COURSE OUTLINE: MCH259 - MACH. SHOP PRACT III

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Course Code: Title	MCH259: MACHINE SHOP PRACTICAL III
Program Number: Name	4039: MECH. ENG. TN-MANUFA
Department:	MECHANICAL TECHNIQUES PS
Academic Year:	2022-2023
Course Description:	This course will continue to build on the study of shop machines, with emphasis on the use of milling machines.
Total Credits:	3
Hours/Week:	3
Total Hours:	42
Prerequisites:	MCH121, MCH144, MCH145
Corequisites:	There are no co-requisites for this course.
Substitutes:	MCH223
Vocational Learning Outcomes (VLO's) addressed in this course: **Please refer to program web page for a complete listing of program outcomes where applicable.**	**4039 - MECH. ENG. TN-MANUFA** VLO 1 Complete all work in compliance with current legislation, standards, regulations and guidelines. VLO 2 Apply quality control and quality assurance procedures to meet organizational standards and requirements. VLO 3 Comply with current health and safety legislation, as well as organizational practices and procedures. VLO 4 Apply sustainability best practices in workplaces. VLO 5 Use current and emerging technologies to support the implementation of mechanical engineering projects. VLO 6 Analyze and solve mechanical problems by applying mathematics and fundamentals of mechanical engineering. VLO 7 Interpret, prepare and modify mechanical engineering drawings and other related technical documents. VLO 9 Manufacture, assemble, maintain and repair mechanical components according to required specifications. VLO 10 Verify the specifications of materials, processes and operations to support the design and production of mechanical components. VLO 11 Contribute to the planning, implementation and evaluation of projects. VLO 12 Develop strategies for ongoing personal and professional development to enhance work performance.
Essential Employability	EES 2 Respond to written, spoken, or visual messages in a manner that ensures effective

Skills (EES) addressed in this course:

communication.

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 8	Show respect for the diverse opinions, values, belief systems, and contributions of others.
EES 9	Interact with others in groups or teams that contribute to effective working relationships and the achievement of goals.
EES 10	Manage the use of time and other resources to complete projects.
EES 11	Take responsibility for ones own actions, decisions, and consequences.

Course Evaluation:

Passing Grade: 50%, D

A minimum program GPA of 2.0 or higher where program specific standards exist is required for graduation.

Other Course Evaluation & Assessment Requirements:

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

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.

Books and Required Resources:

Machining Fundamentals by John R. Walker
Publisher: Goodheart-Willcox Edition: 10th
ISBN: 978-1-63563-208-8

Machining Fundamentals Workbook by John R. Walker
Publisher: Goodhear Edition: 10th
ISBN: 978-1-63563-210-1

Course Outcomes and Learning Objectives:

Course Outcome 1	Learning Objectives for Course Outcome 1
1. Upon successful completion of this course, the student will demonstrate the ability to follow and apply all shop safety rules	1.1 Identify and correct any shop safety hazards 1.2 Practice equipment lock-out procedures 1.3 Identify and apply WHMIS labels where needed 1.4 Identify and correct other safety issues that arise

Course Outcome 2	Learning Objectives for Course Outcome 2
2. Upon successful completion of this course, the student will demonstrate the ability to set up and operate all machines used in the shop:	2.1 Safely operate all milling machines 2.2 Safely operate all lathes 2.3 Safely operate horizontal grinder 2.4 Safely operate all drilling machines 2.5 Safely assemble the complete project
Course Outcome 3	**Learning Objectives for Course Outcome 3**
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:	3.1 Form student work groups that simulate the work environment in an actual shop 3.2 Develop a project that can be built in the shop 3.3 Produce detailed drawings for each component 3.4 Produce complete assembly drawing 3.5 Build the project using resources available
Course Outcome 4	**Learning Objectives for Course Outcome 4**
4. Upon successful completion of this course, the student will demonstrate the ability to Plan, Cost and Estimate Time Management.	4.1 Comprise bill of Material for the project. 4.2 Estimate total cost of the project. 4.3 Plan which Machines will be required for each component 4.4 Estimate machining time for each component

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Assembled Project	30%
Assignment	5%
Project components	65%

Date: August 15, 2022

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