

# MECHANICAL ENGINEERING TECHNOLOGY (MET)

## MET 1000 – Engineering Graphics with AutoCAD

**Credit Hours: 3.00 Total Contact Hours: 4.00 Lecture Hours: 2.00 Lab Hours: 2.00**

Introduces engineering graphics to technology majors. Broad coverage of blueprints, symbols, sketching, views, dimensioning and tolerancing practices, scale reading, and fundamentals of drawing with AutoCAD software.

**Offered:** Fall, Spring

**Transfer:** TAG.

## MET 1010 – Blueprint Reading and Sketching

**Credit Hours: 3.00 Total Contact Hours: 4.00 Lecture Hours: 2.00 Lab Hours: 2.00**

Covers reading, sketching and interpreting working drawings. Symbolism, conventional practices and standards used in the drafting area are studied. Concentration will be on the machine part drawings.

**Offered:** Spring.

## MET 1020 – Material Science

**Credit Hours: 3.00 Total Contact Hours: 4.00 Lecture Hours: 2.00 Lab Hours: 2.00**

Introduces the properties of common engineering materials. It will provide a broad understanding of theory, manufacturing, processing and testing of industrial materials including metals, polymers, woods, ceramics, composites, adhesives and coatings. Laboratory activities will serve to enhance the principles learned in the classroom.

**Offered:** Spring

**Transfer:** TAG

**Corequisites:** MET 1020L.

## MET 1020L – Material Science Lab

**Credit Hours: 3.00 Total Contact Hours: 4.00 Lecture Hours: 2.00 Lab Hours: 2.00**

Accompanies MET 1020.

**Offered:** Spring.

## MET 1050 – CAD for Electronics

**Credit Hours: 2.00 Total Contact Hours: 3.00 Lecture Hours: 1.00 Lab Hours: 2.00**

Introduces IT, Networking and Electronic Engineering student to beginning level drafting using AutoCAD and Microsoft VISIO software. Topics covered will be the preparation of various electrical and network drawings including block diagrams, flow charts, schematic wiring diagrams, and printed circuit layouts. The course will stress the use of electronic symbols and nomenclature.

**Offered:** Fall.

## MET 1110 – Manufacturing Processes

**Credit Hours: 3.00 Total Contact Hours: 5.00 Lecture Hours: 1.00 Lab Hours: 4.00**

Introduces manufacturing processes and their relation to the design of machine elements. Basic and advanced machine tool operations, press tool operation, welding, casting and forging are studied.

**Offered:** Summer, Spring

**Transfer:** TAG

**Corequisites:** MET 1110L.

## MET 1110L – Manufacturing Processes Lab

**Credit Hours: 3.00 Total Contact Hours: 5.00 Lecture Hours: 1.00 Lab Hours: 4.00**

Accompanies MET 1110.

**Offered:** Summer, Spring.

## MET 1130 – Statics

**Credit Hours: 3.00 Total Contact Hours: 3.00 Lecture Hours: 3.00**

Engineering applications of basic statics. Classroom discussion includes concurrent and non-concurrent force systems, resultants, equilibrium, trusses, centroids, moments of inertia and friction. Computers are used in problem solving and design analysis.

**Offered:** Spring

**Transfer:** TAG

**Prerequisites:** PHY 1120.

## MET 1990 – Independent Study in MET

**Credit Hours: 0.00 Total Contact Hours: 0.00**

Provides the student with the opportunity for in-depth works on a special topic within the field of Mechanical Engineering Technology which the student was not able to pursue in the desired degree for depth in the regular course offerings. During the first week of the semester, the student is required to describe in writing, the proposed course of study that he/she wishes to pursue. Such proposal must be submitted to the division Dean for approval and student assignment to a Mechanical Engineering Technology area faculty member for overseeing the project. This course of independent study may be substituted for a Mechanical Engineering technical course if it is applicable. No more than five (5) credit hours will count toward graduation. This course is graded S/U.

**Offered:** Summer, Fall, Spring.

## MET 2210 – Strength of Materials

**Credit Hours: 3.00 Total Contact Hours: 4.00 Lecture Hours: 2.00 Lab Hours: 2.00**

Introduces the study of elementary strength of materials applied to basic structural and machine components. Course topics will cover tension and compression, torsion, and shear stresses. Included will be beam stresses, shear and moments and combined stresses. Computers are used in problem solving and design analysis.

**Offered:** Fall

**Transfer:** TAG

**Prerequisites:** MET 1130.

## MET 2310 – Fluid Power

**Credit Hours: 3.00 Total Contact Hours: 4.00 Lecture Hours: 2.00 Lab Hours: 2.00**

Covers the development, transmission and utilization of power through fluid power circuits and controls. Emphasis is on selecting and applying fluid power devices and related equipment to machine circuits for both linear and rotary motion. Applications of pneumatics and fluid mechanics will also be covered.

**Offered:** Fall

**Transfer:** TAG

**Corequisites:** MET 2310L.

## MET 2310L – Fluid Power Lab

**Credit Hours: 3.00 Total Contact Hours: 4.00 Lecture Hours: 2.00 Lab Hours: 2.00**

Accompanies MET 2310L.

**Offered:** Fall.

### **MET 2440 – Computer Aided Design**

**Credit Hours: 3.00 Total Contact Hours: 5.00 Lecture Hours: 1.00 Lab Hours: 4.00**

Covers three-dimensional parametric solid modeling. Topics will include constraining sketches, creating and editing solid objects and assemblies and converting them to two-dimensional drawings.

**Offered:** Spring

**Transfer:** TAG

**Prerequisite:** MET 1000.

### **MET 2970 – MET Department Capstone**

**Credit Hours: 2.00 Total Contact Hours: 4.00 Lab Hours: 4.00**

Taken during the semester of scheduled graduation for MET, MED and FMS majors. Students demonstrate comprehensive proficiency by integrating technical knowledge with core skills and abilities. Students will combine the skills acquired in the MET, MED and FMS majors, and apply them to perform mechanical analysis, produce detailed drawings, and actually manufacture a product. The course is designed to simulate and support teamwork concepts necessary to be successful in industry. The course will include an e-portfolio assignment and an exit evaluation of critical thinking and writing.

**Offered:** Spring

**Prerequisites:** COM 1110, COM 1140, MET 1000, MET 1110, MET 1020.

### **MET 2991 – Field Experience**

**Credit Hour: 1.00 Total Contact Hour: 1.00 Lecture Hour: 1.00**

Enables work activity which relates to an individual student's occupational objectives. With permission of a faculty advisor, the field experience replaces elective or required courses in a student's associate degree program. The experience is coordinated by a faculty member of the college who assists the student in planning the experience, visits the site of the experience for a conference with the student and his/her supervisor at least once during the semester and assigns a grade to the student after appropriate consultation with the employer/supervisor. This course is graded S/U.

**Offered:** Summer, Fall, Spring

**Prerequisites:** Completion of 1st semester and faculty advisor approval.