

## Master Syllabus

### CAM 1107 - Principles of Manufacturing

**Division:** Science, Mathematics and Engineering

**Department:** Computer Aided Manufacturing

**Credit Hour Total:** 3.0

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

**Prerequisite(s):** MET 1131

**Date Revised:** January 2017

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### Course Description:

The course focuses on the study and interpretation of the graphic language used in manufacturing and engineering. This will include principles of: shape description, axonometric projection, specifications, symbology and spatial relationships. The student will apply problem solving and critical thinking skills using both standard and automated communication methods. Two classroom, two lab hours per week. Note: MET 1131 may be taken concurrently.

### General Education Outcomes:

- Critical Thinking/Problem Solving Competency
- Written Communication Competency
- Information Literacy Competency

### Course Outcomes:

#### Engineering Drawings

Demonstrate the ability to read and interpret engineering drawings for problem solving.

**Assessment Method:** Locally developed exams

**Performance Criteria:**

70% of students score 80% or better on applicable exam questions.

#### Product Specifications

Create specifications for manufactured products.

**Assessment Method:** Locally developed exams

**Performance Criteria:**

70% of students score 80% or better on applicable exam questions.

**Assessment Method:** Portfolios

**Performance Criteria:**

Maintain a collection of work samples to exhibit competency of skills learned graded by a rubric. 70% of students perform higher than a "70" on rubric.

#### Communication

Effectively communicate ideas about processing and producing a product.

**Assessment Method:** Locally developed exams

**Performance Criteria:**

70% of students score 80% or better on applicable exam questions.

**Assessment Method:** Portfolios

**Performance Criteria:**

Maintain a collection of work samples to exhibit competency of skills learned graded by a rubric. 70% perform at a "70" or higher on the rubric.

#### Product Development

Apply the product development process by successfully completing individual design and drafting projects.

**Assessment Method:** Locally developed exams

**Performance Criteria:**

70% of students score 80% or better on applicable exam questions.

**Assessment Method:** Portfolios

**Performance Criteria:**

Maintain a collection of work samples to exhibit competency of skills learned graded by a rubric with 70% of students earning a "70" or better on rubric.

### Outline:

Orthographic Projection

Isometric and Pictorial Drawings

Sectional Views

Dimensioning and Tolerancing

Computer Aided Drafting

Geometric Dimensioning and Tolerancing

Drafting and CAD Symbolology

Print Reading and Sketching