

ELECTRICITY (ELEC) COURSES

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

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: 54 contact hours

Lab: 54 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

ELEC 606 Noncredit

Programmable Logic Controller (PLC)

Lecture: 54 contact hours

The purpose of this noncredit electronics technology course is to align with the growing portion of the electronic companies that can employ workers with specific skills/knowledge and specialize in the field of control systems.

ELEC 607 Noncredit

Preparation for Journeyman Electrician Exam

Lecture: 54 contact hours

The purpose of this noncredit electrical technology course is to allow a growing population of electrical workers understand specific sections of the National Electrical Code (NEC). The course includes the expected knowledge of the service, load calculations, grounding and overcurrent protection for conductors, motors, and transformers.

ELEC 608 Noncredit

Wireless Communications

Lecture: 54 contact hours

The purpose of this noncredit electronics technology course is to align with the growing portion of the electronic companies that can employ workers with specific skills, knowledge and specialize in the field of wireless communications.

ELEC 609 Noncredit

Antennas and Wave Propagation

Lecture: 27 contact hours

The purpose of this noncredit electronics technology course is to align with the growing portion of the electronic companies that can employ workers with specific skills, knowledge and specialize in the field of antennas and wave propagation.

ELEC 621 Noncredit

Blueprint Reading for Building Energy Systems

Lecture: 54 contact hours

This noncredit 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.

ELEC 650 Noncredit

Zero Net Energy Building Science

Lecture: 72 contact hours

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