

Course Code : ME 762

Course Title : Hydro systems

Credit Hours : 3

Course Description

Introduction to fluid Power Systems, Hydraulic Fluids, Oil Additives, Ancillary Devices, Transmission Lines, Fittings & Seals, and Hydraulic systems maintenance and troubleshooting

Course Objectives

To provide an in-depth background in the field of hydraulic systems, covering design, analysis, operation and maintenance.

To acquire a thorough knowledge of the characteristics of all hydraulic components, especially the different types of control valves.

To completely understand the functions and operation of the components of hydraulic systems to be designed and then will be able to design and analyze the hydraulic system.

Course Topics

Week no. 1: Introduction to fluid Power Systems

Week no. 2: Hydraulic Fluids

Week no. 3: Hydraulic Fluids

Week no. 4: Oil Additives

Week no. 5: Oil Additives

Week no. 6: Ancillary Devices

Week no. 7: Ancillary Devices (Tanks) / 7th week evaluation.

Week no. 8: Ancillary Devices (Filters)

Week no. 9: Transmission Lines

Week no. 10: Transmission Lines

Week no. 11: Fittings & Seals

Week no. 12: Fittings & Seals / 12th week evaluation

Week no. 13: Hydraulic systems maintenance and troubleshooting

Week no. 14: Hydraulic systems maintenance and troubleshooting

Week no. 15: Revision

Week no. 16: Final Examination

References

Michael J. Pinches and John G. Ashby, "Power Hydraulics", Prentice Hall, 1989.

Hugh Martin, "The Design of Hydraulic Components and Systems", Ellis Horwood, Ltd., 1995.

Anthony Esposito, "Fluid Power with Application", Prentice-Hall, 6th ed., 2002.

- Richard J. Michell and John J. Pippenger, "Fluid Power Maintenance Basics and Troubleshooting", Marcel Dekker, Inc., 1997.