 - Intro to Motor Controls (2 Credit Hours)**

An introduction to manual and push button motor control systems. Topics include an understanding of ladder logic and its various components, and basic motor and control installations.

Prerequisite(s): None  
(0/2/2)

## **ELEC 1430 - Blueprint Interpretation (4 Credit Hours)**

An introduction to blueprint reading skills, which includes specifications and trade-related elements. The course includes making a material list from a blueprint.

Prerequisite(s): None  
(2/2/4)

## **ELEC 1440 - Motor Controls (3 Credit Hours)**

This course presents information on advanced motor control applications. Topics include: installation and troubleshooting of motors, reversing starters, and VFD (Variable Frequency Drive).

Co-requisite(s): ELEC 1420  
(0/3/3)

## **ELEC 2460 - Technical Math for Elec (3 Credit Hours)**

The basics of addition, subtraction, multiplication, and division, square roots, decimals, fractions, and fundamentals of algebra, plane geometry, and trigonometry. The course includes basic concepts of Scientific Notation and the metric system.

Prerequisite(s): None  
(2/1/3)

## **ELEC 2520 - Solid State Theory (3 Credit Hours)**

An introduction to solid state devices, diodes, transistors; half-wave, full-wave, and bridge rectifiers; and filters. Includes analyzing circuits in transistors, SCR, TRIAC, FET, Zener, VDR, and optical devices. The course includes testing and analyzing circuits.

Prerequisite(s): ELEC 1120  
(2/1/3)

## **ELEC 2540 - Logic Functions (2 Credit Hours)**

An introduction to the uses and applications of logic technology. The course utilizes test equipment and schematic diagrams to troubleshoot and repair circuits while practicing safety procedures.

Prerequisite(s): ELEC 1120  
(0/2/2)

## **ELEC 2720 - Intro to Programmable Logic (2 Credit Hours)**

An introduction to the uses and applications of logic technology. The course utilizes test equipment and schematic diagrams to troubleshoot and repair circuits while practicing safety procedures.

Prerequisite(s): None  
(0/2/2)

## **ELEC 2991 - Special Projects I (1 Credit Hour)**

A course designed for the student who has demonstrated specific special needs. Associate Provost of Technical Studies approval required.

Prerequisite(s): None  
(0/1/1)

## **ELEC 2993 - Special Projects II (2 Credit Hours)**

A course designed for the student who has demonstrated specific special needs. Associate Provost of Technical Studies approval required.

Prerequisite(s): None  
(2/0/2)

## **ELEC 2995 - Special Projects III (3 Credit Hours)**

A course designed for the student who has demonstrated specific special needs. Associate Provost of Technical Studies approval required.

Prerequisite(s): None  
(0/3/3)

## **ELEC 2996 - Special Projects IV (3 Credit Hours)**

A course designed for the student who has demonstrated specific special needs. Associate Provost of Technical Studies approval required.

Prerequisite(s): None  
(3/0/3)

**ELEC 2997 - Practicum (3 Credit Hours)**

A Practicum provides supervised on-the-job work experience related to the student's education objectives. Students participating in Practicum do not receive compensation. Associate Provost of Technical Studies approval required.

Prerequisite(s): None

(0/3/3)

**ELEC 2998 - Special Projects V (1 Credit Hour)**

A course designed for the student who has demonstrated specific special needs. Associate Provost of Technical Studies approval required.

Prerequisite(s): None

(1/0/1)

**ELEC 2999 - Cooperative Educ (3 Credit Hours)**

Cooperative Education provides supervised on-the-job work experience related to the student's educational objectives. Students participating in Cooperative Education receive compensation for their work. Associate Provost of Technical Studies approval required.

Prerequisite(s): None

(0/3/3)