Final Review

2011-05-04

1st half of the course:

see midterm review

2nd half:

vorticity

aerodynamics

Vorticity, Streamlines, and etc.

- chapter 1 in Acheson

- different ways of calculating vorticity

- physical interpretation of vorticity

- vorticity in typical flows (shear flow, line vortex, and etc)

Aerodynamics Force

- Direction of the force and wake signature
- Definition of lift and drag
- Lift to drag ratio

2D Airfoil Theory

- Potential flow and Laplace equation
- Complex potential
- Conformal mapping

2D Airfoil Theory

- Flow past a cylinder: solutions
- Flow past a plate
- Flow due to a line vortex

2D Airfoil Theory

- Kutta - Joukowski theory of lift

- Chapter 4 in Acheson

- Go through the updated syllabus
- Review all of the homeworks
- Acheson: 1, 2, 4, 8