

Common Course Outline
MATH 105
Industrial Mathematics
3 Semester Hours

The Community College of Baltimore County

Description

Industrial Mathematics

Covers solving equations, work, power and energy, and concepts from arithmetic, geometry, algebra, and trigonometry related to applications in an industrial setting; provides the math foundation necessary for industrial technology courses.

Prerequisites: MATH 081 or a sufficient math placement score or consent of the instructor.

Overall Course Objectives

Upon successfully completing the course students will be able to:

1. Apply the rules of signed numbers;
2. Interpret and solve word problems associated with industrial and technical technology;
3. Interpret diagrams and drawings for missing quantities;
4. Apply the rules for solving simple algebraic equations and literal expressions;
5. Apply the theorems associated with angle measurement for triangles, parallel and perpendicular lines;
6. Apply the theorems associated with circles, sectors, segments, central angles and arc length;
7. Calculate areas and volumes of various geometric figures;
8. Apply trigonometric ratios to appropriate diagrams and word problems;
9. Apply the concepts of work, power, energy, and Pascal's Principle to appropriate word problems.

Major Topics

1. Review of basic arithmetic skills
2. Ratios and proportions
3. Solving linear equations
4. Evaluating and solving literal expressions
5. Geometry
 - a. perimeters
 - b. areas
 - c. volumes

6. Trigonometry
7. Simple machines
8. Strength of materials
9. Work, power and energy
10. Pascal's Principle

Course Requirements

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

1. Four (4) examinations
2. Individual and group work
3. Oral presentation of homework solutions

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

The Community College of Baltimore County is committed to providing a high-quality learning experience that results in growth in knowledge, attitudes, and skills necessary to function successfully as a transfer student, in a career and as a citizen. To accomplish this goal, we maintain high academic standards and expect students to accept responsibility for their individual growth by attending classes, completing all homework and other assignments, participating in class activities and preparing for tests.

We take seriously our responsibility to maintain high-quality programs and will periodically ask you to participate in assessment activities to determine whether our students are attaining the knowledge, attitudes and skills appropriate to various courses and programs. The assessment activities may take many different forms such as surveys, standardized or faculty-developed tests, discussion groups or portfolio evaluations. We ask that you take these activities seriously so that we can obtain valid data to use for the continuous improvement of CCBC's courses and programs.