



課 綱 Course Outline
應用數學系博士班

中文課程名稱 Course Name in Chinese		高等統計學			
英文課程名稱 Course Name in English		Advanced Statistics			
科目代碼 Course Code		AM__74600	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		無			
課程目標 Course Objectives					
點估計理論 Theory of point estimation					
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

點估計論：動差方法估計量、概似估計量、均勻最小方差不偏估計量、最小平方估計量等之介紹。充分與完備統計量概念、Rao-Blackwell 及Lehmann-Scheffe定理、概似估計量之大樣本分配理論及其應用。

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Estimation Theory : method of moments , maximum likelihood , minimum variance unbiased , least squares , etc. Sufficiency and completeness , Rao-Blackwell theorem , Lehmann-Scheffe theorem, large sample distribution theory of MLE and its applications .

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.)

本系統計專長教師

Faculty member with PhD in Statistics.

課程要求和教學方式之建議

Course Requirements and Suggested Teaching Methods

講課、習題、考試

Lectures, homework and midterm/final tests.

其他

Miscellaneous

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