Mindluster Platform

About the course Convective Heat Transfer Fundamentals

Convective Heat Transfer course in hindi, in this course we'll delve into Convective Heat Transfer, exploring how heat is transferred through fluid motion in various engineering applications.

Engineering Category's Courses

Course Lesson(44)

Lesson 1 : **Fundamentals of Convective Heat Transfer Intro Video**

Lesson 2 : **Lec 1 Application of convective heat transfer**

Lesson 3 : **Lec 2 Foundations of heat transfer**

Lesson 4 : **Lec 3 Derivation of energy equation**

Lesson 5 : **Lec 4 Derivation of boundary layer equation**

Lesson 6 : **Lec 5 Derivation of boundary layer energy equation**

Lesson 7 : **Lec 6 Blasius solution similarity method**

Lesson 8 : **Lec 7 Pohlhausen solution similarity method**

Lesson 9 : **Lec 8 Pohlhausen solution heat transfer parameters**

Lesson 10 : **Lec 9 Falkner Skan equation Boundary layer flow over a wedge**

Lesson 11 : **Lec 10 Momentum integral equation for flat plate boundary layer**

Lesson 12 : **Lec 11 Laminar BL flow over flat plate Uniform surface temperature**

Lesson 13 : **Lec 12 Laminar BL flow over flat plate Uniform surface heat flux**

Lesson 14 : **Lec 13 Solution of example problems**

Lesson 15 : **Lec 14 Hydrodynamic and thermal regions**

Lesson 16 : **Lec 15 Energy balance in channel flow**

Lesson 17 : **Lec 16 Determination of heat transfer coefficient**

Lesson 18 : **Lec 17 Velocity profile in fully developed channel flows**

Lesson 19 :
Lec 18 Thermally fully developed laminar slug flow with uniform wall heat flux condition

Lesson 20 :
Lec 19 Hydrodynamically and thermally fully developed flow with uniform wall heat flux condition

Lesson 21 :
Lec 20 Fully developed flow through parallel plate channel with uniform wall temperature

Lesson 22 : **Lec 21 Fully developed flow through circular pipe with uniform wall temperature**

Lesson 23 : Lec 22 Thermally developing flow through circular pipe with uniform wall heat flux

Lesson 24 : Lec 23 Thermally developing flow through circular pipe with uniform wall temperature

Lesson 25 : Lec 24 Heat transfer in plane Couette flow

Lesson 26 : Lec 25 Solution of example problems

Lesson 27 : Lec 26 Introduction and scale analysis

Lesson 28 : Lec 27 Natural convection over a vertical plate Similarity Solution

Lesson 29 : Lec 28 Natural convection over a vertical plate Similarity solution of energy equation

Lesson 30 : Lec 29 Natural convection over a vertical plate Integral solution

Lesson 31 : Lec 30 Natural convection over inclined plate and mixed convection

Lesson 32 : Lec 31 Natural convection inside enclosures

Lesson 33 : Lec 32 Solution of example problems

Lesson 34 : Lec 33 Basics of finite difference method

Lesson 35 : Lec 34 Solution of Navier Stokes equations

Lesson 36 : Lec 35 Solution of energy equation

Lesson 37 : Lec 36 Derivation of Reynolds Averaged Navier Stokes Equations

Lesson 38 : Lec 37 External Turbulent Flow

Lesson 39 : Lec 38 Integral solution for turbulent boundary layer flow over a flat plate

Lesson 40 : Lec 39 Convection in turbulent pipe flow

Lesson 41 : Lec 40 Boiling regimes and boiling curve

Lesson 42 : Lec 41 Laminar film condensation on a vertical plate

Lesson 43 : Lec 42 Laminar film condensation on horizontal tube

Lesson 44 : Lec 43 Solution of example problems

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