



COURSE OUTLINE

MCH142

Prepared: Cam Pucci Approved: Corey Meunier

Course Code: Title	MCH142: PUMPS, VALVES, PIPING AND COMPRESSORS
Program Number: Name	4039: MECH. ENG. TN-MANUFA
Department:	MECHANICAL TECHNIQUES PS
Semester/Term:	17F
Course Description:	In this course, the student will learn about the different applications, installation, maintenance and types of pumps, valves, piping, compressors and ancillary equipment.
Total Credits:	3
Hours/Week:	3
Total Hours:	48
Vocational Learning Outcomes (VLO's):	<p>4039 - MECH. ENG. TN-MANUFA</p> <p>#1. Complete all work in compliance with current legislation, standards, regulations and guidelines.</p> <p>#3. Comply with current health and safety legislation, as well as organizational practices and procedures.</p> <p>#4. Apply sustainability best practices in workplaces.</p> <p>#7. Interpret, prepare and modify mechanical engineering drawings and other related technical documents.</p> <p>#8. Contribute to the design and the analysis of mechanical components, processes and systems applying fundamentals of mechanical engineering.</p> <p>#9. Manufacture, assemble, maintain and repair mechanical components according to required specifications.</p>
Essential Employability Skills (EES):	<p>#7. Analyze, evaluate, and apply relevant information from a variety of sources.</p> <p>#9. Interact with others in groups or teams that contribute to effective working relationships and the achievement of goals.</p> <p>#10. Manage the use of time and other resources to complete projects.</p>
Course Evaluation:	Passing Grade: 50%, D
Other Course Evaluation & Assessment Requirements:	<p>Make Up Tests if needed.</p> <p>Grade Definition Grade Point Equivalent</p>

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W Student has withdrawn from the course without academic penalty.

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Final Exam	10%
Student Performance	10%
Term Assignments	40%
Term Tests	40%

Books and Required Resources:

Industrial Millwright Manual by Province of British Columbia
Paper Calculator Safety Equipment

Course Outcomes and Learning Objectives:

Course Outcome 1.

Discuss and demonstrate knowledge in various centrifugal type pumps.

Learning Objectives 1.

- Principles of non-positive displacement type pumps
- Various types of centrifugal type pumps & components
- Types of seals used in centrifugal pumps
- Assignments related to centrifugal pumps
- Installation, start-up and safety requirements
- Maintenance requirements for centrifugal pumps

Course Outcome 2.

Discuss and demonstrate knowledge with Positive Displacement type pumps.

Learning Objectives 2.

- Principles of positive displacement type pumps
- Compare positive and non-positive displacement pumps
- Discuss various types of positive displacement pumps
- Perform assignments related to positive displacement pumps
- Installation, start-up and safety requirements
- Maintenance requirements for positive displacement pumps

Course Outcome 3.

Discuss various types of conductors used in the trades. (Piping, tubing, hoses, fittings, ect.)

Learning Objectives 3.

- Discuss various types of uses for conductors
- Discuss various materials and uses
- Discuss sizing, and theory requirements
- Discuss fittings and sealants used with conductors
- Demonstrate installation techniques with conductors/fittings
- Perform assignments related to conductors
- Discuss safety requirements related to conductors

Course Outcome 4.

Discuss various types of valves used in today's mechanical field.

Learning Objectives 4.

- Discuss theory requirements with various valves
- Examine specific uses for various type valves
- Examine design qualities
- Discuss installation techniques
- Discuss specific sealants used with valves
- Discuss safety and lockouts for valves

Course Outcome 5.

Discuss various types of compressors used in today

Learning Objectives 5.

- Discuss relevant theory related to compressors
- Discuss the various types and uses of compressors (reciprocating, rotary, screw, positive, dynamic or kinetic)
 - Discuss Staging and Acting Compressors
 - Discuss compressor components and uses
 - Discuss safety and maintenance of compressors
 - Discuss troubleshooting

Date:

Monday, December 18, 2017

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