

Relevant Course: Heat Transfer

Relevant Department: Mechanical Engineering, Aerospace Engineering, Chemical Engineering, Power Engineering, Energy Engineering, Applied Mathematics

Relevant Semester: 5th

Pre- requisite : Engineering Mathematics, Basic knowledge of Fluid Mechanics and Thermodynamics

Course Description and Outline:

Introduction to Convection, Recapitulation of the Fluid Flow Equations, Boundary layer over a flat plate, Derivation of energy equation and identification of dimensionless terms, Concept of thermal boundary layer and derivation of thermal boundary layer equation, Thermal boundary layer over a flat plate, Internal flow: concept of thermally fully developed flow, solution for thermally fully developed Hagen-Poiseuille flow with different boundary conditions – (a) constant heat flux, (b) constant wall temperature

Finalized topic name: Introduction to Convection Heat Transfer