



# 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
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離散時間馬可夫鏈：
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定義、例子、平穩分佈、遍歷性定理、時間可逆性。
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Discrete time Markov Chain：
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Definition, examples, stationary distributions, ergodic theorem, time reversibility.
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資源需求評估（師資專長之聘任、儀器設備的配合．．．等）
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Resources Required (e.g. qualifications and expertise, instrument and equipment, etc.)
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本系(所)專任教師
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Taught by department' s faculty member
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課程要求和教學方式之建議
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Course Requirements and Suggested Teaching Methods
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講授、習題、考試
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Lectures, problem sets and examinations.
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其他
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Miscellaneous
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撰寫人：應用數學系 謝思民
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