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Department of Chemical Engineering	
Fluid Mechanics (64231)	
Total Credits	**3**
major compulsory	
Prerequisites	P1 : General Physics I (22101)

Course Contents

This course will provide the student with an overview of key fluid mechanics topics. These include fluid properties, such as viscosity and pressure and its measurement. It also covers the flow of fluids, Bernoulli's equation, the general energy equation, Reynoldss number, laminar and turbulent flows, energy losses due to friction and minor losses, and pump selection and applications. The course also covers calculations for fluid flow systems and their classes.

	Intended Learning Outcomes (ILO's)	Student Outcomes (SO's)	Contribution
1	On successful completion of the course, students should be able to determine and analyze fluid properties and flow parameters and apply the basic equations of fluid statics to manometers and hydraulic systems.	A	20 %
2	On successful completion of the course, students should be able to identify and solve engineering problems related to the continuity, general energy equation and Bernoulli equation, calculate Reynolds numbers and use them to describe the laminar/turbulent transition in the context of fluid flow and determine the friction losses for flow systems.	E	50 %
3	On successful completion of the course, students should be able to design and analyze single pipes and simple combinations of pipes and design and analyze pumping mains and pump-pipe systems.	C	30 %

Textbook and/ or Refrences

Mott, R. L. (1994). Applied Fluid Mechanics (4th ed.). New Jersey: Prentice Hall.

Assessment Criteria	Percent (%)
First Exam	20 %
Second Exam	20 %
Quizzes	10 %
Final Exam	50 %

Course Plan

Week	Topic
1	Fluid properties and flow parameters.
2	Pressure measurement
3_4	Continuity and Bernoulli equations
5_6	General energy equation
6	First exam
7_8	Reynolds number and laminar and turbulent flow.
9_11	Major and minor friction losses in fluid flow systems.
11	Second exam
12_13	Series pipe line systems
14_15	Pump selection and applications
16	Final exam