管院碩士班(含碩專班)課程大綱
MS/MA Program Syllabus

系所 Department	國經所 International Economics	必選修 compulsory/elective	選修 Elective
課程名稱 Course title	計量經濟學二	學分數 Credit(s)	3
學年/學期 academic year/Semester	114-2 學期 Spring semester 2026	上課地點 Classroom	管院 TBA
講授教師 Instructor	賴宏彬	上課時間 Time	Wednesday 14:00-17:00
教師辦公室&諮詢時間 Instructor office number & office hour	管理學院經濟系 333R	教師聯絡資訊 Instructor Contact	Phone: 05-2720411#34120 Email: ecdhpl@ccu.edu.tw
助教 Teaching assistant	無	助教 聯絡資訊 TA contact	Email:無
先修課程 Pre-requisite courses			
課程目標 Course Objective	The objective of this course is to prepare the graduate students in economics for the study of empirical macroeconomics, by providing a rigorous introduction to the theory and practice of time series analysis (univariate as well as multivariate time series, and stationary as well as non-stationary time series).		

AACSB 學習品質保證學習目標 Assurance of Learning (AOL) Learning goals
*請先選填為主要或次要學習目標(Major or minor learning goal)，再選擇對應之學習目標

主要學習目標 Major learning goal 目標 3：研究能力 **LG3:Research Skills**	次要學習目標 Minor learning goal 目標 1：知識整合 **LG1:Knowledge Integration**	
教材 Teaching materials	Levendis, John D. (2019), Time Series Econometrics - Learning Through Replication, Springer	
網址 Course website		
教科書/參考書 Textbooks/Reference	教科書: 陳旭昇，2013，"時間序列分析:總體經濟與財務金融之應用 第二版"，東華書局，ISBN:978-957-483-737-3	

評量方式(請填百分比) Assessment	課堂參與 Participation	30 %	個案討論 Case study		%
	作業 Homework	70 %	專題 Project		%
	報告 Presentation	0 %	其他 1 other ( )		%

課程規劃表 Course Schedule

週次 week	日期 Date	內容 Description	教材章節 Textbook	其他說明 Remark
1.	2/25	**1 Introduction** 1.1 What Makes Time-Series Econometrics Unique? 1.2 Notation 1.3 Statistical Review 1.4 Specifying Time in Stata 1.5 Installing New Stata Commands	Chapter 1	
2.	3/4	**2 ARMA(p,q) Processes** 2.1 Introduction 2.2 AR(1) Models 2.3 AR(p) Models 2.4 MA(1) Models 2.5 MA(q) Models 2.6 Non-zero ARMA Processes 2.7 ARMA(p,q) Models 2.8 Conclusion	Chapter 2	
3.	3/11	**3 Model Selection in ARMA(p,q) Processes** 3.1 ACFs and PACFs. 3.2 Empirical ACFs and PACFs 3.3 Putting It All Together 3.4 Information Criteria.	Chapter 3	
4.	3/18	**4 Stationarity and Invertibility** 4.1 What Is Stationarity? 4.2 The Importance of Stationarity 4.3 Restrictions on AR coefficients Which Ensure Stationarity 4.4 The Connection Between AR and MA Processes 4.5 What Are Unit Roots, and Why Are They Bad?	Chapter 4	
5.	3/25	**5 Non-stationarity and ARIMA(p,d,q) Processes** 5.1 Differencing 5.2 The Random Walk 5.3 The Random Walk with Drift 5.4 Deterministic Trend. 5.5 Random Walk with Drift vs Deterministic Trend 5.6 Differencing and Detrending Appropriately	Chapter 5	
6.	4/1	校際活動		HW#1 (20%)
7.	4/8	**6 Seasonal ARMA(p,q) Processes** 6.1 Different Types of Seasonality 6.2 Identification 6.3 Invertibility and Stability 6.4 How Common are Seasonal Unit Roots? 6.5 Using De-seasonalized Data.	Chapter 6	
8.	4/15	**7 Unit Root Tests** 7.1 Introduction 7.2 Unit Root Tests 7.3 Dickey-Fuller Tests	Chapter 7	

9.	4/22	7.4 Phillips-Perron Tests 7.5 KPSS Tests 7.6 Nelson and Plosser 7.7 Testing for Seasonal Unit Roots	Chapter 7	
10.	4/29	**8 Structural Breaks** 8.1 Structural Breaks and Unit Roots 8.2 Perron (1989): Tests for a Unit Root with a Known Structural Break 8.3 Zivot and Andrews' Test of a Break at an Unknown Date	Chapter 8	
11.	5/6	**9 ARCH, GARCH and Time-Varying Variance** 9.1 Introduction 9.2 Conditional vs Unconditional Moments 9.3 ARCH Model 9.4 GARCH Models 9.5 Variations on GARCH	Chapter 9	
12.	5/13	**10 Vector Autoregressions I: Basics** 10.1 Introduction 10.2 A Simple VAR(1) and How to Estimate it 10.3 How Many Lags to Include? 10.4 Expressing VARs in Matrix Form	Chapter 10	HW#2 (20%)
13.	5/20	10.5 Stability. 10.6 Long-Run Levels: Including a Constant 10.7 Expressing a VAR as a VMA Process 10.8 Impulse Response Functions 10.9 Forecasting 10.10 Granger Causality 10.11 VAR Example: GNP and Unemployment	Chapter 10	
14.	5/27	**11 Vector Autoregressions II: Extensions** 11.1 Orthogonalized IRFs. 11.2 Forecast Error Variance Decompositions 11.3 Structural VARs 11.4 VARs with Integrated Variables	Chapter 11	
15.	6/3	**12 Cointegration and VECMs** 12.1 Introduction 12.2 Cointegration 12.3 Error Correction Mechanism 12.4 Deriving the ECM 12.5 Engle and Granger's Residual-Based Tests of Cointegration	Chapter 12	
16.	6/10	12.6 Multi-Equation Models and VECMs 12.7 IRFs, OIRFs and Forecasting from VECMs. 12.8 Lag-Length Selection 12.9 Cointegration Implies Granger Causality	Chapter 12	HW#3 (30%)
17.	6/17	線上彈性教學		
18.	6/24	線上彈性教學		

作業繳交注意事項

1. 本學期共有 3 次作業，繳交截止的期限與佔學期成績的比重如下:

	截止日期	成績比重
作業一	4/1	20%
作業二	5/13	20%
作業三	6/10	30%

2. 請務必準時交件，遲交上傳的作業不計分
3. 繳交作業網址: https://forms.gle/ym6urRati1sFp6Zc6