REGULAR COURSE SYLLABUS

School of: Professional Studies

Department: Engineering Technology

Prefix & Course Number: MET 1000  Crosslisted With*: ___

Course Title: Introduction to Mechanical Engineering Technology

Banner course title (28 characters): Intro to Mechanical Eng Tech

Check All That Apply: Required for Major: X  Required for Minor: X  Specified Elective: ___

Required for Concentration: ___  Elective: ___  Service Course: ___

To receive Title IV financial aid funds, all institutions of higher education must comply with the federal definition of a credit hour. The Higher Learning Commission requires institutions to maintain policies and procedures for verifying compliance with this definition.

**Federal Credit Hour Definition:** A credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally-established equivalency that reasonably approximates not less than:

1. one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or ten to twelve weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time; or
2. at least an equivalent amount of work as required in paragraph (1) of this definition for other activities as established by an institution, including laboratory work, internships, practica, studio work, and other academic work leading toward the award of credit hours. 34CFR 600.2 (11/1/2010)

Credit Hours: 3 (3+0)

Face-to-Face or Equivalent Hours per course:

Lecture 45  Lab ___  Internship ___  Practicum ___  Other (please specify type and hours): ___

Additional Student Work Hours per course: 90

Schedule Type: L  Grade Mode: L

Variable topics umbrella course: No X Yes ___  If Yes, number of credit hours allowed ___

Specified repeatable course: No X Yes ___

APPROVED:

Department Chair OR Program Director

Dean OR Associate Dean

Associate VP, Academic and Student Affairs

*If crosslisted, attach completed Course Crosslisting Agreement Form
Prefix and Course Number: MET 1000

Prerequisite(s): None
Corequisite(s):
Prerequisite(s) or Corequisite(s):

Banner Enforced:
Prerequisite(s): None
Corequisite(s):
Prerequisite(s) or Corequisite(s):

Registration restrictions: Level _____ Class _____ Program/Major _____ Student attribute _____

Catalog Course Description:
Emphasis is placed on the design and creative process with examples from different areas within engineering technology. Students will learn how to develop the tools necessary to be successful in school and in industry by using theory, computer software, and working real-world problems. The engineering profession and its relation to current national, social, industrial, ethical, and international issues and problems will be discussed.

Specific Variable Topics Course Description (if applicable, umbrella course description included above):

Required Reading and Other Materials will be equivalent to:

Specific, Measurable Student Behavioral Learning Objectives:
Upon completion of this course the student should be able to:
1. Define strategies for academic success in engineering studies:
   a. Record engineering problems and homework in a neat, organized format.
   b. Recall the creative process and how to apply it engineering design problems.
   c. Relate communication to engineering work.
2. Recall the type of jobs done in the fields of Engineering and Technology
3. Identify the different areas within mechanical engineering.
4. Analyze engineering data using spreadsheets and computer software.
5. Relate the impact of industry upon the social, cultural, ethical, and environmental forces.

Detailed Outline of Course Content (Major Topics and Subtopics) or Outline of Field Experience/Internship (experience, responsibilities and supervision):
I. Role of Engineering Technology in Society
   A. Differences between Mechanical Engineering and Mechanical Engineering Technology
   B. Job Opportunities for Mechanical Engineering Technology
   C. Professional societies and professional registration

II. Being Successful in Engineering School
   A. Role of the University
   B. Learning in University Environment
   C. Effective Problem-Solving
   D. Maximizing Performance in Courses
Prefix and Course Number: MET 1000

III. Dimensions, Units, and Errors
   A. Dimensional Analysis
   B. English system of units
   C. SI system of units
   D. Error Analysis

IV. Statics
   A. Forces and Vectors
   B. Free Body Diagrams

V. Dynamics
   A. Kinematics
   B. Kinetics

VI. Strength of Materials: Stress and Strain

VII. Material Science
   A. Testing
   B. Physical properties
   C. Composite materials and Plastics

VIII. Fluid-Thermal Sciences
   A. Hydrostatic pressure
   B. Fluid flow on objects
   C. Thermodynamics

IX. Engineering Design
   A. Bridge contest
   B. Design Lab
   C. Car competition

X. Field Trips to local Industries

XI. Ethics

**Evaluation of Student Performance:**
1. Homework
2. Quizzes
3. Projects
4. Examinations