



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	統計軟體與實務應用				
英文課程名稱 Course Name in English	Statistical Software and Practical Application				
科目代碼 Course Code	DS__10110	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					
本課程在使學生了解如何借助統計軟體以整理資料、繪製統計圖表、進行基本的統計分析等實務工作。					
The objective is to help students understand how to utilize statistical software in practical applications such as data management, plotting statistical graphs/tables, basic statistical analysis, and statistical computation.					
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		
<p>選定一種具程式設計功能之統計軟體，介紹其基本語法、輸出入、程式設計概念、各種資料結構，常用的統計繪圖與資料分析功能，及其在統計實務之應用。</p> <p>Pick any statistical software with fully functional programming language. Introduce its basic syntax, input and output, programming concepts, data structures, commonly used statistical graphics and techniques for data analysis, and its applications to the practice of statistics.</p>		
<p>資源需求評估（師資專長之聘任、儀器設備的配合．．．等）</p> <p>Resources Required (e.g. qualifications and expertise, instrument and equipment, etc.)</p>		
<p>統計專長專任教師、統計計算軟體以及硬體支援。</p> <p>Faculty with expertise in statistics, software and hardware supports for statistical computing</p>		
<p>課程要求和教學方式之建議</p> <p>Course Requirements and Suggested Teaching Methods</p>		
<p>上課方式以講授、問答、並輔以project，presentation及討論為輔助。鼓勵學生運用統計軟體進行程式設計與資料分析，並報告實作結果及詮釋其意義。</p> <p>The course will be run mostly on lectures, Q&A, discussion and guided project/presentation. Students' participation in programming with, e.g. R, and the presentation and interpretation of real data analysis is highly encouraged.</p>		
<p>其他</p> <p>Miscellaneous</p>		
1130306訂定		