

## Master Syllabus

### **MET 1241 - Principles of Engineering**

**Division:** Science, Mathematics and Engineering

**Department:** Mechanical Engineering Technology

**Credit Hour Total:** 2.0

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

**Prerequisite(s):** MAT 1280OR MAT 1370

**Date Revised:** August 2016

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### **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 Competency
- Information Literacy Competency

### **Course Outcomes:**

#### **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

#### **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

### **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