

## Master Syllabus

### **CAM 2214 - Advanced Computer Numerical Control (CNC) Applications**

**Division:** Science, Mathematics and Engineering

**Department:** Computer Aided Manufacturing

**Credit Hour Total:** 3.0

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

**Prerequisite(s):** CAM 1213 AND CAM 2204

**Other Prerequisite(s):** AND Other With a grade of C or higher

**Date Revised:** October 2012

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#### **Course Description:**

Course covering the programming, setup and operation of 3, 4 and 5 axis vertical machining centers. Two classroom, two lab hours per week.

#### **General Education Outcomes:**

- Critical Thinking/Problem Solving Competency

#### **Course Outcomes:**

##### **Program 3, 4, and 5 axis vertical machining centers**

Demonstrate ability to correctly use CAD/CAM software to program 3, 4, and 5 axis parts to be machined in a vertical machining center.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 70% of students will earn 70% or higher on exams

##### **Setup and operate 4 and 5 axis vertical machining centers**

Demonstrate ability to correctly setup and operate 4 and 5 axis vertical machining centers.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 70% of students will earn 70% or higher on exams

##### **Probing systems**

Demonstrate ability to correctly use a probing system to set part origin and tool offsets on a vertical machining center.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 70% of students will earn 70% or higher on exams

#### **Outline:**

Programming vertical machining centers for machining 3, 4, and 5 axis parts using CAD/CAM software

Setup and operation of 4 and 5 axis vertical machining centers

Using the probing system to set part origins and tool offsets on a vertical machining center