

NPTEL Video Lecture Topic List - Created by LinuXpert Systems, Chennai

NPTEL Video Course - Multi Disciplinary - NOC:Fundamental of Fluid Mechanics for Chemical and Biomedical Engi

Subject Co-ordinator - Unknown

Co-ordinating Institute - IIT - Guwahati

Sub-Titles - Available / Unavailable | MP3 Audio Lectures - Available / Unavailable

Lecture 1 - Introduction
Lecture 2 - Fluid Mechanics and Chemical Engineering
Lecture 3 - Biomedical Applications of Fluid Mechanics
Lecture 4 - Vectors: A review
Lecture 5 - Introductory Concepts - 1
Lecture 6 - Introductory Concepts - 2
Lecture 7 - Flow Visualisation
Lecture 8 - Dimensional Analysis - Pi Theorem
Lecture 9 - Dimensional Analysis- Ipsen Method
Lecture 10 - Similitude
Lecture 11 - Pressure Distribution in a Static Fluid
Lecture 12 - Force of Submerged Surfaces
Lecture 13 - Buoyancy
Lecture 14 - Surface Tension
Lecture 15 - Reynolds Transport Theorem
Lecture 16 - Mass Conservation
Lecture 17 - Momentum Conservation - I
Lecture 18 - Momentum Conservation - II
Lecture 19 - Energy Conservation
Lecture 20 - Fluid Translation
Lecture 21 - Fluid Rotation and Deformation
Lecture 22 - Mass Conservation: Derivation
Lecture 23 - Mass Conservation: Cylindrical Coordinates
Lecture 24 - Navier Stokes Equations: Derivation
Lecture 25 - Flow Between Two Parallel Plates
Lecture 26 - Flow in a Falling Liquid Film
Lecture 27 - Fully-developed flow in a circular channel
Lecture 28 - Flow between two concentric cylinders
Lecture 29 - Lubrication Approximation

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- Lecture 30 - Creeping Flows
- Lecture 31 - Equation of Motion in Streamline Coordinates
- Lecture 32 - Irrotational Flow
- Lecture 33 - Bernoulli's Equation and Flow Measurement
- Lecture 34 - Boundary Layers
- Lecture 35 - Momentum Integral Equation
- Lecture 36 - Flow Separation and Drag
- Lecture 37 - Introduction to Turbulence
- Lecture 38 - Turbulent Flow in a Pipe
- Lecture 39 - Turbulent Boundary Layers
- Lecture 40 - Flow in Pipes: Major Losses
- Lecture 41 - Flow in Pipes: Minor Losses
- Lecture 42 - Flow in Pipes: Types of Problems
- Lecture 43 - Cavitation and NPSH