



# COURSE OUTLINE

## MCH0259

Prepared: Howard Gray Approved: Corey Meunier

<b>Course Code: Title</b>	MCH0259: MACHINE SHOP PRACTICAL 3
<b>Program Number: Name</b>	4039: MECH. ENG. TN-MANUFA
<b>Department:</b>	C.I.C.E.
<b>Semester/Term:</b>	17F
<b>Course Description:</b>	This course will continue to build on the study of shop machines, with emphasis on the use of all the machines in the shop, tools in the mechanical shop and welding. Students will be required to plan, design and build projects as approved by the professor using tools, machinery and skills learned previously. Students will be placed into work groups simulating the work environment. Planning and Supervisory skills will be learned and practiced along with team skills to complete the required projects.
<b>Total Credits:</b>	3
<b>Hours/Week:</b>	3
<b>Total Hours:</b>	45
<b>Vocational Learning Outcomes (VLO's):</b>	<ul style="list-style-type: none"> <li>#1. Complete all work in compliance with current legislation, standards, regulations and guidelines.</li> <li>#2. Apply quality control and quality assurance procedures to meet organizational standards and requirements.</li> <li>#3. Comply with current health and safety legislation, as well as organizational practices and procedures.</li> <li>#4. Apply sustainability best practices in workplaces.</li> <li>#5. Use current and emerging technologies to support the implementation of mechanical engineering projects.</li> <li>#6. Analyze and solve mechanical problems by applying mathematics and fundamentals of mechanical engineering.</li> <li>#7. Interpret, prepare and modify mechanical engineering drawings and other related technical documents.</li> <li>#8. Contribute to the design and the analysis of mechanical components, processes and systems applying fundamentals of mechanical engineering.</li> <li>#9. Manufacture, assemble, maintain and repair mechanical components according to required specifications.</li> <li>#10. Verify the specifications of materials, processes and operations to support the design and production of mechanical components.</li> <li>#11. Contribute to the planning, implementation and evaluation of projects.</li> </ul>
<b>Please refer to program web page for a complete listing of program outcomes where applicable.</b>	



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	<p>#12. Develop strategies for ongoing personal and professional development to enhance work performance.</p>						
<p><b>Essential Employability Skills (EES):</b></p>	<p>#2. Respond to written, spoken, or visual messages in a manner that ensures effective communication.                  #4. Apply a systematic approach to solve problems.                  #5. Use a variety of thinking skills to anticipate and solve problems.                  #6. Locate, select, organize, and document information using appropriate technology and information systems.                  #7. Analyze, evaluate, and apply relevant information from a variety of sources.                  #8. Show respect for the diverse opinions, values, belief systems, and contributions of others.                  #9. Interact with others in groups or teams that contribute to effective working relationships and the achievement of goals.                  #10. Manage the use of time and other resources to complete projects.                  #11. Take responsibility for ones own actions, decisions, and consequences.</p>						
<p><b>Course Evaluation:</b></p>	<p>Passing Grade: 50%, D</p>						
<p><b>Other Course Evaluation &amp; Assessment Requirements:</b></p>	<p>Grade                  Definition Grade Point Equivalent                  A+ 90 – 100% 4.00                  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</p> <p>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.</p>						
<p><b>Evaluation Process and Grading System:</b></p>	<table border="1"> <thead> <tr> <th>Evaluation Type</th> <th>Evaluation Weight</th> </tr> </thead> <tbody> <tr> <td>Assembled Project</td> <td>30%</td> </tr> <tr> <td>Project components</td> <td>70%</td> </tr> </tbody> </table>	Evaluation Type	Evaluation Weight	Assembled Project	30%	Project components	70%
Evaluation Type	Evaluation Weight						
Assembled Project	30%						
Project components	70%						
<p><b>Books and Required</b></p>	<p>Machining Fundamentals by Walker Dixon</p>						



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### Resources:

Publisher: Goodheart-Willcox Edition: 9th  
ISBN: 978-1-61960-209-0

### Course Outcomes and Learning Objectives:

#### Course Outcome 1.

Upon successful completion of this course, the student will demonstrate the ability to follow and apply all shop safety rules

#### Learning Objectives 1.

Identify and correct any shop safety hazards

- Practice equipment lock-out procedures
- Identify and apply WHMIS labels where needed
- Identify and correct other safety issues that arise

#### Course Outcome 2.

Upon successful completion of this course, the student will demonstrate the ability to set up and operate all machines used in the shop:

#### Learning Objectives 2.

- Safely operate all milling machines
- Safely operate all lathes
- Safely operate horizontal grinder
- Safely operate all drilling machines
- Safely assemble the complete project

#### Course Outcome 3.

Upon successful completion of this course, the student will demonstrate the ability to Design, develop, draw and make group projects using machine tools, equipment following safe shop practices:

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### Learning Objectives 3.

- Form student work groups that simulate the work environment in an actual shop
- Develop a project that can be built in the shop
- Produce detailed drawings for each component
- Produce complete assembly drawing
- Build the project using resources available

**Date:**

Thursday, September 21, 2017

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