

## Master Syllabus

### **MET 1401 - Additive Design & Printing**

**Division:** Science, Mathematics and Engineering

**Department:** Mechanical Engineering Technology

**Credit Hour Total:** 2.0

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

**Prerequisite(s):** MET 1231OR MET 1301OR MET 1331OR MET 1351

**Date Revised:** June 2016

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### **Course Description:**

A course in the design, development and operation of additive manufacturing machines. Types of machines, materials and design considerations will be accomplished as part of the hands-on model making class. One classroom, two lab hours per week.

### **General Education Outcomes:**

- ▣ Critical Thinking/Problem Solving Competency
- ▣ Information Literacy Competency
- ▣ Computer Literacy Competency
- ▣ Oral Communication Competency

### **Course Outcomes:**

#### **Design Solutions**

Develop a model assembly that can be used to fabricate a product.

**Assessment Method:** Portfolios

**Performance Criteria:**

70% or better score on the evaluation of the complete fabricated solution.

#### **Process Selection**

Select and apply the best additive solution for a customer.

**Assessment Method:** Portfolios

**Performance Criteria:**

70% or better score on the evaluation of the completed additive manufacturing problem solution.

#### **Communicate Ideas**

Effectively communicate ideas to others, including team members, customers and managers.

**Assessment Method:** Behavioral observations

**Performance Criteria:**

Students receive a 70% or better on the final presentation score.

### **Outline:**

Design for Additive manufacturing and time management  
Additive Manufacturing machines and systems  
Additive manufacturing materials  
4 Modeling solution development  
Additive manufacturing cost analysis  
Final presentation of modeling solutions