

ELECTRICAL TECHNOLOGY

Laney College

Outcome	Institutional Outcomes	Assessment Method
Explain basic principals of electron theory, current flow, Ohm's and Kirchoff's Laws, and how resistors, inductors, and capacitors interact in both DC and AC circuits.		Tests and written reports
Solve algebraic and trigonometric equations to solve for typical circuit measurements as they apply to the course content.		Demonstration and tests
Demonstrate safe and proper usage of laboratory and field electrical metering equipment to identify voltage, amperage, and resistive values.		Hands-on lab projects and tests
Demonstrate the safe and proper use of common electrical construction hand and power tools while installing residential and commercial wiring in mock walls and on motor control test stations.		Hands-on lab projects
Explain the theory and operation of Photovoltaic power generation and safely apply it to the installation of photovoltaic modules and system components on mock roofs and ground/slab mount rail systems following the national Electrical Code.		Demonstration, tests, and hands-on lab projects
Analyze collected solar installation site data, design the installation, and select equipment size and type to produce projected performance of the installed photovoltaic system.		Demonstration and tests
Locate Code citations (from the National Electrical Code book) pertaining to specific field problems and describe the intent of each Code Article as to how it applies to electrical construction.		Demonstration and tests
Calculate quantities and types of electrical materials required for projects and provide cost analysis and labor hours required for estimating and bidding purposes pertaining to residential, commercial, and photovoltaic installations.		Written reports

Locate OSHA references applicable to specific hazardous conditions and practices, identify potential workplace hazards, and implement OSHA safety practices in the workplace.		Demonstration, tests, and hands-on lab projects
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