

Chapter 1

Introduction

Minimal surface has zero curvature at every point on the surface. Since a surface surrounded by a boundary is minimal if it is an area minimizer, the study of minimal surface has arised many interesting applications in other fields in science, such as soap films.

In this book, we have included the lecture notes of a seminar course about minimal surfaces between September and December, 2004. The course consists of a review on multi-variable calculus (Lectures 2 - 4), some basic differential geometry (Lectures 5 - 10), and representation and properties of minimal surface (Lectures 11 - 16). The authors took turns in giving lectures. The target audience of the course was any advanced undergraduate student who had basic analysis and algebra knowledge.