COURSE INFORMATION FORM

DISCIPLINE: Cimm  
COURSE TITLE: Machine Shop Safety  
CR.HR: 1  
LECT HR: .5  
LAB HR: 1  
CLIN/INTERN HR:  
CLOCK HR:  
CATALOG NO: Cimm 101

DATE SUBMITTED: July 26, 2013  
DATE DICC APPROVED: 10/22/2013  
DATE LAST REVIEWED: 

CATALOG DESCRIPTION

This course covers the safe use of basic shop power equipment and hand tools. The student will learn precision measurement methods. This course is designed for students in engineering disciplines. It serves as a prerequisite for supervised use of the Engineering Student Machine Shop and serves as a prerequisite for all UMKC Engineering Lab courses.

PREREQUISITES

None.

EXPECTED STUDENT OUTCOMES IN THE COURSE (ESO)

Upon completion of this course, the student will be able to:

1. Identify and apply safe work practices in the manufacturing environment and Engineering Laboratories. Items such as Eye protection and wash stations, hearing protection, fire extinguisher training, dress code, safety signage, and MSDS.
2. Measure components using precision instruments, transfer instruments and comparison instruments.
3. Identify and use common layout tools.
4. Perform common operations using hand tools.
5. Identify, select and safely operate the appropriate sawing machine.
6. Perform the proper care and maintenance of machines and equipment.
7. Identify and select the proper tooling, setup and safely operate a drill press.
8. Safely operate a pedestal grinder to sharpen drill bits and lathe cutting tools.
9. Understand the terminology used in the manufacturing environment in order to communicate effectively.
10. Develop the engineering students’ understanding of the capabilities of machine tools commonly used in prototype fabrication.
11. Acquire personal experience operating common machine shop equipment to gain knowledge of basic machining operations.
GENERAL EDUCATION OUTCOMES (ESO)
Specify which general education outcomes, if any, are substantially addressed by the course. Numbers in parentheses identify the Expected Student Outcomes linked to the specific General Education Outcome.

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>ESO</th>
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PROGRAM-LEVEL OUTCOMES

CAREER AND TECHNICAL EDUCATION PROGRAM OUTCOMES
Specify which Career and Technical program outcomes, if any, are substantially addressed by the course by completing the “Career and Technical Education template” to show the relationship between course and program outcomes to assessment measures.

1. Students will demonstrate the ability to apply foundational skills in an industrial setting, safely and to industry guidelines.
2. Students will think critically and apply problem-solving skills.

CLASS-LEVEL ASSESSMENT MEASURES
Student accomplishment of expected student outcomes may be assessed using the following measures. (Identify which measures are used to assess which outcomes.)

1. Written and Application Exams (1-11)
2. Assignments/Lab projects (1-11)
 Individual instructors may order this outline as fits the needs of their individual courses. In addition, they may place more emphasis on some areas than on others. What is assured is that this particular list is covered in the course. Other topics may be added to a course as the instructor sees fit, and as time and interest allow. An *asterisk can be used to mark an item as optional.

I. Safe use of equipment in the shop
II. Various direct and indirect measuring tools
III. Benchwork and layout tools and methods
IV. Bolt nomenclature and fastener uses and types
V. Power saws and hand saws
VI. Drill presses
VII. Belt sanders
VIII. Pedestal grinders
IX. Offhand drill bit sharpening
X. Machine preventive maintenance and care