

COURSE OUTLINE

Revision: L. NGUYEN Feb. 2012

DEPARTMENT:	Engineering & Engineering Technology
CURRICULLUM:	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
6. Personal Responsibility: Practice individual responsibility. Take pride and value in own work.

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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	<u>22</u>
	55

REVISED BY: L. Nguyen  
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