JEFFERSON COLLEGE

COURSE SYLLABUS

CIM105

INTRODUCTION TO MACHINING PROCEDURES

3 Credit Hours

Revised by
Michael D. McKinney
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CIM105 Introduction to Machining Procedures

I. CATALOGUE DESCRIPTION

A. Pre/Co-requisite: MTH 105 Industrial Math and reading proficiency

B. 3 Credit Hours

C. Introduction to Machining Procedures consists of basic machining and theory using a variety of hand tools and Machines. Areas covered will include safety, sawing, drill presses, vertical milling machine, tool room lathe, set up and operation. (F)

II. EXPECTED LEARNING OUTCOMES / ASSESSMENT MEASURE

<table>
<thead>
<tr>
<th>Students will use vocabulary peculiar to the trade</th>
<th>In-class discussion</th>
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<tr>
<td>Students will identify proper safety procedures</td>
<td>Class demonstrations, homework, quizzes</td>
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<tr>
<td>Students will calculate speeds and feeds for specific cutters and applications</td>
<td>Homework, Surface speed charts, lab exercises and final exam</td>
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<tr>
<td>Students will calculate tap drill sizes for specific tap sizes</td>
<td>Homework, tap drill charts, lab exercises and final exam</td>
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<tr>
<td>Students will select proper layout procedures and tools for part layout</td>
<td>Lab exercises and final exam</td>
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<td>Students will perform precision measuring using micrometers and calipers</td>
<td>Blueprints, lab exercises and final exams</td>
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<td>Students will operate band saw, and cut off saw to perform basic operations</td>
<td>Blueprints, lab exercises, final exams</td>
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<tr>
<td>Students will operate tool room lathe to perform basic operations</td>
<td>Blueprints, lab exercises, final exams</td>
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<tr>
<td>Students will operate vertical milling machine to perform basic operations</td>
<td>Blueprints, lab exercises, final exams</td>
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<tr>
<td>Students will select and sharpen cutting tools to perform basic operations</td>
<td>Lab exercises and final exams</td>
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III. OUTLINE OF TOPICS

A. Safety
   1. Eye protection
   2. Long hair
   3. Proper clothing
   4. Jewelry
   5. Lock out
   6. Machine hazards

B. Layout
   1. Layout bench
   2. Height gage
   3. Squares and scribes

C. Measuring Tools
   1. Micrometer
   2. Calipers
   3. Height gages
   4. Rules

D. Tool room lathes
   1. Turning
   2. Drilling
   3. Boring
   4. Threading

E. Vertical milling machine
   1. End Milling
   2. Drilling
   3. Reaming
   4. Tapping
IV. METHOD(S) OF INSTRUCTION

A. Lecture
B. Discussion
C. Lab

V. REQUIRED TEXTBOOK(S)


VI. REQUIRED MATERIALS

A. Textbooks
B. Pencil
C. Calculator
D. Safety Glasses
E. Calipers
F. Edge Finder
G. Indicator
H. Allen Wrenches
I. Adjustable Wrench
J. 6” scale
K. 5/16” lathe bit (2) L. #2 center drill (2) M. 8” flat mill file
N. Center Gage
O. Pocket Scribe
P. 0-1 Micrometer
Q. De-Burring Tool
R. Flash Drive
S. Composition Notebook
T. Spiral Notebook

VII. SUPPLEMENTAL REFERENCES
Machine Manuals are located at the machine tools in the lab

VIII. METHOD OF EVALUATION
A. Attendance 15%
B. Homework 10%
C. Lab Assignments 50%
D. Final Examination 15%
E. Quizzes 10%

IX. ADA AA STATEMENT
Any student requiring special accommodations should inform the instructor and the Coordinator of Disability Support Services (Library phone 636-481-3169).

X. ACADEMIC HONESTY STATEMENT
All students are responsible for complying with campus policies as stated in the Student Handbook (see College website, http://www.jeffco.edu).

XI. ATTENDANCE STATEMENT
Regular and punctual attendance is expected of all students. Any one of these four options may result in the student being removed from the class and an administrative withdrawal being processed: (1) Student fails to begin class; (2) Student ceases participation for at least two consecutive weeks; (3) Student misses 15 percent or more of the coursework; and/or (4) Student misses 15 percent or more of the course as defined by the instructor. Students earn their financial aid by regularly attending and actively
participating in their coursework. If a student does not actively participate, he/she may have to return financial aid funds. Consult the College Catalog or a Student Financial Services representative for more details.

XII. OUTSIDE OF CLASS ACADEMICALLY RELATED ACTIVITIES

The U.S. Department of Education mandates that students be made aware of expectations regarding coursework to be completed outside the classroom. Students are expected to spend substantial time outside of class meetings engaging in academically related activities such as reading, studying, and completing assignments. Specifically, time spent on academically related activities outside of class combined with time spent in class meetings is expected to be a minimum of 37.5 hours over the duration of the term for each credit hour.