

**Relevant Course:** Fluid Mechanics

**Relevant Department:** Mechanical Engineering, Civil Engineering, Aerospace Engineering, Chemical Engineering, Metallurgy and Materials Engineering, Biotechnology, Power Engineering, Energy Engineering, Physics, Applied Mathematics

**Relevant Semester:** 4th

**Pre- requisite :** Engineering Mathematics with integral calculus, differential calculus and vector calculus

**Course Description and Outline:**

Kinematics of Fluid Flow: Lagrangian and Eulerian description, streamline, streakline and pathline, acceleration of a fluid element, continuity equation, stream-function, rotation and angular deformation, irrotational flow, velocity potential.

Integral forms of Conservation Equations: Reynolds transport theorem - conservation of mass, linear and angular momentum

Differential form of Conservation Equations: Continuity equation, Navier-Stokes equations – derivations and some exact solutions

**Finalized topic name:** Fundamental Concepts in Fluid Mechanics

**Schedule:**

Session:1	Date: February 16, 2016	Time: 10 am -12 noon
Session:2	Date: February 17, 2016	Time: 10 am -12 noon
Session:3	Date: February 18, 2016	Time: 10 am -12 noon