

CUMBERLAND COUNTY COLLEGE

Course: EG 103 Introduction to Engineering I Laboratory

Credit: 2 (2:0:4)

Prerequisite: MA 120 or MA 121

Description: Students will participate in small groups to carry out a series of basic engineering experiments. In addition to the experiments, each group will be assigned a specific project and/or a reverse engineering project. The only examination given in the course is during the final week of the semester and will be used in conjunction with the laboratory reports and the term project as a basis for evaluation of student performance. The experiments are scheduled on a round-robin basis and each group performs all four experiments scheduled for this semester. Laboratory reports are due two weeks after the completion of each experiment and is to be submitted as a group report. A term project will be assigned to each group for which a final report is to be prepared by the group and submitted at the end of the semester.

Learning Outcomes:

At the completion of this course, students will be able to:

- Perform basic Engineering experiments
- Make basic measurements using mechanical and electrical test equipment
- Research application of single board computer and employ the information in a design project
- Explain the operation of an industrial robot and a CNC machine

Topical Outline:

- Water quality
- Materials
- Heat transfer
- Gas transfer
- Treatment of experimental data
- Error analysis

Text:

Engineering Fundamentals and Problem Solving, By Eide, Jenison, Mashaw & Northup: McGraw Hill.

Instructor's hand-outs

Student Assessment:

Student assessment is based on lab reports, term project, and final exam as follows:

Lab Reports	40%
Term Project	30%
Final Exam	30%

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.