

COURSE SCHEDULE AND CONTENTS

The course consists of lectures covering basic concepts and theoretical derivations, recitations for reviewing and tutoring, three tests, and one final exam. The tentative schedule is listed as follows,

Topic

Reading Material

Characteristics of Fluids

Chap 1

Fluid Statics

Chap 2

Test 1: Chapter 1-2

Fluid Dynamics: Bernoulli Equation

Chap 3.1; 3.2; 3.3

Applications of Bernoulli Equation

Chap 3.4; 3.5; 3.6; 3.7; 3.8

Flow Fields and Reynolds' Transport Theorem

Chap 4.1; 4.2; 4.3; 4.4

Test 2: Chapter 3-4

Conservation of Mass

Chap 5.1

Momentum and Moment of Momentum Eqs.

Chap 5.2

First Law of Thermodynamics - Energy Eq.

Chap 5.3

Similitude and Dimensional Analysis

Chap 7

Test 3: Chapter 5, 7

Laminar Pipe Flow

Chap 8.1; 8.2

Turbulent Pipe Flow

Chap 8.3

Flow Resistance in Pipes, Flowrate Measurement

Chap 8.4; 8.5

Final Exam: 60% Chapter 8 + 40% of the rest