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# COURSES

## ELECTRICAL (ELC)

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**ELC 131A      Circuit Analysis I Lab****1.0 UNIT**

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.

**ELC 112      DC/AC Electricity****5.0 UNITS**

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.

**ELC 113      Residential Wiring****4.0 UNITS**

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.

**ELC 117      Motors and Controls****4.0 UNITS**

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.

**ELC 118      National Electrical Code****2.0 UNITS**

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.

**ELC 131      Circuit Analysis I****4.0 UNITS**

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.

**ELC 213      Instrumentation****4.0 UNITS**

This course covers the fundamentals of instrumentation used in industry. Emphasis is placed on electric, electronic, and other instruments. Upon completion, students should be able to install, maintain, and calibrate instrumentation.