

Common Course Outline
EGNT 101
Introduction to Engineering Technology
3 Semester Hours

The Community College of Baltimore County

Description

EGNT 101 — 3 credits — Introduction to Engineering Technology

covers topics in a variety of construction and engineering disciplines. This course examines the methods and processes used in the civil, surveying, construction, biotechnical, electrical, mechanical, and other engineering fields. Topics include soil mechanics, project management, technical organization, and measurement equipment. This course serves as the basis for the Engineering Associate curriculum.

3 credits; 3 lecture hours per week; 0 laboratory hours per week.

Prerequisite: RDNG 052 or LVR 2; ENGL 052 or LVE 2

Overall Course Objectives

Upon completion of this course the student will be able to:

1. Describe several roles of engineers and engineering technicians;
2. Describe types of work and employment opportunities for an engineer or engineering technicians;
3. Describe educational and licensing requirements for and engineer or engineering technicians;
4. Describe and discuss ethical conduct of an engineer or engineering technician;
5. Analyze forces on rigid bodies in equilibrium;
6. Communicate analysis and results clearly: orally, in writing, and through diagrams and calculations; and
7. Discuss the work involved in interacting with individuals of diverse cultural backgrounds.

Major Topics

- I. Introduction to the engineering profession: types of work, employers, and educational and licensing requirements.
- II. Roles of engineers and engineering associates
- III. Engineering ethics.
- IV. Professional and technical organizations/certificates.
- V. Project Management.
- VI. Presentation of engineering analysis and calculations.
- VII. Engineering measurements and equipment: systems of units, dimensional analysis, accuracy and precision.
- VIII. Critical thinking and problem-solving: use of models, inductive and deductive reasoning, conceptual roadblocks in problem-solving.
- IX. Soil Mechanics
- X. Codes – discipline specific and general
- XI. Technical changes
- XII. Applications of Geographic Information Systems (GIS)

Course Requirements

Grading/exams: Grading procedures will be determined by the individual faculty member but will include the following:

- A mid-term and final written exam.
- A written assignment.

Writing: The individual faculty member will determine specific writing assignments.

Other Course Information

This course is a required course in the Engineering Technology degree.

Individual faculty members may include additional course objectives, major topics, and other course requirements to the minimum expectations stated in the Common Course Outline.