Flow And Measurement Calibration (INTC1358)

Credit: 3 semester credit hours (3 hours lecture)

Prerequisite/Co-requisite: None.

Course Description

A study of Fluid Power. Hydraulics and Pneumatics. Comprehensive exposure to the fluid field, ranging from historical information to details on the design and operation of hydraulic and pneumatic components, circuits, and systems.

Required Textbook and Materials

Fluid Power, ISBN number 9781605259314

1. Notebook

Course Objectives

Upon completion of this course, the student will be able to:

1. Perform flow calculations.
2. Select the proper orifice under stated conditions.
3. Understand basic fluid power concepts, systems and components.

Course Outline

A. Introduction
   1. Introduction of faculty and students
   2. Review Syllabus

B. Review Class Policies
   1. Definition or Fluid Power
   2. Fluid power industry
   3. Fluid Power Systems
   4. Advantages and Disadvantages of a Fluid Power System

C. Fluid Power System
   1. Functions
   2. Structure
   3. Basic System Components
   4. Basic System Operation

D. Fluid power Standards and Symbols
E. Controlling the System
F. Compressed Air
G. Conditioning and Distribution
H. Controlling the Pneumatic System
I. Apply Pneumatic Power

Approved 12/2013

Grade Scale

90 – 100	A
80 – 89	B
70 – 79	C
60 – 69	D
0 – 59	F

Course Requirements

1. Introduction to the Fluid Power field.
2. Hydraulic Systems.
3. Pneumatic Systems.
4. Understanding of the operation of fluid power component parts and circuits.
5. Concepts in designing functional circuits.
6. Fluid Power : Safety and Health

Disabilities Statement

The Americans with Disabilities Act of 1992 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. Among other things, these statutes require that all students with documented disabilities be guaranteed a learning environment that provides for reasonable accommodations for their disabilities. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409) 880-1737 or visit the office in Student Services, Cecil Beeson Building.

Student Code of Conduct Statement

It is the responsibility of all registered Lamar Institute of Technology students to access, read, understand and abide by all published policies, regulations, and procedures listed in the LIT Catalog and Student Handbook. The LIT Catalog and Student Handbook may be accessed at www.lit.edu or obtained in print upon request at the Student Services Office.

Course Schedule

Week	Topic	Reference
1	Course introduction, and policies • Lecture: • Chapter exercises and worksheets	Handouts
2	Introduction to Fluid Power • Lecture: • Chapter exercises and worksheets	Chapter 1
3/4/5	Systems/Standards and Symbols • Lecture: • Test 1	Chapter 2/4

Week	Topic	Reference
6/7	Safety and Health/Hydraulic Fluids • Lecture • Chapter exercises and worksheets • Chapter exercises and worksheets	Chapter 5/6
8/9	Controlling the System • Lecture: • Chapter exercises and worksheets • Test 2	Chapter 10
10	Compressed Air/Conditioning/Distribution • Lecture: • Chapter Exercises and worksheets	Chapters 14/16
11/12	Directional Control Valves • Lecture: • Chapter Exercises and worksheets	Chapters 18
13	Pressure Control Valves • Lecture: • Chapter Exercises and worksheets	Chapter 18
14/15	Flow Control Valves • Lecture: • Chapter Exercises and worksheets • Test 3	Chapter 18
16	Applying Pneumatic Power • Lecture: • Chapter Exercises and worksheets • Test 4 • Review for Final	Chapter 19