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②图玄東華大學

教學計劃表 Syllabus

課程名稱(中文) Course Name in Chinese	財務計量經濟			學年/學期 Academic Year/Se	103/2				
課程名稱(英文) Course Name in English	Financial Econometrics								
科目代碼 Course Code	FIN_51500	系級 Department 碩士 & Year		開課單位 Course-Offering Department	財務金融學系				
修別 Type	選修 Elective	學分數/時 Credit(s)/Hou		3.0/3.0					
授課教師 Instructor	/林金龍								
先修課程 Prerequisite									

課程描述 Course Description

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 discuss volatility modeling. Univariate GARCH and stochastic volatility model and multivariate volatility models. Extreme values analysis and VaR are the second main topic. For the third topic, I shall focus in copula and factor models.

In additional to econometric analysis, I also emphasize computational aspects of these complicated econometric techniques. R, is the statistical packages used in this course

課程目標 Course Objectives

The class of Empirical Financial Economics is designed to provide the student with an introduction to the fields of Empirical Investment and Empirical Behavior Finance. Students pursuing a concentration in finance should view Empirical Financial Economics as an advanced course in Investments, Portfolio Management, financial markets and institutions. This class assumes no prior education in finance. It develops

fundamental models of valuation and investment from first principles and applies them to problems of corporate and individual decision making.

Topics covered portfolio theory and the trade-off between risk and return. It presents three asset pricing models, the Capital Asset Pricing Model,

the Arbitrage Pricing Theory, the Three-Factor Model, and recent applications to the calculation of the firm's cost of capital. Students are introduced to the fundamental concepts of finance: the time value of money, portfolio theory and the determinants of expected security returns

	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	具備財務金融的分析能	•
В	具備企業財務管理專業能力	•
С	具備英語閱讀溝通協調等能力	•
D	具備獨立研究之技能,以進行財金議題研究	•

E 具備個人投資理財能力										0	
F	F 具備電腦程式運算及設計能力										
圖示言	圖示說明Illustration :● 高度相關 Highly correlated ○中度相關 Moderately correlated										
			授 課 進	度表	Teachin	g Sched	ule & C	ontent			
週次	週次Week 内容 Subject/Topics								備註Remarks		
1		Introduction									
2	2	Financial data	, their prope	rties a	ınd R pr	ogrammi	n				
3	}	Linear models f									
4	Į	Case studies of	linear time	series							
5)	Asset volatilit	y and volatil	ity mod	lels (I))					
6	3	Asset volatilit									
7	7	Asset volatilit	y and volatil	ity mod	lels (II	(1)					
8	}	Applications of	volatility m	odels							
9)	Principal compo	nent analysis	and fa	actor mo	odels					
1	0	Copula methods	in finance (I)							
1	1	Copula methods	in finance (I	I)							
13	2	Copula methods in finance (III									
13	3	Value at Risk (I)								
1	4	Value at Risk (II)								
1	5	Value at Risk (III)								
1	6	Extreme value a	nalysis and V	aR (I)							
1'	7	Extreme value a	nalysis and V	aR (II))						
18	8	期末考試週 Fina	1 Exam								
			教	學策	略 Tea	aching S	Strategi	ies			
✓ 副	果堂講	爱 Lecture		分組討	論Group	Discuss	sion	多	觀實習	Field T	rip
 	其他Mis	scellaneous:									
			學期成績計算	章 及多元	評量方式	₹ Gradi	ng & As	sessmen	ts		
		分項目	配分比例	y-1	٠. مدر			量方式 A			
]	[tems	Percentage	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	学成績	Midterm Exam	30%	~							
期末考		Final Exam	40%				~				
1	え績 Ho nments	mework and/or									

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.)

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其他補充說明(Supplemental instructions)

Students must buy or borrow the main textbook