



Purpose: It is the intention of this Administrative-Master Syllabus to provide a general description of the course, outline the required elements of the course and to lay the foundation for course assessment for the improvement of student learning, as specified by the faculty of Wharton County Junior College, regardless of who teaches the course, the timeframe by which it is instructed, or the instructional method by which the course is delivered. It is not intended to restrict the manner by which an individual faculty member teaches the course but to be an administrative tool to aid in the improvement of instruction.

Course Title – Pumps, Compressors, and Mechanical Drives

Course Prefix and Number – INMT 2303

Department – Manufacturing Technology

Division – Vocational Science

Course Type: (check one)

- Academic General Education Course (from ACGM – but not in WCJC Core)
- Academic WCJC Core Course
- WECM course (This course is a Special Topics or Unique Needs Course: Y or N)

Semester Credit Hours # : Lecture Hours # : Lab/Other Hours # 3:2:4

Equated Pay hours for course - 4

Course Catalog Description – A study of the theory and operations of various types of pumps and compressors. Topics include mechanical power transmission systems including gears, v-belts, and chain drives. The course also involves bearings, lubrication, valves, reducers, key/keyways, alignment, vibration, and other mechanical topics.

List Lab/ Other Hours
Lab Hours 4
Clinical Hours
Practicum Hours
Other (list)

Prerequisites/Co-requisites – TSI requirements met.

Prepared by Rudolph Henry

Date 10/31/2014

Reviewed by Department Head Rudolph Henry

Date 10/31/2014

Accuracy Verified by Division Chair Tim Guin

Date 10/31/2014

Approved by Dean or Vice President of Instruction

Date 12/03/2014

L.A. Collins, VPI



I. Topical Outline – Each offering of this course must include the following topics (be sure to include information regarding lab, practicum, clinical or other non-lecture instruction):

Topical Outline -> Dedicated Instructional Time

- IMTME002-GCU -> Bearings -> 16 Hrs.
- IMTME003-GCU -> Brakes -> 8 Hrs.
- IMTME004-GCU -> Centralized lubrication -> 12 Hrs.
- IMTME031-GCU -> Gear box reducers -> 12 Hrs.
- IMTME016-GCU -> Key and Keyways, Seals and Bearings Families -> 16 Hrs.
- IMTME029-GCU -> Mechanical Transmissions -> 16 Hrs.
- Pumps, Compressors, and Mechanical Drives - Special topics /technical overview -> 12 Hrs.

Lab:

This course will feature hands-on lab to enhance the lectures.

II. Course Learning Outcomes

Learning Outcomes	Methods of Assessment
<p>Upon successful completion of this course, students will be able to:</p> <ol style="list-style-type: none"> 1. Apply installation, maintenance concepts, and procedures related to the following topics: <ol style="list-style-type: none"> A. Bearings B. Brakes C. Centralized lubrication D. Gear box reducers E. Key and Keyways, Seals and Bearings Families. F. Mechanical Transmissions. 2. Identify principles of operation of centrifugal, and positive displacement pumps and compressors. 3. Identify and explain the function of various components in pumps and compressors, 4. Disassemble and correctly reassemble pumps, compressors, and mechanical drives. 5. Troubleshoot pumps, compressors and mechanical drives. 	<p>Periodic written quizzes and exams.</p> <p>Hands-on laboratory assessments.</p> <p>Exam / hands-on performance analysis will be performed to identify weaknesses in the program.</p>

III. Required Text(s), Optional Text(s) and/or Materials to be Supplied by Student.

Industry hand-outs and selected text.

IV. Suggested Course Maximum - 20

V. List any specific spatial or physical requirements beyond a typical classroom required to teach the course.

Associated lab requirements.

VI. Course Requirements/Grading System – Describe any course specific requirements such as research papers or reading assignments and the generalized grading format for the course

1. Quizzes, homework, assignments, and class participation – 25%
2. Lab, and cross disciplinary skills (work ethic, safety, teamwork, housekeeping, attitude). – 25%
3. Mid-term exam – 25%
4. Final Exam – 25%

Grading.

A – 100-90.

B – 89-80

C – 79-70

VII. Curriculum Checklist

- **Academic General Education Course** (from ACGM – but not in WCJC Core)
No additional documentation needed

- **Academic WCJC Core Course**
Attach the Core Curriculum Review Forms

- Critical Thinking
- Communication
- Empirical & Quantitative Skills
- Teamwork
- Social Responsibility
- Personal Responsibility

- **WECM Courses**
If needed, revise the Program SCANS Matrix & Competencies Checklist.