

ME383 Fluid Mechanics

2nd semester 1437/38

Instructor:

Dr. Khaled Al-Salem

Lecture Hours:

10:00 – 10:50 Sun, Tue and Thu.

Office Hours:

11:00 – 12:15 Sun, Tue and Thu

Textbook:

Introduction to Fluid Mechanics, Fox, R. W., McDonald, A. T. and Pritchard, P. J. John Wiley & Sons.

Objective:

To learn the fundamental concepts in fluid mechanics including an understanding of fluid statics and conservation equations in both integral and differential forms. Also, to learn the application of the basic knowledge acquired to viscous flow problems.

Topics:

1. Fundamental concepts (2 wks)
2. Fluid statics (1 wk)
3. Basic laws in integral form (2 wks)
4. Introduction to differential analysis of fluid motion (2 wks)
5. Incompressible inviscid flow (2 wks)
6. Dimensional analysis (1 wk)
7. Internal incompressible viscous flows (3 wks)
8. External incompressible viscous flows (1 wk)

Assessment:

– Homework Assignment	5%
– Quizzes	10%
– Attendance	5%
– Two midterm exams	40%
– Final exam	40%