EGR 171: Fluid Systems

This subject deals with engineering principles associated with the control and usage of fluids. Particular emphasis is placed on the concepts of work and power and how they apply to the design and troubleshooting of hydraulic and pneumatic devices and systems (circuits). Pumps, compressors, actuators, valves, gauges, conductors, and automated equipment are analyzed in both the class and laboratory. The course also covers the use of ISO Fluid Power Symbols and Standards. Prerequisite: Intermediate Algebra competency, or concurrent enrollment in MTH 152. Three class hours and three laboratory hours a week. Instructional Support Fee applies.

Course Student Learning Outcomes

1. Identify and describe the historical importance, current applications and standards and the graphic symbology of fluid power. 2. Apply basic relationships and concepts required for the analysis of hydraulic flow systems. 3. Define the differences between hydraulic and pneumatic systems and basic gas relationships required for the analysis of pneumatic systems. 4. Analyzing fluid flow and choosing a specific type and size of pump, motor, cylinder, valves. conductors (pipes/hoses, seals and fittings) and conditioning equipment.

Credits: 4

Program: Engineering