COURSE OUTLINE
Loc Nguyen, 2012

DEPARTMENT:	Professional Technical Education
CURRICULUM:	CAD / DESIGN Technology
COURSE TITLE:	Applied Mechanics I
COURSE NUMBER:	TDR 263
TYPE OF COURSE:	Technical Preparatory
COURSE LENGTH:	1 quarter
CREDIT HOURS:	4
LECTURE HOURS:	33
LAB HOURS:	22
CLASS SIZE:	20
PREREQUISITES:	2nd year standing and MET 102 Technical Problem Solving.

COURSE DESCRIPTION:

This is a study of forces and force systems in equilibrium. Includes analysis for forces in trusses, frames and machine components; additional topics are friction, location of centroids, and evaluation of area moments of inertia.

STUDENT LEARNING OUTCOMES ADDRESSED:

1. Critical Thinking and Problem-Solving - Analyze and apply principles of engineering mechanics.
2. Computation - Utilize college algebra and calculus to solve engineering problems.
3. Technology - Use current data/information in engineering mechanics.
4. Critical Thinking and Problem Solving - Organize and evaluate technical data, as well as select and apply appropriate spatial relationship principles to determine problem solution.

STUDENT LEARNING OUTCOMES ADDRESSED: (cont.)

5. Technology - Select and use appropriate technological tools to create technical graphics.

6. Personal Responsibility - Take pride in own work

7. Information Literacy - Access & use information from variety of resources / data

GENERAL COURSE OBJECTIVES:
Upon completion of the course the student will be able to:

1. Acquire knowledge in basic principles of engineering mechanics.
2. Demonstrate an understanding of fundamental properties of force systems and vectors.
3. Draw complete free-body diagrams of whole or part mechanisms.
4. Apply the equations of equilibrium, $\Sigma F = 0$, $\Sigma M = 0$ to the two-dimensional system.
5. Apply these principles in the analysis of structures, both frames to support loads and machines to transmit loads.

TOPICAL OUTLINE:	APPROX. HOURS
I. Introduction & Review of Trigonometry	5
II. Resultant of concurrent forces	10
III. Moment of force	10
IV. Moment of a couple	10
V. Equilibrium	10
VI. Trusses, Frames, and Machines	10
Total	55

Originated or Revised BY: L. NGUYEN
DATE: Jan 10, 2010