

Master Syllabus

EGR 1217 - Fluid Power & Control

Division: Science, Mathematics and Engineering

Department: Automation and Control Technology

Credit Hour Total: 2.0

Lecture Hrs: 1.0 **Lab Hrs:** 3.0

Date Revised: October 2012

Course Description:

Fundamentals and basic applications of fluid power components, systems, controls and accessories. The design parameters and the terminology required to specify and plan fluid power systems. Basic electrical and Programmable Logic Control (PLC) control of fluid power components. One classroom, three lab hours per week.

General Education Outcomes:

- Critical Thinking/Problem Solving Competency
- Information Literacy Competency

Course Outcomes:

Fluid power cylinders

Evaluate the construction and operation of fluid power cylinders.

Assessment Method: Locally developed exams

Performance Criteria: Score greater than 70% on exams

Assessment Method: Simulations

Performance Criteria: Score "17.5" or higher on a five by five rubric

Pneumatic principles

Apply pneumatic principles.

Assessment Method: Locally developed exams

Performance Criteria: Score greater than 70% on exams

Assessment Method: Simulations

Performance Criteria: Score "17.5" or higher on a five by five rubric

Directional control valves

Evaluate the construction and operation of directional control valves.

Assessment Method: Locally developed exams

Performance Criteria: Score greater than 70% on exams

Assessment Method: Simulations

Performance Criteria: Score "17.5" or higher on a five by five rubric

Fluid power components and common fluid power circuits

Demonstrate an understanding of standard fluid power components and the construction and operation of common fluid power circuits.

Assessment Method: Locally developed exams

Performance Criteria: Score greater than 70% on exams

Assessment Method: Simulations

Performance Criteria: Score "17.5" or higher on a five by five rubric

Electrical control of fluid power components

Apply electrical control of fluid power components.

Assessment Method: Locally developed exams

Performance Criteria: Score greater than 70% on exams

Assessment Method: Simulations

Performance Criteria: Score "17.5" or higher on a five by five rubric

Outline:

Fundamental pneumatic principles
Fundamental vacuum
Fundamental hydraulic principles
Construction and operation of fluid power cylinders
Construction and operation of directional control valves
Other fluid power components such as filters, regulators, etc.
Construction and operation of common fluid power circuits
Electrical and Programmable Logic Control (PLC) control of fluid power