

Fluid Mechanics I: Study Guide is written as main reference for students who take the subject of Fluid Mechanics I.

Contents of this study guide are organized into chapters, and are arranged in the sequence they should be read. This is because knowledge learnt in the earlier chapters will be applied in the latter. One possible exception is to study dimensional analysis in Chapter 11 before the other chapters as it stresses more on algorithm rather than on the aspects of Fluid Mechanics.

There are total eleven chapters. Chapters 1 and 2 are introduction to fluid and its properties. Chapter 3 to 5 discuss fluid phenomena under static conditions. These include fluid pressure in Chapter 3 and forces cause by the fluid pressure in Chapter 4 and 5. However, Chapter 5 covered specifically on topics about buoyancy and stability.

chapter 6 to 10 discuss fluid phenomena under dynamic conditions. Types of flow and the way to quantify it are introduced in Chapter 6. Chapters 7 and 8 discuss about flow energy equations and its application. In Chapter 9, forces produced in a flowing fluid are presented. Whilst the previous chapters dealt with flow of idea fluid, Chapter 10 dealt with real fluid phenomena and methods used in solving simple pipe flow problems.

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