

Fall 2005

MAE 515 FLUID MECHANICS

M,W 11:30 – 12:50 214 OBRIAN

Text: Fundamentals Mechanics of Fluids

I.G. Currie

Third Ed., McGraw Hill, 1993

MAE 515 Incompressible Inviscid/Viscous Flow Fields

Fundamentals

Continuum Concept

Cartesian Tensors

Flow Kinematics

Basic Equations

Special Forms

Curvilinear Coordinates

Ideal Flow

Fundamental Solutions

Conformal Transformations

Schwarz – Christoffel Transformation

Airfoil Theory

Three Dimensional Flows

Viscous Flows

Exact Solutions

Low Reynolds Number Flows

Boundary Layers

GRADING:	Homework	20%
	Midterm	40%
	Final	40%

MAE 516:	Compressible Flow
	Stability Theory
	Transition
	Turbulence