

# Introduction to Fluid Machines and Compressible Flow - Video course



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## Mechanical Engineering

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### COURSE DETAIL

Module	Topic/s
1	<p><b>Lecture 1: Introduction to Fluid Machines</b></p> <p><b>Lecture 2: Energy Transfer in Fluid Machines Part-I</b></p> <p><b>Lecture 3: Energy Transfer in Fluid Machines Part-II</b></p> <p><b>Lecture 4: Energy Transfer-impulse and Reaction Machines, efficiencies of Fluid Machines</b></p> <p><b>Lecture 5: Principles of Similarity in Fluid Machines</b></p> <p><b>Lecture 6: Concept of Specific Speed and introduction to Impulse Hydraulic Turbine</b></p> <p><b>Lecture 7: Analysis of Force on the Bucket of Pelton wheel and Power Generation</b></p> <p><b>Lecture 8: Specific Speed, Governing and Limitation of a Pelton Turbine</b></p> <p><b>Lecture 9: Introduction to reaction Type of Hydraulic Turbine- A Francis Turbine</b></p> <p><b>Lecture 10: Analysis of Force on Francis Runner and Power Generation</b></p> <p><b>Lecture 11: Axial Flow machine and Draft Tube</b></p> <p><b>Lecture 12: Governing of Reaction Turbine</b></p>
2	<p><b>Lecture 13: Introduction to Rotodynamic Pumps</b></p> <p><b>Lecture 14: Flow and Energy Transfer in a Centrifugal Pump</b></p> <p><b>Lecture 15: Characteristics of a Centrifugal Pump</b></p> <p><b>Lecture 16: Matching of Pump and System Characteristics</b></p> <p><b>Lecture 17: Diffuser and Cavitation</b></p> <p><b>Lecture 18: Axial Flow Pump</b></p>

3	<b>Lecture 19: Reciprocating Pump</b> <b>Lecture 20: Reciprocating Pump Part-II</b>
4	<b>Lecture 21: Centrifugal Compressor Part I</b> <b>Lecture 22: Centrifugal Compressor Part II</b> <b>Lecture 23: Centrifugal Compressor Part III</b> <b>Lecture 24: Axial Flow Compressor Part I</b> <b>Lecture 25: Axial Flow Compressor Part II</b>
5	<b>Lecture 26: Introduction to Compressible Flow</b> <b>Lecture 27: Introduction to Compressible Flow Part-II</b> <b>Lecture 28: Thermodynamic Relations and Speed of Sound</b> <b>Lecture 29: Disturbance propagation, Stagnation and Sonic Properties</b> <b>Lecture 30: Effects of Area variation on Properties in an Isentropic Flow</b> <b>Lecture 31: Choking in a Converging nozzle</b> <b>Lecture 32: Isentropic Flow Through Convergent-Divergent Duct</b> <b>Lecture 33: Normal Shock</b> <b>Lecture 34: Normal Shock Part-II</b> <b>Lecture 35: Normal Shock Part-III</b> <b>Lecture 36: Normal Shock Part-IV</b> <b>Lecture 37: Normal Shock Part-V</b>
6	<b>Lecture 38: Oblique Shock Part-I</b> <b>Lecture 39: Oblique Shock Part-II</b> <b>Lecture 40: Introduction to Expansion Wave and Prandtl Meyer Flow</b>