



課 綱 Course Outline

理工學院大數據科學國際學士班學士班

中文課程名稱 Course Name in Chinese	統計學				
英文課程名稱 Course Name in English	Statistics				
科目代碼 Course Code	DS_10120	班 別 Degree	學士班 Bachelor's		
修別 Type	學程 Program	學分數 Credit(s)	3.0	時 數 Hour(s)	3.0
先修課程 Prerequisite					
課程目標 Course Objectives					
<p>本課程之目標在幫助應數系同學能熟悉統計學之基本概念及理論發展，期能將統計推論的概念與方法應用於後續課程及學術研究中。課程設計以基礎機率為基礎，內容包括統計學簡介、敘述統計、參數估計、假設檢定、卡方檢定、迴歸分析及變異數分析等重要主題之理論與應用。</p> <p>The objective of this course is to help students learn the basic concepts and the theoretical development in statistics, and get necessary background to apply concepts and methods in statistics to subsequent courses and academic research. The preliminary for this course is Introduction to Probability. The content includes theory and application in the following important topics: introduction to statistics, descriptive statistics, parameter estimation, hypothesis testing, chi-square test, regression analysis, and analysis of variance.</p>					
系教育目標 Dept.'s Education Objectives					
1	訓練嚴謹思考與推理能力。 to provide a solid training in rigorous thinking and reasoning,				
2	奠定資料科學理論與應用數學的基礎知識。 to establish well-founded background knowledge in data science and applied mathematics,				
3	具備跨領域學習能力。 to prepare the students for interdisciplinary study in the future.				
系專業能力 Basic Learning Outcomes				課程目標與系專業能力相關性 Correlation between Course Objectives and Dept.'s Education Objectives	
A	具備基本資料科學知識及邏輯推理能力。 have well-founded background in data science and logical reasoning,				○

B	具備機率、統計、資料科學及相關領域的知識與應用能力。 have the knowledge of probability , statistics , data science and the related fields, and their applications,	●
C	具備資料科學應用技能與團隊合作，解決問題能力。 be able to utilize data scientific skills for problem solving through cooperation and teamworking.	●

圖示說明Illustration : ● 高度相關 Highly correlated ○ 中度相關 Moderately correlated

課程大綱
Course Outline

1. 統計學簡介 Introduction to Statistics
2. 敘述統計 Descriptive Statistics
3. 參數估計 Parameter Estimation
4. 假設檢定 Hypothesis Testing
5. 卡方檢定 Chi-square Test
6. 迴歸分析 Regression Analysis
7. 變異數分析 Analysis of Variance

資源需求評估 (師資專長之聘任、儀器設備的配合 . . . 等)
Resources Required (e.g. qualifications and expertise, instrument and equipment, etc.)

課程要求和教學方式之建議
Course Requirements and Suggested Teaching Methods

- . 課前預習 2. 教師講解 3. 演練習題 4. 學習評量
1. Preview before class 2. Lectures 3. Exercises 4. Exams

其他
Miscellaneous

1130306 訂定