

**BARSTOW COMMUNITY COLLEGE COURSE OUTLINE –****IMMT 68****Dept & Nbr: IMMT 68****Abbrev Title:** Gaskets, Packing, Pumps, Drivers, Valves and Lubrication.

Full Title: Gaskets, Packing, Pumps, Drivers, Valves and Lubrication.

**Old Number:****Title 5 Category:** Associate Degree Applicable.**Certificate Applicable:**

Units	Course Hrs per Week	Nbr of Weeks	Course Hrs Total
Max: 1.5	Lecture 1.25	18	Lecture 22.5
Min: 1.5	Lab .25		Lab 13.5
	Contact DHR 0.0		Contact DHR 0.0
	Contact Total 2.0		Contact Total 36.0
	Non-contact DHR 0.0		Non-contact DHR 0.0

**Delivery method:** Lecture and Online.**Selected Topic:** No**Grading:** Option (A-F) (P/NP)**Concurrent Course:** None.**Repeat Code:** May be taken two times with a grade of less than "C".**Basic Skills 0:** This is not a basic skills class.**CATALOG DESCRIPTION:**

Designed to give the student the fundamental skills in gaskets, packing, pumps, drivers, valves and lubrication used for industrial maintenance mechanics.

**PREREQUISITES:** None.**COREQUISITES:** None.**RECOMMENDED PREPARATION:** None.**CONTENT:**

1. Pumps and drivers.
2. Valves.
3. Lubrication.

**COURSE OBJECTIVES:****Upon success completion of this course the student will be able to:**

1. Identify and explain centrifugal pumps.
2. Identify and explain rotary pumps.
3. Identify and explain reciprocating pumps.
4. Identify and explain metering pumps.
5. Identify and explain vacuum pumps.
6. Explain net positive suction head and cavitation.
7. Identify types of drivers.
8. Identify types of valves that start and stop flow.
9. Identify types of valves that regulate flow.
10. Identify valves that relieve pressure.

11. Identify valves that regulate the direction of flow.
12. Explain how to properly store and handle valves.
13. Explain valve locations and positions.
14. Explain OSHA hazard communication as pertaining to lubrication.
15. Read and interpret a material data sheet (MSDS).
16. Explain the EPA hazardous waste control program.
17. Explain lubricant storage.
18. Explain lubricant classification.
19. Explain lubricant film protection.
20. Explain properties of lubricants.
21. Explain properties of greases.
22. Explain how to select lubricants.
23. Identify and explain types of additives.
24. Identify and explain types of lubricating oils.
25. Identify and use lubrication equipment to apply lubricants.
26. Read and interpret a lubrication chart.

### **COURSE-LEVEL STUDENT LEARNING OUTCOMES:**

#### **1. Identify and explain various types of pumps.**

**Assessment Method(s):** Performance Evaluation.

- Communication.
- Critical Thinking.
- Global Awareness.
- Personal/Professional Development.

#### **2. Identify and explain various types of valves.**

**Assessment Method(s):** Performance Evaluation.

- Communication.
- Critical Thinking.
- Global Awareness.
- Personal/Professional Development.

#### **3. Identify and explain various types of lubricants and their applications.**

**Assessment Method(s):** Performance Evaluation.

- Communication.
- Critical Thinking.
- Global Awareness.
- Personal/Professional Development.

### **B. Critical Thinking Tasks/Assignments:**

Critical thinking assignments include (but are not limited to) the following:

1. Identify and develop options for gaskets, packing, pumps, drivers, valves and lubrication used for industrial maintenance mechanics.
2. Solve problems related to various topics related to IMM.

**C. Measurement of Student Learning Outcomes:**

1. Substantial writing assignments, including:
  - Written homework
  - The course primarily involves skill demonstrations or problem solving.
2. Computational or non-computational problem-solving demonstration, including:
  - Exam(s)
  - Quizzes
  - Homework problems
3. Skill demonstration, including:
  - Class performance(s)
4. Objective examinations, including:
  - Multiple choice
  - Completion
5. Other
  - Attendance/Participation
  - Observation

**REQUIRED READING, WRITING AND OTHER OUTSIDE-OF-CLASS ASSIGNMENTS:**

Over an 18-week presentation of the course three hours of study are required for each unit of credit. Two hours of independent work done out of class are required for each hour of lecture. Outside of the regular class time the students in this class will be doing the following:

- Study
- Answer questions
- Skill Practice
- Required reading
- Problem solving activity or exercise
- Written work

**BASIS FOR GRADES:**

Writing Assignments	20%
Problem-Solving	20%
Skill Demonstrations	20%
Objective Examinations	20%
Attendance & Participation	20%
Other.....	%

<b>TOTAL</b>	<b>100%</b>
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**TEXTS/MATERIALS**

Contren, Industrial Maintenance Mechanic Level1, Prentice-Hall 2007

**Submitted by:** Ken Graham/Nancy Nunes-Gill

**Area Department:** B & W

=====Instructional Office Use Only - Signatures and Codes=====

**Instructional Vice President Approval:** Steven Eaton, AAVP

**Curriculum Committee Approval Date:** 11May12

**Revision Date:** May 2, 2014