

Master Syllabus

MET 1241 - Principles of Engineering

Division: Science, Mathematics and Engineering

Department: Mechanical Engineering Tech

Credit Hour Total: 2.0

Lecture Hrs: 1.0 **Lab Hrs:** 2.0

Prerequisite(s): OR MAT 1470 MET 1201 AND MAT 1280

Date Revised: November 2012

Course Description:

Development of student understanding of the engineering and engineering technology fields through applied math, science and technology principles. Introductory looks into the applied learning of mechanics, strength of materials, free body diagrams and forces. One classroom, two lab hours per week.

General Education Outcomes:

- ▣ Critical Thinking/Problem Solving
- ▣ Information Literacy

Course Outcomes:

Logic and programming of a mechanical system

Create a solution to a design problem that applies a mechanical system and logic programming.

Assessment Method: Portfolios

Performance Criteria: 70% or better score on the evaluation of the mechanical system performance

Static systems

Solve problems of static systems to determine the forces.

Assessment Method: Portfolios

Performance Criteria: 70% or better score on the evaluation of static systems homework

Foundational Newtonian mechanics

Apply the foundational aspects of the laws of motion.

Assessment Method: Portfolios

Performance Criteria: 70% or better score on the evaluation of the applied learning project

Outline:

Analyze trusses, frames and machines
Understand the foundations of Newtonian mechanics
Calculate the moment of a force about an axis and the moment of a couple
Determine equivalent force systems
Logic and programming of a mechanical system