淡江大學１０８學年度第１學期課程教學計畫表

課程名稱	應用計量經濟學	授課教師	胡登淵
	APPLIED ECONOMETRICS		HU, TENG-YUAN
開課系級	產經四Ｐ	開課資料	實體課程
	TLEXB4P		選修 單學期 3學分

系（所）教育目標

一、奠定產業經濟專業。

二、強化多元知識學習。

三、培養研究分析能力。

四、提升品德倫理修養。

五、拓展全球宏觀視野。

六、鍛造產業領導人才。

本課程對應院、系(所)核心能力之項目與比重

D. 能具備學術深造的潛力。（比重：60.00）

E. 能將經濟理論與實務結合，以提升競爭力。（比重：40.00）

本課程對應校級基本素養之項目與比重

2. 資訊運用。（比重：50.00）

3. 洞悉未來。（比重：50.00）

| 課程簡介 | 本課程擬介紹與示範如何由經濟理論推導實證模型，結合軟體(譬如STATA與R)與資料，進行經濟應用分析，除介紹以基本的多變數迴歸分析、最大概似法、分量迴歸與無母數分析法估計實證模型外，也介紹如何檢定經濟理論所賦予的假說，並將介紹多種針對特殊資料型態設計之應用計量模型，特別是金融資料所用計量經濟模型。 |
| | The goal of this course is to introduce and demonstrate how an economist derives an empirical model from a theoretical model, and then estimates the empirical models by using softwares on economic data. It will demonstrate how the basic applied econometric methods, including multiple regression, MLE, quantile regression and nonparametric method, are applied to the analysis of real economic data. It will also demonstrate how to test the hypothesis coming from the economic theory. Furthermore, it will introduce the models focusing on specific forms of data such as financial data. |

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本課程教學目標與認知、情意、技能目標之對應

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將課程教學目標分別對應「認知（Cognitive）」、「情意（Affective）」與「技能(Psychomotor)」的各目標類型。

一、認知(Cognitive)：著重在該科目的事實、概念、程序、後設認知等各類知識之學習。
二、情意(Affective)：著重在該科目的興趣、倫理、態度、信念、價值觀等之學習。
三、技能(Psychomotor)：著重在該科目的肢體動作或技術操作之學習。

序號	教學目標(中文)	教學目標(英文)
1	推導簡易的經濟理論模型成為實證模型；	deriving an empirical model from a simple economic theory
2	搭配軟體以多變數迴歸,最大概似法與分量迴歸法估計、檢定並探討簡易的經濟議題；	using multiple regression, maximum likelihood method and quantile regression, nonparametric analysis and related programs to estimate, test and investigate simple economic issues by analyzing the data in real world
3	以Econlit與Google Scholar 尋找應用計量經濟學之參考文獻	capable of using Econlit and Google Scholar to find references of applied econometrics
4	培養從事實證研究之其它基礎能力(譬如STATA與R之操作能力)	learning other basic technics for doing empirical research (such as the skills of using STATA and R)

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教學目標之目標類型、核心能力、基本素養教學方法與評量方式

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序號	目標類型	院、系(所)核心能力	校級基本素養	教學方法	評量方式
1	技能	DE	2	講述、討論	測驗、作業
2	技能	DE	23	講述、討論	測驗、作業、報告(含口頭、書面)
3	技能	DE	2	講述、討論	測驗、討論(含課堂、線上)、報告(含口頭、書面)
4	技能	DE	23	講述、討論、實作	測驗、作業、討論(含課堂、線上)、報告(含口頭、書面)

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授 課 進 度 表

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週次	日期起訖	內 容 (Subject/Topics)	備註
1	108/09/09～108/09/15	(1)Economic Data and Economic Models (Stewart, Ch 1.) (2)介紹中研院調查研究專題中心之資料庫與本校所購之臺灣經濟新報資料庫(3) Multiple Regression (I)	
2	108/09/16～108/09/22	(1) STATA, GRETL, R, SAS與Eviews等軟體之簡介(2) Multiple Regression (II)	
3	108/09/23～108/09/29	Multiple Regression (III)	
4	108/09/30～108/10/06	Multiple Regression (IV)--Applications to Electricity Demand and Quadratic Cost Function (Stewart, Ch. 8)	
5	108/10/07～108/10/13	Loglinear Models (Stewart, Ch. 6) and Applications to Production Functions (Ch. 7)	

