DEPARTMENT: Engineering & Engineering Technology

CURRICULUM: Engineering & Engineering Technology

COURSE TITLE: Creative Technical Problem-Solving

COURSE NUMBER: MET 102

TYPE OF COURSE: Technical Preparatory

COURSE LENGTH: One Quarter

CREDIT HOURS: 4

LECTURE HOURS: 33

LAB HOURS: 22

CLASS SIZE: 25

PREREQUISITES: MAT 112 (Applied Mathematics II)

COURSE DESCRIPTION:

Introduction to systematic procedures for engineering problem-solving. Review of basic math principles, geometry, algebra, trigonometry, and basic physical principles related to analysis of technical engineering problems.

STUDENT LEARNING OUTCOMES ADDRESSED:

1. Communication: Read and comprehend written information. Adapt communication techniques to cultural differences. Work with others and participate as member of team.
2. Computation: Use basic math operations & trigonometry to solve engineering problems.
3. Critical Thinking and Problem Solving: Identify problems & evaluate alternative solution, and apply appropriate analytical methods to develop optional solutions.
4. Technology: Work with a variety of technologies. Apply current and appropriate to specific tasks.
5. Information Literacy: Access & use information from variety of resources/data
MET 102  Creative Technical Problem-Solving
Feb. 12

GENERAL COURSES OBJECTIVES:

At the end of the course the student will:

1. Develop individual and team creative thinking skills.
2. Analyze the systematic problem solving process.
3. Read a problem and decide what is given and what is to be found.
4. Practice the creative problem solving process and associated mindset.
5. Explore different applications.

TOPICAL OUTLINE:  APPROX. HOURS

I. Problem-Solving Strategies  3
II. Problem Definition  5
III. Generating Solution  5
IV. Deciding the course of action  5
V. Implementing the solution  5
VI. Evaluation  5
VII. Case Study  5
VIII. Creative Problem-solving applications  22

55

REVISED BY: L. Nguyen
DATE: Feb, 2012

REV 2/12