

CUMBERLAND COUNTY COLLEGE

Course: IT 112 Engineering Technology Laboratory

Credits: 2

Prerequisites: MA 105

Description:

A laboratory course designed to provide students the exposure to a diverse range of applied topics. Robotics, manufacturing, solar power, nuclear decay and shielding, strength of materials, and environmental project are the specific modules constituting the foundation of this course.

Learning Outcomes:

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

- Describe components and application of a robotic system
- Explain the process of prototyping
- Cite the atomic structure
- Distinguish different types of nuclear radiation
- Determine the half life of a radioactive substance
- Identify components of a solar power system
- Assemble a simple solar power generating system
- Identify an environmental need and propose a solution

Topical Outline:

- Principles of robotics and automation
- Design and manufacturing
- Structure of matter
- Atomic model
- Nuclear radiation and half-life
- Radiation shielding
- Strength of materials
- Solar energy

Text:

Engineering Technology Laboratory manual

Student Assessment:

Assessment may be accomplished through projects, portfolios, exams, presentations and/or papers.

Laboratory reports	50%
Term Project	25%
Final exam	25%

### 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.