

# ELECTRICITY (ELEC)

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## **ELEC 021 3 Units**

### **Blueprint Reading for Building Energy Systems**

**Lecture:** 54 contact hours

**Advisory:** TECALC 087

This course is a study of basic information for reading blueprints and construction drawings. It is designed for those who must assimilate information found in working drawings and specifications.

**Associate Degree Applicable**

## **ELEC 050 4 Units**

### **Zero Net Energy Building Science**

**Lecture:** 72 contact hours

Zero Net Energy (ZNE) Building Science includes an overview of many progressive measures that improve the energy performance of buildings. Studies focus on architectural design of building, construction methodology, green HVAC systems, renewable energy systems and the terminology used in the ZNE Industry. A survey of projects, policies and programs driving ZNE performance in residential and non-residential buildings will be studied.

**Associate Degree Applicable**

## **ELEC 091 3 Units**

### **Fundamentals of Solar Energy**

**Lecture:** 54 contact hours

**Prerequisite:** ELECTR 230

This course is designed for students interested in a career in the solar industry. The fundamental principles and functions of photovoltaic industry will be introduced along with the planning, installation and maintenance of all necessary components for a photovoltaic system. The transmission and distribution of electric power will be reviewed, and basic concepts of electricity, identification, functions and operations of components will be surveyed.

**Associate Degree Applicable**

## **ELEC 101 3 Units**

### **Supply Chain Technology**

**Lecture:** 36 contact hours

**Lab:** 54 contact hours

**Prerequisite:** ELECTR 110 and ELECTR 111

This course is an industrial technology overview covering the basic knowledge and skills needed for supply chain technicians to successfully work in automated factories, warehouses, and distribution centers. Introduction to the troubleshooting and maintenance of complex electromechanical systems is a major focus of this class.

**Associate Degree Applicable**

**Transfers to CSU only**

## **ELEC 215C 4 Units**

### **Electrical Control of Hydraulic-Pneumatic Systems**

**Lecture:** 36 contact hours

**Lab:** 108 contact hours

**Prerequisite:** ELECTR 115 and ELECTR 116

This course introduces hydraulic/pneumatic fundamentals, principle of electrical control of hydraulic/pneumatic systems, electrical concepts of ladder diagrams, functional systems of electrical/hydraulic/pneumatic sequencing of actuators, industrial applications, industrial-type hydroelectric and electro pneumatic circuits, and troubleshooting electrically controlled hydraulic/pneumatic systems.

**Associate Degree Applicable**

**Transfers to CSU only**

## **ELEC 216C 4 Units**

### **Introduction to Industrial Electricity**

**Lecture:** 54 contact hours

**Lab:** 54 contact hours

**Prerequisite:** ELECTR 110 and ELECTR 111

This course covers the study of electrical power transmission, the National Electrical Code, electrical blueprints, residential and commercial wiring.

**Associate Degree Applicable**

**Transfers to CSU only**

## **ELEC 217C 4 Units**

### **Industrial Electricity**

**Lecture:** 54 contact hours

**Lab:** 54 contact hours

**Prerequisite:** ELECTR 115 and ELECTR 116

This course covers the study of DC motors, single and polyphase AC motors, and the necessary controls and measuring equipment used for industrial circuit protection and switching equipment.

**Associate Degree Applicable**

**Transfers to CSU only**

## **ELEC 218C 4 Units**

### **Controlling Industrial Electricity**

**Lecture:** 54 contact hours

**Lab:** 54 contact hours

**Prerequisite:** ELECTR 115 and ELECTR 116

This course covers the study of DC, AC, and polyphase motor operation, mechanical and programmable machine controls, relays and programmable logic controllers (PLCs), ladder logic diagrams and the communication network linking the programmer, the controller, the laptop computer and the machine.

**Associate Degree Applicable**

**Transfers to CSU only**

## **ELEC 219C 4 Units**

### **Industrial Electronic Systems Controls II**

**Lecture:** 54 contact hours

**Lab:** 54 contact hours

**Prerequisite:** ELEC 218C

This course examines system application of industrial electronic systems (PLC) including industrial production and processes, automation, and programmable motor controllers. Emphasis is on programmable logic controllers.

**Associate Degree Applicable**

**Transfers to CSU only**