6	108/10/14~ 108/10/20	Application to Economic Growth (Stewart, Ch. 9) / Dummy Variables and Restricted Coefficients (Stewart, Ch. 10) / Applications to Cost Functions (Stewart, Ch. 11)	
7	108/10/21~ 108/10/27	Quantile Regression with Application to Smoking Effect on Bith Weight	
8	108/10/28~ 108/11/03	Panel Data Model with Applications (I)	
9	108/11/04~ 108/11/10	Panel Data Model with Applications (II)	
10	108/11/11~ 108/11/17	期中考試週	
11	108/11/18~ 108/11/24	Maximum Likelihood Estimation	
12	108/11/25~ 108/12/01	Probit Model with Application to Decision of Labor Supply	
13	108/12/02~ 108/12/08	Heckit Model with Application to Analysis of Working Women's Salary; Two-part Model with Application to Physician Vistits / Tobit Model with Application to Consumption of Durable Goods	
14	108/12/09~ 108/12/15	Machine Learning and Nonparametric Analysis	
15	108/12/16~ 108/12/22	Analysis of Financial Data Using the Probit with Selection and VAR	
16	108/12/23~ 108/12/29	The Use of ARCH/GARCH Models in Applied Financial Econometrics and the Analysis of High Frequency Financial Data (Tsay, Ch.4 and Ch. 6)	
17	108/12/30~ 109/01/05	The Use of Big Data Models in Applied Financial Econometrics	
18	109/01/06~ 109/01/12	期末考試週(本學期期末考試日期為:109/1/3-109/1/9)	

修課應 注意事項	抽點出席每節加學期成績0.15分.
教學設備	電腦、投影機、其它(iClass)
教科書與 教材	Tsay, Ruey S., An Introduction to Analysis of Financial Data with R,, Wiley, 2013. Stock, JH, MW Watson, Introductiion to Econometrics, 4th ed. Pearson, 2020.

參考文獻	Engle, R., "The Use of ARCH/GARCH Models in Applied Econometrics," The Journal of Economic Perspectives.Autumn, 2001; 15(4): 157-168. Koenker, R. and K.F. Hallock, "Quantile Regression," Journal of Economic Perspectives. Fall 2001; 15(4): 143-56. Hotz, V. J. and R.A. Miller, "An Empirical Analysis of Life Cycle Fertility and Female Labor Supply," Econometrica, Jan., 1988; 56(1): 91-118. Tobin, J., "Estimation of Relationships for Limited Dependent Variables," Articles selected from the Journal of Economic Perspectives. Murray, M.P., Econometrics: A Modern Introduction, Boston: Pearson Wooldridge, J.M,Introductory Econometrics—A Modern Approach, 5 edition. *Pindyck, R.S. and D.L.Rubinfeld, Econometric Models and Economic Forecasts, Fourth Edition, McGraw-Hill, 1998. ***劉彩卿、陳欽賢, STATA基礎操作與統計模型應用, 第一版 2012年 (附學習光碟). Enders, W., Applied Econometric Tiime Series, 4th edition, Wiley. 2015. *Stewart, K.G., Introduction to Applied Econometrics, Thomson Learning Inc. , 2005或最新版
批改作業 篇數	篇（本欄位僅適用於所授課程需批改作業之課程教師填寫）
學期成績 計算方式	◆出席率：　　　　　%　◆平時評量：15.0 %　◆期中評量：35.0 % ◆期末評量：35.0 % ◆其他〈分組報告〉：15.0 %
備　　考	「教學計畫表管理系統」網址：https://info.ais.tku.edu.tw/csp 或由教務處首頁→教務資訊「教學計畫表管理系統」進入。 ※不法影印是違法的行為。請使用正版教科書，勿不法影印他人著作，以免觸法。