

ELECTRICAL (ELC)

<p>ELC 111 Introduction to Electricity 4/3</p> <p>This course introduces the fundamental concepts of electricity and test equipment to non-electrical/electronics majors. Topics include basic DC and AC principles (voltage, resistance, current, impedance); components (resistors, inductors, and capacitors); power; and operation of test equipment. Upon completion, students should be able to construct and analyze simple DC and AC circuits using electrical test equipment. Prerequisite: None Corequisite: None</p> <p>ELC 112 DC/AC Electricity 9/5</p> <p>This course introduces the fundamental concepts of and computations related to DC/AC electricity. Emphasis is placed on DC/AC circuits, components, operation of test equipment; and other related topics. Upon completion, students should be able to construct, verify, and analyze simple DC/AC circuits. Prerequisite: None Corequisite: None</p> <p>ELC 113 Residential Wiring 8/4</p> <p>This course introduces the care/usage of tools and materials used in residential electrical installations and the requirements of the National Electrical Code. Topics include NEC, electrical safety, and electrical print reading; planning, layout; and installation of electrical distribution equipment; lighting; overcurrent protection; conductors; branch circuits; and conduits. Upon completion, students should be able to properly install conduits, wiring, and electrical distribution equipment associated with residential electrical installations. Prerequisite: None Corequisite: None</p> <p>ELC 116 Telecom Cabling 3/2</p> <p>This course introduces the theory and practical application of both copper and fiber cabling for telecom systems. Topics include transmission theory, noise, standards, cable types and systems, connectors, physical layer components, installation, and ground/shielding techniques. Upon completion, students should be able to choose the correct cable, install, test, and troubleshoot cabling for telecom. Prerequisite: None Corequisite: None</p> <p>ELC 117 Motors and Controls 8/4</p> <p>This course introduces the fundamental concepts of motors and motor controls. Topics include ladder diagrams, pilot devices, contactors, motor starters, motors, and other control devices. Upon completion, students should be able to properly select, connect, and troubleshoot motors and control circuits. Prerequisite: None Corequisite: Take ELC 131 or ELC 111;</p> <p>ELC 118 National Electrical Code 3/2</p> <p>This course covers the use of the current National Electrical Code. Topics include the NEC history, wiring methods, overcurrent protection, materials, and other related topics. Upon completion, students should be able to effectively use the NEC. Prerequisite: None Corequisite: None</p>	<p>ELC 131 Circuit Analysis I 6/4</p> <p>This course introduces DC and AC electricity with an emphasis on circuit analysis, measurements, and operation of test equipment. Topics include DC and AC principles, circuit analysis laws and theorems, components, test equipment operation, circuit simulation, and other related topics. Upon completion, students should be able to interpret circuit schematics; design, construct, verify, and analyze DC/AC circuits; and properly use test equipment. Prerequisite: Take DMA 010 DMA 020; Corequisite: Take ELC 131A DMA 030;</p> <p>ELC 131A Circuit Analysis I Lab 3/1</p> <p>This course provides laboratory assignments as applied to fundamental principles of DC/AC electricity. Emphasis is placed on measurements and evaluation of electrical components, devices and circuits. Upon completion, the students will gain hands-on experience by measuring voltage, current, and opposition to current flow utilizing various meters and test equipment. Prerequisite: Take DMA 010 DMA 020; Corequisite: Take ELC 131; Take DMA 030;</p> <p>ELC 220 Photovoltaic System Technology 5/3</p> <p>This course introduces the concepts, tools, techniques, and materials needed to understand systems that convert solar energy into electricity with photovoltaic (pv) technologies. Topics include site analysis for system integration, building codes, and advances in photovoltaic technology. Upon completion, students should be able to demonstrate an understanding of the principles of photovoltaic technology and current applications. Prerequisite: None Corequisite: None</p>
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