



COURSE OUTLINE: MCH0144 - MACHINE SHOP PRACT I

Prepared: Neal Moss

Approved: Martha Irwin, Chair, Community Services and Interdisciplinary Studies

Course Code: Title	MCH0144: MACHINE SHOP PRACTICAL I
Program Number: Name	1120: COMMUNITY INTEGRATN
Department:	C.I.C.E.
Semesters/Terms:	18F, 19W
Course Description:	This course will focus on the students hands on ability and skill to safely operate and use various machines and hand tools used in the mechanical trades. Students will be applying their theoretical knowledge to performing layout and manufacturing components from drawings. Special attention will be placed on safe work habits and accurate measurement.
Total Credits:	4
Hours/Week:	4
Total Hours:	60
Prerequisites:	There are no pre-requisites for this course.
Corequisites:	There are no co-requisites for this course.
Essential Employability Skills (EES) addressed in this course:	EES 2 Respond to written, spoken, or visual messages in a manner that ensures effective communication. EES 3 Execute mathematical operations accurately. EES 4 Apply a systematic approach to solve problems. EES 5 Use a variety of thinking skills to anticipate and solve problems. EES 6 Locate, select, organize, and document information using appropriate technology and information systems. EES 7 Analyze, evaluate, and apply relevant information from a variety of sources. EES 10 Manage the use of time and other resources to complete projects. EES 11 Take responsibility for ones own actions, decisions, and consequences.
General Education Themes:	Science and Technology
Course Evaluation:	Passing Grade: 50%, D
Other Course Evaluation & Assessment Requirements:	Attendance: Students who do not attend a minimum of 75% (12) of the scheduled classes will be given an F grade for this course. After 3 missed classes students lose the full 20% for the Attendance/Housekeeping portion of marks. Due to Safety concerns of this course, after 3 safety violations, the student will be removed from the class and receive an F grade. Grade Definition Grade Point Equivalent A+ 90 - 100% 4.00



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A 80 - 89%
 B 70 - 79% 3.00
 C 60 - 69% 2.00
 D 50 - 59% 1.00
 F (Fail) 49% and below 0.00

CR (Credit) Credit for diploma requirements has been awarded.
 S Satisfactory achievement in field /clinical placement or non-graded subject area.
 U Unsatisfactory achievement in field/clinical placement or non-graded subject area.
 X A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.
 NR Grade not reported to Registrar's office.
 W Student has withdrawn from the course without academic penalty.

Course Outcomes and Learning Objectives:

Upon successful completion of this course, the CICE student, with the assistance of a Learning Specialist will acquire varying levels of skill development relevant to the following learning outcomes:

Course Outcome 1	Learning Objectives for Course Outcome 1
1. Work safe in a shop environment whether running machines or doing bench work.	1.1 Practice all shop safety rules. 1.2 Wear and use proper safety equipment. 1.3 Operate machines in a safe manner. 1.4 Practice safe working habits. 1.5 Protect themselves and others
Course Outcome 2	Learning Objectives for Course Outcome 2
2. Use all of the various measuring tools to verify dimensions of machined parts.	2.1 Use measuring tools such as scales, inside and outside micrometers, vernier calipers and Dial gauges. 2.2 Use transfer measuring tools such as inside and outside calipers, telescopic gauges, small hole gauges and dividers.
Course Outcome 3	Learning Objectives for Course Outcome 3
3. Perform basic layout using various tools and methods	3.1 Perform layout using combination set, scales, protractors, height gauges, surface gauges and dividers. 3.2 Mark layout using scribes, prick and centre punches.
Course Outcome 4	Learning Objectives for Course Outcome 4
4. Safely operate various grinders used in industry.	4.1 Operate pedestal grinders. 4.2 Operate hand grinders. 4.3 Safely change grinding wheels. 4.4 Safely change grinding and cut-off discs 4.5 Safely dress grinding wheels.
Course Outcome 5	Learning Objectives for Course Outcome 5
5. Select and operate different types of drill presses.	5.1 Operate radial arm drill 5.2 Operate drill press
Course Outcome 6	Learning Objectives for Course Outcome 6
6. Safely operate various cutoff and band saws.	6.1 Operate horizontal band saw. 6.2 Operate vertical contour band saw. 6.3 Operate electric chop saw. 6.4 Inspect and change blades as required. 6.5 Select proper speeds and feeds.



Course Outcome 7	Learning Objectives for Course Outcome 7
7. Safely perform bench work.	7.1 Proper use and care of files. 7.2 Proper care and use of hack saws.
Course Outcome 8	Learning Objectives for Course Outcome 8
8. Safely operate metal cutting lathes using assorted work holding devices.	8.1 Use and care of 3 jaw and 4 jaw independent chucks. 8.2 Select different centres such as live, dead or bell. 8.3 Care and use of collet chucks and mandrels. 8.4 Setup and use steady and follower rests.
Course Outcome 9	Learning Objectives for Course Outcome 9
9. Safely perform various machining operations on the lathe.	9.1 Operate lathe performing facing, turning and boring. 9.2 Using calculations and formulas select proper speeds and feeds. 9.3 Using proper formulas perform threading and taper turning. 9.4 Safely perform knurling, grooving and parting off.

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight	Course Outcome Assessed
Attitude/ Attendance/ Housekeeping	20%	
Projects	80%	

CICE Modifications:

Preparation and Participation

1. A Learning Specialist will attend class with the student(s) to assist with inclusion in the class and to take notes.
2. Students will receive support in and outside of the classroom (i.e. tutoring, assistance with homework and assignments, preparation for exams, tests and quizzes.)
3. Study notes will be geared to test content and style which will match with modified learning outcomes.
4. Although the Learning Specialist may not attend all classes with the student(s), support will always be available. When the Learning Specialist does attend classes he/she will remain as inconspicuous as possible.

A. Further modifications may be required as needed as the semester progresses based on individual student(s) abilities and must be discussed with and agreed upon by the instructor.

B. Tests may be modified in the following ways:

1. Tests, which require essay answers, may be modified to short answers.
2. Short answer questions may be changed to multiple choice or the question may be simplified so the answer will reflect a basic understanding.
3. Tests, which use fill in the blank format, may be modified to include a few choices for each question, or a list of choices for all questions. This will allow the student to match or use visual clues.
4. Tests in the T/F or multiple choice format may be modified by rewording or clarifying statements into layman's or simplified terms. Multiple choice questions may have a reduced number of choices.

C. Tests will be written in CICE office with assistance from a Learning Specialist.

The Learning Specialist may:

1. Read the test question to the student.



2. Paraphrase the test question without revealing any key words or definitions.
3. Transcribe the student's verbal answer.
4. Test length may be reduced and time allowed to complete test may be increased.

D. Assignments may be modified in the following ways:

1. Assignments may be modified by reducing the amount of information required while maintaining general concepts.
2. Some assignments may be eliminated depending on the number of assignments required in the particular course.

The Learning Specialist may:

1. Use a question/answer format instead of essay/research format
2. Propose a reduction in the number of references required for an assignment
3. Assist with groups to ensure that student comprehends his/her role within the group
4. Require an extension on due dates due to the fact that some students may require additional time to process information
5. Formally summarize articles and assigned readings to isolate main points for the student
6. Use questioning techniques and paraphrasing to assist in student comprehension of an assignment

E. Evaluation:

Is reflective of modified learning outcomes.

NOTE: Due to the possibility of documented medical issues, CICE students may require alternate methods of evaluation to be able to acquire and demonstrate the modified learning outcomes

Date:

September 21, 2018

Please refer to the course outline addendum on the Learning Management System for further information.

