

**AME 530A: Incompressible Fluids**  
**Fall 2010**

**Prof. P.K. Newton**

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**Class time:** MW 2:00-3:20

OHE 100C

The course will introduce students to incompressible fluid flow based on the development of exact and approximate solutions to the Euler and Navier-Stokes equations. Lectures, films, and homeworks will provide students with a comprehensive treatment of the quantitative aspects of the subject and give them physical intuition on the behavior of a large variety of fluid flows.

**Course Outline**

**Part I:** Introduction and background

**Part II:** Ideal (inviscid) flow

**Part III:** Viscous flow

**Part IV:** Vorticity

**Part V:** Boundary layers

**Book:** *Incompressible Flow*, R.L. Panton, Wiley 3rd Edition

**Grading:** Homework 50%; Midterm 20%; Final 30%