



CREDIT COURSE OUTLINE

I. COVER PAGE

(1) MFGT 43	(2) MACHINE SHOP FUNDAMENTALS MILL	(3) 2
Number	Title	Units

(4) Lecture / Lab Hours:			(8)Classification:		
Course Hours					
	Weekly Lec hours:	21.00	Degree applicable:		X
	Weekly Lab hours:	50.00	Non-degree applicable:		
	Total Contact hours:	71.00	Basic skills:		
Lec will generate __ hour(s) outside work.			(9)RC Fulfills AS/AA degree requirement: (area)		
Lab will generate __ hour(s) outside work.			General education category:		
(5) Grading Basis:	Grading Scale Only	X	Major:		
	Pass/No Pass option		Certificate of:		
	Pass/No Pass only		Certificate in:		
(6) Advisories:			(10)CSU Baccalaureate: X		
(7) Pre-requisites (requires C grade or better):			(11)Repeatable: (A course may be repeated three times) 0		
Corequisites:			(12)C-ID:		
			Proposed Start Date:		Spring 2012

(12) Catalog Description:
Basic machine shop practices, measurement systems, shop safety, drilling machines, grinding machines, milling machines.

II. COURSE OUTCOMES:

(Specify the learning skills the student demonstrates through completing the course and link critical thinking skills to specific course content and objectives.)

Upon completion of this course, students will be able to:

- I. select and properly use hand tools of the machine trade.
- II. perform precision measurement and layout needed in the machine trade.
- III. sharpen drills and machine tools using hand grinders.
- IV. select proper drill, calculate the proper R.P.M. and feed rate to drill holes.
- V. set up and perform basic mill operations.
- VI. complete required project using the above equipment.

III. COURSE OBJECTIVES:

(Specify major objectives in terms of the observable knowledge and/or skills to be attained.)

In the process of completing this course, students will:

- I. learn basic machine shop operations.
- II. demonstrate safe and proper use of machine shop equipment.
- III. demonstrate basic machinist skills required to perform basic machine shop operations.

IV. COURSE OUTLINE:

Lecture Content:

- A. Machine Tools – Shop Safety/Quiz – Safety Test
- B. Precision Measurement
- C. Grinding operations, drill sharpening, tool sharpening
- D. Drill press operations, drill selection
- E. Milling machine operation, tool selection, speeds and feeds
- F. Key way cutting
- G. Indexing and gear cutting

V. APPROPRIATE READINGS

Reading assignments may include but are not limited to the following:

I. Sample Text Title:

1. Recommended - Richard R. Kibbe *Machine Tool Practices* , Pearson Prentice-Hall , 2006,
2. Recommended - Richard R. Kibbe *Machine Tool Practices Workbook*, Pearson Prentice-Hall , 2006,
3. Recommended - - *Machinery's Handbook* , ed. 28th Industrial Press , 2008,

II. Other Readings

- Global or international materials or concepts are appropriately included in this course
- Multicultural materials and concepts are appropriately included in this course

If either line is checked, write a paragraph indicating specifically how global/international and/or multicultural materials and concepts relate to content outline and/or readings.

VI. METHODS TO MEASURE STUDENT ACHIEVEMENT AND DETERMINE GRADES:

Students in this course will be graded in at least one of the following four categories. Please check those appropriate. A degree applicable course must have a minimum of one response in category A, B, or C.

A. Writing			
Check either 1 or 2 below			
X	1. Substantial writing assignments are required. Check the appropriate boxes below and provide a written description in the space provided.		
	2. Substantial writing assignments are NOT required. If this box is checked leave this section blank. For degree applicable courses you must complete category B and/or C.		
	a) essay exam(s)		d) written homework
	b) term or other paper(s)		e) reading reports
	c) laboratory report(s)		f) other (specify)

Required assignments may include but are not limited to the following:

B. Problem Solving			
Computational or non-computational problem-solving demonstrations, including:			
X	a) exam(s)		d) laboratory reports
X	b) quizzes	X	e) field work
X	c) homework problems		f) other (specify):

Required assignments may include but are not limited to the following:

Sample questions:

1. Specific skill building task oriented projects.
2. Reading and interpreting diagrams and drawings.
3. Completing skills demonstrating projects using machine shop equipment.
4. Completion of projects requiring the combining of several problem-solving tasks.

