

# 開授課程大綱

|         |                   |     |  |     |   |
|---------|-------------------|-----|--|-----|---|
| 開課單位系所  | 清華大學/數學系          |     |  |     |   |
| 課 號     | MATH 2810         | 班 次 |  | 學 分 | 3 |
| 名 稱     | 機率論 (Probability) |     |  |     |   |
| 授 課 教 師 | 鄭少為               |     |  |     |   |

## 一. 內容：

This course introduces students to useful and interesting ideas of the mathematical theory of probability and to a number of applications of probability to a variety of fields including genetics, economics, geology, business, and engineering. The theory developed together with other mathematical tools such as combinatorics and calculus are applied to everyday problems. Concepts, calculations, and derivations are emphasized. Topics include the basic results and methods of both discrete and continuous probability theory: conditional probability, independent events, random variables, jointly distributed random variables, expectations, variances, covariances, limit theorems.

## 二. 教科書及參考書：

Textbook: Ross, S. (2006), *A First Course in Probability*, 7<sup>th</sup> edition, Pearson Prentice Hall.

References: TBA

## 三. 成績評量方式：

Homework 30%; Midterm Exam 30%; Final Exam 40%

## 四. Course webpage: <http://www.stat.nthu.edu.tw/~swcheng/Teaching/math2810/>

## 五. Prerequisites：

Calculus