



**CREDIT COURSE OUTLINE**

**I. COVER PAGE**

(1) MFGT 110

(2) INTRODUCTION TO INDUSTRIAL AND MANUFACTURING TECHNOLOGY

(3) 1

Number \_\_\_\_\_ Title \_\_\_\_\_ Units \_\_\_\_\_

(4) Lecture / Lab Hours:			(8) Classification:		
Course Hours					
	Weekly Lec hours:	9.00	Degree applicable:		X
	Weekly Lab hours:	27.00	Non-degree applicable:		
	Total Contact hours:	36.00	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:		
			Major:		
			Certificate of:		
			Certificate in:		
(5) Grading Basis:	Grading Scale Only	X	(10) CSU Baccalaureate:		
	Pass/No Pass option		(11) Repeatable: (A course may be repeated three times)		
	Pass/No Pass only		0		
(6) Advisories:					
(7) Pre-requisites (requires C grade or better):					
Corequisites:					
			(12) C-ID:		
			Proposed Start Date:		
			Spring 2012		

(12) Catalog Description:  
 An exploratory course designed to acquaint students with the basic theory and operational practices of industry as they relate to machines, processes, and materials in the fields of aviation maintenance, automotive technology, manufacturing technology, and mechanized agriculture/equipment technology. Exposure to electricity, hydraulics, machining and welding. Industrial safety, career opportunities, and academic skills will be covered.

**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. use appropriate terminology to describe operational practices in the areas of aviation maintenance, automotive technology, manufacturing technology, and mechanized agriculture/equipment maintenance.
- II. identify required safety standards to operate in a shop environment.
- III. recognize the various uses of tools, materials, and processes as they relate to the fields of aviation maintenance, automotive and manufacturing technology, and mechanized agriculture/equipment maintenance.
- IV. demonstrate the proper use of selected tools equipment and materials used in the industries covered in class.
- V. identify career pathways covered in fields of employment.

**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. become familiar with maintenance and repair activities involved in aviation maintenance, automotive and manufacturing technology, and mechanized agriculture/equipment maintenance.
- II. practice using appropriate tools equipment and materials that are used in the industries covered in class.
- III. practice the safe use of selected shop equipment.
- IV. be exposed to associated career opportunities.

**IV. COURSE OUTLINE:**

**Lecture Content:**

A. Introduction and Orientation

1. General overview
2. Facilities and shop tours
3. Shop Safety

B. Introduction to aviation maintenance

1. Skills needed in Aviation Maintenance
2. Specialized tools, equipment and processes used in Aviation Maintenance
3. Requirements for certification as an Airframe and Powerplant (A&P) technician
4. Career opportunities and pathways in Aviation Maintenance.

C. Introduction to Automotive Technology

1. Skills needed in Automotive Technology
2. Specialized tools, equipment and processes used in Automotive Technology
3. Requirements and guidelines for Automotive Technicians
4. Career opportunities and pathways in Automotive Technology

C. Introduction to Manufacturing Technology

1. Skills needed in Manufacturing Technology
2. Specialized tools, equipment and process used in Manufacturing including machining, welding, electricity, and hydraulics
3. Requirements and preparation for entrance into the manufacturing workforce
4. Career opportunities and pathways in Manufacturing Technology

D. Mechanized Agriculture/Equipment Technology

1. Skills needed in Mechanized Agriculture
2. Specialized tools equipment and processes used in Mechanized Agriculture
3. Requirements and preparation needed for Mechanized Agriculture diesel technicians
4. Career opportunities and pathways in Mechanized Agriculture

**V. APPROPRIATE READINGS**

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

I. Sample Text Title:

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.

<b>A. Writing</b>			
Check either 1 or 2 below			
X	<b>1. Substantial writing assignments are required. Check the appropriate boxes below and provide a written description in the space provided.</b>		
	<b>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.</b>		
	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>B. Problem Solving</b>			
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:**

1. Specific skill building task oriented projects.
2. Completion of projects requiring the combining of several problem-solving tasks.

<b>C. Skill demonstrations, including:</b>			
<input type="checkbox"/>	a) class performance(s)	<input type="checkbox"/>	c) performance exams(s)
<input type="checkbox"/>	b) field work	<input type="checkbox"/>	d) other (specify)

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

<b>D. Objective examinations including:</b>			
<input checked="" type="checkbox"/>	a) multiple choice	<input checked="" type="checkbox"/>	d) completion
<input checked="" type="checkbox"/>	b) true/false	<input type="checkbox"/>	e) other (specify):
<input checked="" type="checkbox"/>	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
_____	<u>  X  </u>

Textbook

Reference materials

Instructor-prepared materials

Audio-visual materials

Indicate Method of evaluation:

Used readability formulae (grade level 10 or higher) \_\_\_\_\_

Text is used in a college-level course \_\_\_\_\_

Used grading provided by publisher \_\_\_\_\_

Other: (please explain; relate to Skills Levels) \_\_\_\_\_

*Computation Level* (Eligible for MATH 101 level or higher where applicable) \_\_\_\_\_

  X  

Content

Breadth of ideas covered clearly meets college-level learning objectives of this course \_\_\_\_\_

  X  

Presentation of content and/or exercises/projects:

Requires a variety of problem-solving strategies including inductive and deductive reasoning. \_\_\_\_\_

  X  

Requires independent thought and study \_\_\_\_\_

  X  

Applies transferring knowledge and skills appropriately and efficiently to new situations or problems. \_\_\_\_\_

  X  

List of Reading/Educational Materials

Comments:

\_\_\_\_\_ This course requires special or additional library materials (list attached).

\_\_\_\_\_ This course requires special facilities:

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 110

Course Title(s): INTRODUCTION TO INDUSTRIAL AND MANUFACTURING TECHNOLOGY

Rationale for Limiting Enrollment:

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