

FLUID MECHANICS-II (ME-223)

Pre-requisite: None

Credit Hours: 03

Contact Hours: 48

RECOMMENDED BOOK(S)

Fundamentals of Fluid Mechanics, Bruce R, Munson,

REFERENCE BOOK(S)

Hydraulics, Fluid mechanics and Hydraulic machines by Khurmi

Fluid Mechanics, Frank M. White. McGraw Hill. Lates Edition.

Fluid Mechanics, J. M. Cimbala Y. Cengel. McGraw Hill,

COURSE OBJECTIVES

At the end of this course students will be able

To understand the working and performance of Turbo-machinery (Pumps, Turbines, etc.) and hydraulic systems of earth moving machinery.

To determine the parameters that act in hydrostatic devices and on immersed surfaces.

To understand and use boundary layer and differential equations to different flows.

S. No.	CLO/PLOS MAPPING	DOMAIN	PLO
1	Explain the external flow devices/turbo machinery by using the analytical relation	C2	01
2	Analyze the compressible flows by solving problems related to transonic flows through varying area ducts.	C4	02
3	Apply boundary layer and differential equations to determine parameters in internal and external flows.	C3	01

COURSE CONTENTS

Flow in pipes and ducts (incompressible internal flow)

Boundary layer theories

Drag and lift (incompressible external flow)

Open channel flow

Compressible flow

Fluid machinery