98-2 Preliminary Syllabus, Da-Yeh Univ

Information			
Title	高等流體力學(二)	Serial No. / ID	2745 / MUR5048
Dept.	機械與自動化工程學系碩士班	School System / Class	研究所碩士班1年1班
Lecturer	黃士哲	Full or Part-time	兼任
Required / Credit	Optinal / 3	Graduate Class	NO
Time / Place	(三)ABC / H440	Language	Chinese

Introduction

This is the second advanced Fluid Mechanics course. It mainly contains two parts: turbulent flow and compressible flow.
Course objectives: Train students to
1. understand types and modes of compressible flow,
2.understand steady and unsteady supersonic flow and shock waves,
3. gain ability in analyzing compressible flow problem,
4. gain basic concepts of turbulent flow and its modeling.

Outline

Part I
Chap. 1 Compressible Flow—Some History and Introductory Thoughts
Chap. 2 Integral Forms of the Conservation Equations for Inviscid Flows
Chap. 3 One-Dimensional Flow
Chap. 4 Oblique Shock and Expansion Waves
Chap. 5 Quasi-One-Dimensional Flow
Chap. 6 Differential Conservation Equation for Inviscid Flow
Chap. 7 Unsteady Wave Motion
Part II
Chap. 1 Definition and Nature of Turbulence - Kolmgorov scaling
Chap. 2 Turbulent Transport of Momentum & Heat - Reynolds Equation

Prerequisite

English, Physics, Fluid Mechanics