

## ELECTRICAL TECHNOLOGY (ELT)

- 1114 Residential/Light Commercial Wiring.** (4) Pre/Corequisite: ELT 1192  
This course provides advanced skills related to the wiring of multi-family and small commercial buildings. This course includes instruction and practice in service entrance installation, specialized circuits and the use of commercial raceways. Two lecture and four lab hours per week.
- 1124 Commercial and Industrial Wiring.** (4) Prerequisite: ELT 1192  
A course to provide instruction and practice in the installation of commercial electrical service including the types of uses of conduit and other raceways, NEC code requirements and three-phase distribution networks. Two lecture and four lab hours per week.
- 1133 Introduction to the National Electric Code.** (3)  
This is a course in the layout, format, rules, and regulations set forth in the National Electric Code. Emphasis is place on developing the student-s ability to find information in the National Electric Code and apply that information in real world applications. Two lecture and two lab hours per week.
- 1144 AC and DC Circuits for Electrical Technology.** (4) Pre/Corequisite: ELT 1192  
Principles and theories associated with AC and DC circuits used in the electrical trades. Includes the study of electrical circuits, laws and formulas, and the use of test equipment to analyze AC and DC circuits. Two lecture and four lab hours per week.
- 1192 Fundamentals of Electricity.** (2)  
This is a basic course designed to provide fundamental skills associated with all electrical courses. It includes safety, basic tools, special tools, equipment and introduction to simple AC and DC circuits. One lecture and two lab hours per week.
- 1213 Electrical Power.** (3)  
A course to provide skills related to electrical motors and their installation. Includes instruction and practice in using the different types of motors, transformers and alternators. Two lecture and two lab hours per week.
- 1223 Motor Maintenance and Troubleshooting.** (3) Prerequisite: ELT 1192 or equivalent  
A course to familiarize the student with the principles and practice of electrical motor repair. Includes instruction and practice in the disassembly/assembly and preventive maintenance of common electrical motors. Two lecture and two lab hours per week.
- 1253 Branch Circuit and Service Entrance Calculations.** (3) Pre/Corequisite: ELT 1192 or equivalent  
This is a course in calculating circuit sizes for all branch circuits and service entrances in residential installation. Two lecture and two lab hours per week.
- 1263 Blueprint Reading/Planning the Residential Installation.** (3)  
This course provides knowledge of architectural symbols and electric symbols needed to read blueprints. All elevations and various plans associated with electrical wiring will be studied. Blank blueprints will be provided and a list of all appliances and their amperage will be supplied. The blanks will be filled with receptacles, switches and lighting outlets as required by NEC. Circuit layouts for all switching will be demonstrated. All branch circuits will be plotted on the blueprint. Two lecture and two lab hours per week.
- 1274 Switching Circuits for Residential, Commercial and Industrial Application.** (4)  
Pre/Corequisite: ELT 1192 or equivalent  
This course is designed to introduce the student to the various methods by which single pole, 3-way and 4-way switches are used in residential, commercial and industrial installations. This course also includes the installation and operation of low voltage, remote control switching. Three lecture and two lab hours per week.
- 1283 Estimating the Cost of a Residential Installation.** (3) Pre/Corequisites: ELT 1192, ELT 1113  
A course to provide a probable cost of a residential installation. It will include a study of the specifications set forth for a particular structure. Two lecture and two lab hours per week.
- 1413 Motor Control Systems.** (4) Prerequisite: ELT 1192 or equivalent

A course in the installation of different motor control circuits and devices. Emphasis is placed on developing student-s ability to diagram, wire and troubleshoot the different circuits and mechanical control devices. Two lecture and two lab hours per week.

**2424 Solid State Motor Control.** (4) Prerequisite: ELT 1413

This course deals with the principles and operation of solid state motor control. This course includes instruction and practice in the design, installation and maintenance of different solid state devices for motor control. Two lecture and four lab hours per week.

**2613 Programmable Logic Controllers.** (3) Prerequisite: ELT 1413

A course to provide instruction and practice in the use of programmable logic controllers (PLC-s) in modern industrial settings. Includes instruction in the operating principles of PLC-s and practice in the programming, installation and maintenance of PLC-s. Two lecture and two lab hours per week.

**2623 Advanced Programmable Logic Controllers.** (3) Prerequisites: ELT 1413, ELT 2613

A course which provides instruction in the various operations, installations, and maintenance of electric motor controls. Also, information in such areas as sequencer, program control, block transfer used in analog input and output programming, and logical and conversion instructions. Two lecture and two lab hours per week.

**291(1-4) Special Project in Electrical Technology.** (1-4) Prerequisite: Consent of instructor

This course is designed to provide the student with practical application of skills and knowledge gained in other electronics or electronics-related technical courses. The instructor works closely with the student to ensure that the selection of a project will enhance the student-s learning experience. Two to eight lab hours per week.

**292(1-6) Supervised Work Experience in Electrical Technology.** (1-6) Prerequisite: Consent of instructor and completion of at least one semester of advanced course work in electrical/electronics related programs.

This course is a cooperative program between industry and education and is designed to integrate the student-s technical studies with industrial experience. Variable credit is awarded on the basis of semester hour per 45 industrial contact hours. Three to eighteen hours externship per week.