



課 綱 Course Outline

應用數學系數學科學組

中文課程名稱 Course Name in Chinese		隨機模型			
英文課程名稱 Course Name in English		Stochastic Models			
科目代碼 Course Code		AM__40200	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		基礎機率，機率論 Introduction to Probability, Probability theory.			
課程目標 Course Objectives					
介紹離散時間馬可夫過程、重要例子、基本理論等。 Discrete time Markov Chains. Theory and examples.					
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	具備基本數學知識及邏輯推理能力。 Have well-founded background in mathematics and be capable of logical reasoning.			●	
B	具備學習數學相關領域的預備知識。 Be knowledgeable about fields related to mathematics.			●	
C	具備軟體應用與科學計算能力。 Be able to use mathematics software and scientific computation skill in problem-solving.				
圖示說明Illustration：● 高度相關 Highly correlated ○ 中度相關 Moderately correlated					

課程大綱 Course Outline	
離散時間馬可夫鏈： 定義、例子、平穩分佈、遍歷性定理、時間可逆性。 Discrete time Markov Chain： Definition, examples, stationary distributions, ergodic theorem, time reversibility.	
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(所)專任教師	
課程要求和教學方式之建議 Course Requirements and Suggested Teaching Methods	
講授、習題、考試 Lectures, problem sets and examinations.	
其他 Miscellaneous	
撰寫人：應用數學系 謝思民 撰寫日：100年4月	

規劃負責老師：

單位主管：

系課程委員會審議通過日期：