

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

NPTEL Video Course - Aerospace Engineering - NOC:Introduction to Aerospace Engineering

Subject Co-ordinator - Prof. Rajkumar Pant

Co-ordinating Institute - IIT - Bombay

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

Lecture 1 - Course Layout and Brief Introduction of Course Instructor  
Lecture 2 - Introduction to International Standard Atmosphere (ISA)  
Lecture 3 - Pressure, Temperature, Density and Viscosity Variation with Altitude in ISA  
Lecture 4 - Other Standard Atmospheres  
Lecture 5 - Aircraft Component Nomenclature - Wing and its Components  
Lecture 6 - Aircraft Component Nomenclature - Fuselage and its Components  
Lecture 7 - Aircraft Component Nomenclature - Tail Plane and its Components  
Lecture 8 - Tutorial 1 - Aircraft Component Nomenclature  
Lecture 9 - Essentials of Incompressible Flow - Part I  
Lecture 10 - Essentials of Incompressible Flow - Part II  
Lecture 11 - Bernoulli's Equation and Coanda Effect  
Lecture 12 - Mach Number  
Lecture 13 - Tutorial 2 - Incompressible Flow and Flow Visualization  
Lecture 14 - Viscous Flow and Reynolds Number  
Lecture 15 - Introduction to Boundary Layer  
Lecture 16 - Pressure Measurement  
Lecture 17 - Air Speed Measurement - Pitot Static Tube  
Lecture 18 - Air Speed Corrections  
Lecture 19 - Altitude and ROC/ROD Measurement  
Lecture 20 - Measurements in Compressible Flows  
Lecture 21 - Non Pneumatic Instruments  
Lecture 22 - Introduction to Aerofoils and Aerofoil Nomenclature  
Lecture 23 - Aerofoils - A Visit to the Past  
Lecture 24 - Thick Aerofoils  
Lecture 25 - Low Reynolds Number Aerofoils  
Lecture 26 - Lift Generation by Wings - Part I  
Lecture 27 - Lift Generation by Wings - Part II  
Lecture 28 - Coefficient of Lift and Coefficient of Pressure  
Lecture 29 - Tutorial on Aerofoils

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- Lecture 30 - Critical Mach Number
- Lecture 31 - Wave Drag
- Lecture 32 - Swept Wings
- Lecture 33 - Introduction to Drag and Types of Drag
- Lecture 34 - Factors Affecting Induced Drag
- Lecture 35 - Skin Friction Drag
- Lecture 36 - Tutorial on Critical Mach Number and Wave Drag
- Lecture 37 - Introduction to Propulsion
- Lecture 38 - Gas Turbine Engine Types - Part I
- Lecture 39 - Gas Turbine Engine Types - Part II
- Lecture 40 - Introduction to Electric Propulsion and Ion Propulsion
- Lecture 41 - Steady Level Flight
- Lecture 42 - Power Required for the Steady Level Flight
- Lecture 43 - Steady Level Flight - A Pilot's View
- Lecture 44 - Tutorial on Steady Level Flight
- Lecture 45 - Gliding Flight
- Lecture 46 - Climbing Flight and Ceiling
- Lecture 47 - Introduction to Turning Flight
- Lecture 48 - Turning Flight Equations
- Lecture 49 - Instantaneous and Sustained Turn
- Lecture 50 - Tutorial on Climbing Flight and Turning Flight
- Lecture 51 - Introduction to Static Stability
- Lecture 52 - Aerodynamic Center and Effect of Center of Gravity
- Lecture 53 - Effect of Center of Gravity - A Practical Demonstration
- Lecture 54 - Introduction to V-n Diagram
- Lecture 55 - V-n Diagram as per FAR 23 Regulations
- Lecture 56 - Effect of Gusts on V-n Diagram
- Lecture 57 - Tutorial on Stability and Control
- Lecture 58 - Range
- Lecture 59 - Specific Fuel Consumption and Generalized Range Equation
- Lecture 60 - Endurance
- Lecture 61 - Take-off Performance of Flight - Part I
- Lecture 62 - Take-off Performance of Flight - Part II
- Lecture 63 - Landing Performance of Flight
- Lecture 64 - Tutorial on Range Payload Diagram
- Lecture 65 - Tutorial on Range and Endurance
- Lecture 66 - Flapping Wing Aerodynamics - Part I
- Lecture 67 - Flapping Wing Aerodynamics - Part II