



課 綱 Course Outline
應用數學系博士班

中文課程名稱 Course Name in Chinese	多變量分析				
英文課程名稱 Course Name in English	Multivariate Analysis				
科目代碼 Course Code	AM__74000	班 別 Degree	博士班 Ph. D.		
修別 Type	選修 Elective	學分數 Credit(s)	3.0	時 數 Hour(s)	3.0
先修課程 Prerequisite	高等統計學 (及大學部 "線性迴歸") Advanced Statistics (and undergrad regression Analysis)				
課程目標 Course Objectives					
介紹多變量分析之理論研究及應用。 Introduction to basic theories and applications of multivariate analysis.					
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 ability.				
2	奠定理論與應用數學的基礎知識。 To establish well-founded background knowledge in pure 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	具備專業知識及邏輯推理能力 Have well-founded expertise and be capable of logical reasoning.			○	
B	具備學習其它學科的能力，以期能邁向跨領域研究。 Be able to study other fields of science so as to conduct interdisciplinary research in the future.			●	
C	具備獨立思考與解決問題的能力。 Be capable of independent thinking and have the problem-solving skills.			○	
圖示說明 Illustration : ● 高度相關 Highly correlated ○ 中度相關 Moderately correlated					
課程大綱					

Course Outline

Regression analysis, Multivariate normal theory, Principal component , MANOVA , Cluster analysis, Factor analysis, Classification & discriminant analysis.

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.)

統計專長專任教師、統計計算軟體以及硬體支援。

Faculty with expertise in statistics, statistical computing and hardware supports

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

理論習題及實例數據計算均需要求。

Lectures, discussions, homework, presentation and topic-oriented projects

其他
Miscellaneous

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