

TECH 107 - Technical Mathematics II Course Outline

Approval Date: 05/20/2005

Effective Date: 08/15/2005

SECTION A

Unique ID Number CCC000593558

Discipline(s)

Division Career Education and Workforce Development

Subject Area Technical

Subject Code TECH

Course Number 107

Course Title Technical Mathematics II

TOP Code/SAM Code 1701.00 - Mathematics, General / E - Non-Occupational

Rationale for adding this course to the curriculum This proposal does not add a course to the curriculum but moves an existing course between divisions. Technical Mathematics II has traditionally been taught by Technical Division faculty. As this course supports only Technical Division programs, it has been agreed by Science, Mathematics and Engineering and the Technical Division Chairs that it is appropriate and in the best interests of students, to move this course from Science, Mathematics and Engineering into the Technical

- k. Segments
- l. The ellipse
- B. SOLIDS
 - a. Definitions
 - b. Prisms and cylinders
 - c. Pyramids and cones
 - d. Frustums of pyramids and cones
 - e. Spheres
 - f. Formulas
 - g. Finding the volume
 - h. Finding the surface area
 - i. Finding the altitude
 - j. Solutions of composite figures
 - k. Volume expressed as weight
 - l. Board measure
- C. ELEMENTS OF GEOMETRY
 - a. Plain
 - b. Solid
 - c. Useful axioms
- D. THE ESSENTIALS OF TRIGONOMETRY
 - a. The right triangles
 - b. Trigonometric functions
 - c. The use of tables
 - d. The use of the calculator
 - e. Solution of right triangles
 - f. Solution of isosceles triangles
 - g. Practical applications
- E. STRENGTH OF MATERIALS
 - a. Stress and strain
 - b. Uses of stresses
 - c. Unit stress
 - d. Practical applications
 - e.

4. Methods of Instruction:

5. Methods of Evaluation: Describe the general types of evaluations for this course and provide at least two, specific examples.

Additional assessment information:

Students will complete assignments, quizzes, a mid-term and a final.

Examples of questions:

1. Find the area of an octagon with 7 in. sides.
2. Find the surface of a 9 in sphere.
3. For a right angle, find the Cosine of 28 degrees.

Letter Grade Only

6. Assignments: State the general types of assignments for this course under the following categories and provide at least two specific examples for each section.

A. Reading Assignments

Students will complete reading assignments from the textbook, instructor generated material, and miscellaneous handouts. Students will read and write answers to practice problems, review exercises, and assessment tests.

Examples include:

1. Read Chapter 4 Solid Geometric Figures and do Chapter Exercises #1-20.
2. Read Chapter 5 Trigonometric Functions and do Chapter Exercises # 1-15.

B. Writing Assignments

Students will have graded assignments including homework, quizzes, and exams. Students will solve assigned problems from text.

Examples:

1. Find the center to center distance of 13 holes drilled on the circumference of a 12 inch circle.
2. A cylinder has a volume of 450 cubic inches and a height of 12 inches, find the lateral surface area of the cylinder.
3. Find the volume of a ring section whose outside diameter is 8 inches and inside diameter is 5 inches and cross sectional diameter is 1 inch.

C. Other Assignments

-

7. Required Materials

A. EXAMPLES of typical college-level textbooks (for degree-applicable courses) or other print materials.

Book #1:

Author: Boyce, Margolis, Slade
Title: Mathematics for Technical & Vocational Students
Publisher: Prentice-Hall
Date of Publication: 1997
Edition: 9th

B. Other required materials/supplies.