國立臺灣大學國家發展研究所 103 學年度第 2 學期課程綱要

課程資訊					
課程名稱	量化分析專題 Seminar on Quantitative Analysis				
課程編號	341 U3770	班次		學分數	02
全/半年	半年			必/選修	必選
授課教師	邱鳳臨			開課系所	國家發展研究所
上課時間	星期 2 第 5, 6 節			修課人數	25
上課地點	國發 206			課程加選方式	3
課程網頁				碩士班核心能力	D, G
備註	以英文授課				

課程大綱	
課程目標	The overarching aim of this course is to increase the knowledge and use of quantitative methods amongst both undergraduates and postgraduates in a number of important areas within the applied social sciences.
課程概述	This course basically deals with *econometrics,* the most widely used tool of economists to determine empirical forms of theoretical constructs. The likely originator of the term 'econometrics' defined it as '...the unification of economic theory, statistics, and mathematics...' (Frisch 1936). The *objectives* of econometrics have been described by Christ (1966m p. 4) as '...the production of quantitative economic statements that either explain the behavior of variables we have already seen, or forecast (i.e. predict) behavior that we have not yet seen, or both.' We will apply the statistical and mathematical methods to the analysis of economic data with a purpose of giving empirical content to economic theories and verifying them or refuting them. The entire empirical study is conducted using statistical software EViews 8. I will teach you how to use this software around week 3.
關鍵字	Data; econometrics; statistical method
課程要求	This course requires student to read the assigned chapters before class.
Office Hours	Tuesday 15:20~16:00
參考書目 **Text:**	[1] J. Johnston, *Econometric Methods*, McGraw-Hill, 4th Edition, 2000. [2] Jan Kmenta, *Elements of Econometrics,* Macmillan, 2nd Edition, 1986 [3] G. S. Maddala, *Introduction to Econometrics*, John Wiley, 3rd Edition, 2001. [4] William E. Griffiths, R. Carter Hill, and George G. Judge, *Learning and Practicing Econometrics,* John Wiley, 1993. [5] William Brown, *Introducing econometrics,* West Publishing Co., 1991.

	[6] William H. Greene, *Econometric Analysis*, Prentice Hall, 6th Edition, 2007. [7] William M. Wooldridge, *Introductory Econometrics*, A Modern Approach, 2000. [8] Ramu Ramanathan, *Introductory Econometrics with application*, Harcourt, 5th Edition, 2002. [9] Dimitrious Asteriou and Stephen G. Hall, *Applied Econometrics*, 2nd Edition, Palgrave Macmillan, 2011. [10] Damodar Gujarati, *Econometrics By Example*, 1st Edition, Palgrave Macmillan, 2011.

評量方式

No.	項目	百分比(%)	說明
1	Mid-tern/Final exam.	50%-50%	

週 次	單元主題
Week 1	**Simple regression model** [a] Introduction Text: [2] Ch. 7, [3] Ch. 3
Week 2, 3	[b] Estimation of the regression parameters Text: [2] Ch. 7, [3] Ch. 3, [1] Ch, 1
Week 4	[c] Further results of the statistical inference Text: [2] Ch. 7, [8] Ch. 2
Week 5	[d] Application of Least Square Methods Text: [2] Ch. 7, [8] Ch. 2
Week 6	**Violations of Basic Assumptions** [a] Nonnormality and nonzero mean Text: [2] Ch. 8
Week 7	[b] Heteroskedasticity Text: [2] Ch. 8, [4] Ch. 15, [3] Ch. 5
Week 8	[c] Autocorrelation Text: [2] Ch. 8, [3] Ch. 6, [6] Ch. 15
Week 9	[d] Stochastic explanatory variables Text: [2] Ch. 8, [4] Ch. 14
Week 10	Mid-term exam
Week 11	**Review of Matrix and Linear Algebra** Text: [2] Appendix B
Week 12	**Multiple linear regression model** [a] Estimation of least squares method Text: [2] Ch. 10
Week 13	[b] Multi-collinearity Text: [2] Ch. 10
Week 14	[c] Specification errors Text: [2] Ch. 10
Week 15	[d] Distributed lag models Text: [2] Ch. 10
Week 16	[e] Simultaneous equation model: Identification problem, indirect least squares method. Text: [2] Ch. 13
Week 17	[d] Simultaneous equation model: Instrumental variable estimation, two-stage least squares estimation and three-stage least squares estimation. Text: [2] Ch. 13

Week 18	[e] Final exam.