NOVA COLLEGE-WIDE COURSE CONTENT SUMMARY
ELE 115- BASIC ELETRICITY (3 CR.)

Course Description

Covers basic circuits and theory of fundamental concepts of electricity. Presents a practical approach to discussion of components and devices. Prerequisite: MTH 02 or equivalent. Lecture 2 hours per week.

General Course Purpose

To introduce the student to each of the core areas of electrical work that must be mastered.

Course Prerequisites/Co-requisites

The student should have completed BLD110-Introduction to Construction successfully or have demonstrated knowledge in this subject area.

Course Objectives

As a result of the learning experience provided in this course, the student should be able to:

- Use the necessary electrical safety precautions and the OSHA-mandated lockout/tagout procedure on the job.
- Demonstrate the techniques for using hand-operated and step conduit benders, as well as cutting, reaming, and threading conduit.
- Use hardware and systems to mount and support boxes, receptacles, and other electrical components and devices.
- Understand the electrical concepts used in Ohm's law applied to DC series circuits., including atomic theory, electromotive force, resistance, and electric power equations.
- Distinguish the difference between basic circuits, including series, parallel, and series-parallel circuits, resistive circuits, Kirchoff's voltage and current laws, and circuit analysis.
- Demonstrate the proper selection, inspection, use, and maintenance of common electrical test equipment.

Major Topics to be Included

Students learn the necessary precautions to take for various electrical hazards found on the job, including:

- The OSHA mandated lockout/tagout procedure.
- The techniques for using hand-operated and step conduit benders, as well as cutting reaming and threading conduit.
- The hardware and systems used by an electrician to mount and support boxes, receptacles, and other electrical components and devices.
- The various types of anchors and supports, their applications, and safe installation.
- Ohm’s Law applied to DC series circuits.
- Atomic theory, electromotive force, resistance, and electric power equations.
- Parallel and series-parallel circuits, resistive circuits, Kirchoff’s voltage, current Laws and circuit analyses.
- Proper selection, inspection on, use and maintenance of common electrical test equipment.