بسم الله الرحمن الرحيم

King Saud University
College of Engineering
Mechanical Engineering Department

ME383 *Fluid Mechanics* 2ndt semester 1439/1440 Ah

Instructor

Dr. Khaled S. Al-Salem

Lecture Hours

10:00 to 10:50 Sunday, Tuesday, and Thursday.

Textbook

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

Objective

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

Topics

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

Assessments

- Term project 10%
- Quizzes 10%
- Two midterm exams 40%
- Final exam 40%

Note

Attendance of lectures and tutorials is an important weighing factor in your final grade.