

CUMBERLAND COUNTY COLLEGE

Course: IT 107 Electrical Maintenance

Credits: 3

Prerequisites: IT 110 or permission of Instructor

Description:

Students learn the concepts of DC theory, single phase AC and three phase AC, ladder diagrams and components found in an industrial electrical circuit. In the laboratory students will develop the necessary skills to use test equipment to troubleshoot an electrical circuit.

Learning Outcomes:

Upon successful completion of this course, students will be able to:

- Select the proper wire size, conduit, overload protection and components to wire a single phase or basic three phase circuit.
- Install proper lock out notification and protection in order to service electrical equipment.
- Select the proper components and wire a three phase motor circuit
- Understand basic electrical ladder diagrams
- Use test equipment in order to troubleshoot an electrical circuit.

Topical Outline:

- Electrical quantities and Ohm's Law
- Series Circuits
- Parallel Circuits
- Combination Circuits
- Electromagnetism
- Alternating current
- Inductance and capacitance in AC
- Safety overview
- Single-Phase transformers
- Single Phase motors
- Three Phase Circuits
- Overload protection
- Lockout Procedures
- Wire and Conduit Size
- Troubleshooting techniques

Text:

Ugly's Electrical Reference by Hart, Burlison Distributing Co. Delmar's Standard Test Book of Electricity by Herman, 3rd edition, Thomson

Student Assessment:

Assessment is accomplished based on assignments, term project, and exams, as follows:

Weekly Assignment	30%
Two mid-semester exams	30%
Final exam	25%
Term Project	15%

Academic Integrity:

Plagiarism is cheating. Plagiarism is presenting in written work, in public speaking, and in oral reports the ideas or exact words of someone else without proper documentation.

Whether the act of plagiarism is deliberate or accidental [ignorance of the proper rules for handling material is no excuse], plagiarism is, indeed, a “criminal” offense.

As such, a plagiarized paper or report automatically receives a grade of **ZERO** and the student may receive a grade of **F** for the semester at the discretion of the instructor.

Tutoring & Project Assist:

If you are having difficulty with work in this class tutoring is available through the Center for Academic & Student Success. If you think that you might have a learning disability, contact Project Assist at 856.691.8600 x 1282 for information on assistance that can be provided to eligible students.

Before Withdrawing From This Course:

If a student experiences adverse circumstances while enrolled in this course and considers withdrawing, s/he should see an advisor (division or advisement center) BEFORE withdrawing from the class. A withdrawal may cause harmful repercussions to completion rate standards and overall GPA, which can limit or eliminate future financial aid in addition to causing academic suspension.