C. Skill demonstrations, including:			
X	a) class performance(s)	X	c) performance exams(s)
	b) field work		d) other (specify)

Required assignments may include but are not limited to the following:

1. Satisfactory completion of assigned skill building tasks.
2. Demonstration of the ability to safely set-up and operate various machine shop equipment.
3. Demonstration of the ability to properly use tools found in the machine shop.

D. Objective examinations including:			
X	a) multiple choice	X	d) completion
X	b) true/false		e) other (specify):
X	c) matching items		

COURSE GRADE DETERMINATION:

Description/explanation: Based on the categories checked in A-D, it is the recommendation of the department that the instructor's grading methods fall within the following departmental guidelines; however, the final method of grading is still at the discretion of the individual instructor. The instructor's syllabus must reflect the criteria by which the student's grade has been determined. (A minimum of five (5) grades must be recorded on the final roster.)

If several methods to measure student achievement are used, indicate here the approximate weight or percentage each has in determining student final grades.

VII. EDUCATIONAL MATERIALS

For degree applicable courses, the adopted texts, as listed in the college bookstore, or instructor-prepared materials have been certified to contain college-level materials.

Validation Language Level (check where applicable):	College-Level Criteria Met	
	YES	NO
Textbook	<u> X </u>	<u> </u>
Reference materials	<u> X </u>	<u> </u>
Instructor-prepared materials	<u> </u>	<u> X </u>
Audio-visual materials	<u> </u>	<u> X </u>

Indicate Method of evaluation:

- Used readability formulae (grade level 10 or higher)
- Text is used in a college-level course X
- Used grading provided by publisher
- Other: (please explain; relate to Skills Levels) -

<i>Computation Level</i> (Eligible for MATH 101 level or higher where applicable)	<u> </u>	<u> X </u>
Content		
Breadth of ideas covered clearly meets college-level learning objectives of this course	<u> X </u>	<u> </u>
Presentation of content and/or exercises/projects:		
Requires a variety of problem-solving strategies including inductive and deductive reasoning.	<u> X </u>	<u> </u>
Requires independent thought and study	<u> X </u>	<u> </u>
Applies transferring knowledge and skills appropriately and efficiently to new situations or problems.	<u> X </u>	<u> </u>
List of Reading/Educational Materials		
Recommended - Richard R. Kibbe <i>Machine Tool Practices</i> , Pearson Prentice-Hall , 2006,		
Recommended - Richard R. Kibbe <i>Machine Tool Practices Workbook</i> , Pearson Prentice-Hall , 2006,		
Recommended - <i>Machinery's Handbook</i> , ed. 28th Industrial Press , 2008,		

Comments:

- This course requires special or additional library materials (list attached).
- X This course requires special facilities:
lecture facility and welding shop laboratory

Attached Files:

BASIC SKILLS ADVISORIES PAGE The skills listed are those needed for eligibility for English 125, 126, and Math 201. These skills are listed as the outcomes from English 252, 262, and Math 250. In the right hand column, list at least three major basic skills needed at the beginning of the target course and check off the corresponding basic skills listed at the left.

Check the appropriate spaces.

- Eligibility for Math 201 is advisory for the target course.
- Eligibility for English 126 is advisory for the target course.
- Eligibility for English 125 is advisory for the target course.

If the reviewers determine that an advisory or advisories in Basic Skills are all that are necessary for success in the target course, stop here, provide the required signatures, and forward this form to the department chair, the appropriate associate dean, and the curriculum committee.

REQUISITES

No requisites

JUSTIFICATION OF LIMITATION ON ENROLLMENT

Enrollment in courses or blocks of courses may be limited based on performance, honors, or other performance based criteria. Be mindful of the disproportionate impact the limitation will have on specific groups of students. It is important to determine if the limitation will disproportionately keep under-represented students from enrolling in the course or block of courses.

Describe the reasons for limiting the enrollment.

Course Designator: MFGT 43
Course Title(s): MACHINE SHOP FUNDAMENTALS MILL
Rationale for Limiting Enrollment: 0