

# ELECTRICITY (ELE)

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## **ELE 120 National Electrical Code I (4)**

This is an introductory course on the use and interpretation of the current National Electrical Code. The student will develop a working knowledge of the code which will permit them to apply it to everyday applications. The course will include the requirements for electrical installation, wiring design and protection, methods and materials used, equipment for general use, special occupancies equipment, and condition.

## **ELE 125 AC/DC Circuits I (4)**

This course introduces students to the basic of alternating current and direct current circuits. The student will perform calculations using Ohm's law and the study the construction, operation and purpose of resistors, potentiometer, switches, fuses, relay capacitors, inductors, batteries, alternators, transformers, and series-parallel resonant circuits. Students will build basic AC and DC circuits using multi meter and oscilloscope.

## **ELE 127 International Res Code I (1)**

The IRC (International Residential Code) is the understanding of building of single and two-family dwellings. The student will develop a working knowledge of the code and standards of constructing a dwelling. The electrical student needs the understanding of basic building design to do their work more efficiently. The course will include the requirements for scope and administration, definitions, and building planning.

## **ELE 132 Print Reading (2)**

Print Reading introduces the student to the fundamentals of interpreting construction drawings. Students will learn to interpret plan views, elevation views, sections, details, schedules, specifications, symbols and abbreviations found on most residential, commercial, and industrial construction drawings.

## **ELE 135 Commercial Wiring (4)**

In Commercial Wiring I, the student will study the theory, practice, and National Electrical Code requirements for commercial wiring. The course consists of definitions, formulas, wiring methods, overcurrent protection, calculation and sample examinations. Wiring projects are also assigned to put the theories learned in the classroom into practice.

## **ELE 137 International Residential Code (3)**

The IRC (International Residential Code) is the understanding of building of single and two-family dwellings. The student will develop a working knowledge of the code and standards of constructing a dwelling. The electrical student needs the understanding of basic building design to do their work more efficiently. The course will include the requirements for scope and administration, definitions, and building planning. The course will also include general requirements, electrical definitions and services, branch circuit and feeder requirements, wiring methods, and power and lighting distribution.

## **ELE 140 Residential Wiring I (4)**

This course is an introduction to residential wiring methods that includes practical application and hands on experience in implementing code requirements. The student will gain the necessary skills to wire a residence to meet the minimum requirements as set forth in the current National Electrical Code for residential occupancies.

## **ELE 142 National Electrical Code II (4)**

This course is a continuation of the National Electrical Code I course on the use and interpretations of the current national electric code (NEC Chapters 5-9).

## **ELE 147 International Res Code II (1)**

The IRC (International Residential Code) is the understanding of building of single and two-family dwellings. The student will develop a working knowledge of the code and standards of constructing a dwelling. The electrical student needs the understanding of basic building design to do their work more efficiently. The course will include general requirements, electrical definitions and services, branch circuit and feeder requirements, wiring methods, and power and lighting distribution.

## **ELE 220 Electricity II (6)**

This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Alternating Current, Motors: Theory and Application, Electric Lighting, Conduit Bending, Pull and Junction Boxes, Conductor Installations, Cable Tray, Conductor Terminations and Splices, Grounding and Bonding, Circuit Breakers and Fuses, Control Systems and Fundamental Concepts.

## **ELE 230 Electricity III (6)**

This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Load Calculations – Branch and Feeder Circuits, Conductor Selection and Calculations, Practical Applications of Lighting, Hazardous Locations, Overcurrent Protection, Distribution Equipment, Transformers, Commercial Electrical Services, Motor Calculations, Voice, Data, and Video, and Motor Controls.

## **ELE 240 Electricity IV (6)**

This course features a highly illustrated design, technical hints and tips from industry experts, review questions and a whole lot more! Key content includes: Load Calculations – Feeders and Services, Health Care Facilities, Standby and Emergency Systems, Basic Electronic Theory, Fire Alarm Systems, Specialty Transformers, Advanced Controls, HVAC Controls, Heat Tracing and Freeze Protection, Motor Operation and Maintenance, Medium-Voltage Terminations/Splices, Special Locations, and Fundamentals of Crew Leadership

## **ELE 250 Electrical OJT (6)**

This course features a is a hands-on method of teaching the skills, knowledge, and competencies needed for employees to perform in the field of electrical work. Students learn in an environment where they will need to practice the knowledge and skills obtained during their training.