

## 國立高雄大學應用經濟系學士班課程綱要表

建檔日期：2005 年 9 月 13 日

課程編號：AEC52A

課程名稱：(中文) 高等統計學

(英文) Advanced Statistics

開課年級：大 三

選 別：選

學 分：3

授課教師：李 揚

先修課程：Calculus

課程目標：統計學是應用機率與統計方法收集、整理、及分析資料，根據資料計算一些有用且可信的數據，並利用這些數據去推論與了解自然界及社會的現象。本課程之目的是培養學生建立正確的機率與數理統計基本觀念。

成績考察方式：Participation 15%, Mid Exam 40%, Final Exam 45%.

上 課：Thu. 13:00~16:00.

教 室：L02-105

Office Hours: Thu. 10:00~12:00 or make appointments.

教科書：

Wackerly, Dennis D., William Mendenhall III, Richard L. Scheaffer (2002), *Mathematical Statistics with Applications, Sixth Edition*, 雙葉。

參考書籍：

1. Hogg, Robert V. and Elliot A. Tanis (2001), *Probability and Statistical Inference, Sixth edition*, 華泰。
2. Bain, Lee J. and Max Engelhardt (1992), *Introduction to Probability and Mathematical Statistics, Second Edition*, 雙葉。
3. Ross, Sheldon (2002), *A First Course in Probability, Sixth Edition*, 華泰。
4. 張紘炬 (1996), 高等統計學, 華泰。
5. 顏月珠, 應用數理統計學, 三民。
6. 黃文璋 (2003), 機率論, 華泰
7. 黃文璋 (2003), 數理統計, 華泰。

課程綱要：

1. Combinatorial Analysis (Wackerly et al, Ch. 2.6; H&T, Ch. 2.2; B&E, Ch. 1.6; Ross, Ch. 1).
2. Probability (Wackerly et al, Ch. 2; H&T, Ch. 2; B&E, Ch. 1.1 ~ Ch. 1.5; Ross, Ch. 2 ~ Ch. 3).
3. Random Variables (Wackerly et al, Ch. 3.2, Ch. 3.3, Ch. 3.9, Ch. 3.11, Ch. 4.2, Ch. 4.3; H&T, Ch. 3.1, Ch. 3.2, Ch. 3.4, Ch. 4.1; B&E, Ch. 2; Ross, Ch. 4.1 ~ Ch. 4.3, Ch. 7.1, Ch. 7.2, Ch. 7.8, Ch. 8.2).
4. Discrete Distributions (Wackerly et al, Ch. 3; H&T, Ch. 3; B&E, Ch. 3.2; Ross, Ch. 4).
5. Continuous Distributions (Wackerly et al, Ch. 4; H&T, Ch. 4; B&E, Ch. 3.3; Ross, Ch. 5).
6. Multivariate Probability Distributions (Wackerly et al, Ch. 5; H&T, Ch. 5.1 ~ Ch. 5.4; B&E, Ch. 4 ~ Ch. 5; Ross, Ch. 6.1 ~ Ch. 6.5, Ch. 7.5 ~ Ch. 7.8).
7. Functions of Random Variables (Wackerly et al, Ch. 6; H&T, Ch. 4.5, Ch. 5.5; B&E, Ch. 6.1 ~ Ch. 6.4; Ross, Ch. 5.6, Ch. 6.7).
8. Order Statistics (Wackerly et al, Ch. 6.7; H&T, Ch. 5.6; B&E, Ch. 6.5; Ross, Ch. 6.6).
9. Sampling Distributions and the Central Limit Theorem (Wackerly et al, Ch. 7; H&T, Ch. 6; B&E, Ch. 7 ~ Ch. 8; Ross, Ch. 8).
10. Estimation (Wackerly et al, Ch. 8 ~ Ch. 9; B&E, Ch. 9; H&T, Ch. 7).
11. Sufficiency (Wackerly et al, Ch. 9.4, Ch. 9.5; H&T, Ch. 9.1; B&E, Ch. 10).
12. Hypothesis Testing (Wackerly et al, Ch. 10; H&T, Ch. 8, Ch. 9.2 ~ Ch. 9.6; B&E, Ch. 12 ~ Ch. 13).
13. Linear Models (Wackerly et al, Ch. 11; B&E, Ch. 15).
14. Nonparametric Methods (Wackerly et al, Ch. 15; B&E, Ch. 14).