



## 課 綱 Course Outline

### 應用數學系統計科學組

中文課程名稱 Course Name in Chinese	時間序列									
英文課程名稱 Course Name in English	Time Series									
科目代碼 Course Code	AM_32600	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	微積分、統計學 Calculus; Statistics									
課程目標 Course Objectives										
介紹時間序列統計分析方法及相關應用 Introduction of the linear time series models and their applications to the modeling and prediction of data collected sequentially in time.										
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	具備機率、統計及相關領域的知識與應用能力。 Have the knowledge of probability and statistics and the related field, and the corresponding application ability.				●					
C	具備軟體應用與統計計算能力。 Be able to use computer software for statistical computation in real applications.				●					
圖示說明 Illustration : ● 高度相關 Highly correlated ○ 中度相關 Moderately correlated										

課程大綱  
Course Outline

1. Examples of time series
2. Estimation and elimination of trend and seasonal components
3. The autocorrelation function of a time series
4. Autoregressive, moving average, ARMA, and ARIMA processes
5. Estimation and prediction
6. Box-Jenkins model building process
7. Model checking

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.)

本系專任教師

Faculties of applied math department.

課程要求和教學方式之建議

Course Requirements and Suggested Teaching Methods

課堂講授；討論；作業

Lectures; discussions; assignments.

其他

Miscellaneous

撰寫人：應用數學系 朱至剛

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