



## 教學計劃表 Syllabus

課程名稱(中文) Course Name in Chinese	計量經濟分析(三)		學年/學期 Academic Year/Semester	101/2
課程名稱(英文) Course Name in English	Econometric Analysis (III)			
科目代碼 Course Code	IIE_57800	系級 Department & Year	碩士	開課單位 Course-Offering Department
修別 Type	選修 Elective	學分數/時間 Credit(s)/Hour(s)	3.0/3.0	
授課教師 Instructor	/林金龍			
先修課程 Prerequisite				
課程描述 Course Description				
<p>This course focuses exclusively on financial time series analysis or financial econometrics. I am aiming at equipping the students with proper tools for advanced empirical work and lay the foundation for future theoretical research in this area. I shall cover closely the contents of the recently published new book, An introduction to financial time series with R written by Ruey Tsay. After a quick review of linear time series modeling, I shall start the econometric analysis with volatility modeling. Univariate GARCH and stochastic volatility comes first, followed by multivariate volatility models. Extreme values analysis and VaR are the second main topic. High frequency financial econometrics comprises the third. useful.</p> <p>In additional to econometric analysis, I also emphasize computational aspects of these complicated econometric techniques. R, is the statistical packages used in this course.</p>				
課程目標 Course Objectives				
<p>課程設計除介紹計量經濟學理論與觀念外，並強調與經濟理論之結合應用以及各項統計軟體之實務操作，俾使修課同學具備從事實證分析研究之能力與經驗，以作為未來從事學術研究及就業之基礎</p>				
圖示說明 Illustration : ● 高度相關 Highly correlated ○ 中度相關 Moderately correlated				
授課進度表 Teaching Schedule & Content				
週次 Week	內容 Subject/Topics			備註 Remarks
1	Financial data, their properties and R programming			
2	Linear models for financial time series (I)			
3	Linear models for financial time series (II)			
4	Case studies of linear time series (I)			
5	Case studies of linear time series (II)			
6	Asset volatility and volatility models (I)			
7	Asset volatility and volatility models (II)			
8	Asset volatility and volatility models (III)			

9	期中考試週 Midterm Exam	
10	Applications of volatility models	
11	High frequency financial data (I)	
12	High frequency financial data (II)	
13	High frequency financial data (III)	
14	Value at Risk (I)	
15	Value at Risk (II)	
16	Value at Risk (III)	
17	Value at Risk (IV)	
18	期末考試週 Final Exam	

教 學 策 略 Teaching Strategies

- 課堂講授 Lecture     
  分組討論 Group Discussion     
  參觀實習 Field Trip  
 其他 Miscellaneous:

學期成績計算及多元評量方式 Grading & Assessments

配分項目 Items	配分比例 Percentage	多元評量方式 Assessments							
		測驗 會考	實作 觀察	口頭 發表	專題 研究	創作 展演	卷宗 評量	證照 檢定	其他
平時成績 General Performance	30%		✓						
期中考成績 Midterm Exam	30%	✓							
期末考成績 Final Exam	40%				✓				
作業成績 Homework and/or Assignments									
其他 Miscellaneous (_____)									

評量方式補充說明  
Grading & Assessments Supplemental instructions

教科書與參考書目 (書名、作者、書局、代理商、說明)  
Textbook & Other References (Title, Author, Publisher, Agents, Remarks, etc.)

Textbook:

Ruey S. Tsay, An Introduction to Analysis of Financial Data with R, John Wiley & Sons, 2013.

Reference books:

Ruey S. Tsay, Analysis of Financial Time Series, 3rd, JohnWiley & Sons, 2010

Andersen, T.G.; Davis, R.A.; Kreib, J.-P.; Mikosch, Th. (Eds.) Handbook of Financial Time Series, 2009, Springer-Verlag

John Y. Campbell, Andrew W. Lo, and A. Craig MacKinlay: The Econometrics of Financial Markets, 1996, Princeton University Press

Alexander J. McNeil (Author), Rudiger Frey (Author), Paul Embrechts (Author) (2005), Quantitative Risk Management: Concepts, Techniques, and Tools Princeton University Press

課程教材網址 (教師個人網址請列在本校內之網址)  
Teaching Aids & Teacher's Website (Personal website can be listed here.)

facultu.ndhu.edu.tw/~jlin

其他補充說明 (Supplemental instructions)

Students must buy or borrow the main textbook.