



## 教學計劃表 Syllabus

|   |   |                                 |                                  |
|---|---|---------------------------------|----------------------------------|
| 課程名稱(中文)<br>Course Name in Chinese  | 計量經濟學(一)-迴歸分析   | 學年/學期<br>Academic Year/Semester | 101/1                            |
| 課程名稱(英文)<br>Course Name in English  | Econometrics I - Regression analysis                      |                                 |                                  |
| 科目代碼<br>Course Code   | FIN_M0020   | 系級<br>Department & Year         | 碩士<br>Course-Offering Department |
| 修別<br>Type  | 必修 Required   | 學分數/時間<br>Credit(s)/Hour(s)     | 3.0/3.0                          |
| 授課教師<br>Instructor  | /林金龍  |                                 |                                  |
| 先修課程<br>Prerequisite  | /   |                                 |                                  |
| 課程描述 Course Description   |   |                                 |                                  |
| <p>Econometric Analysis is the first-year graduate course in econometrics. The course aims at equipping the students with the knowledge for econometric theory and advanced empirical analysis, especially in the fields of finance and economics. Thus, the focus is placed upon methodology rather than proving statistical theorems. I adopt the book written by William H. Greene for its broad coverage and clear exposition.</p> <p>While students may have only limited exposure to econometrics, I shall allocate parts of the course on regression model specification and testing as is covered in Stock and Watson (2007). They are extremely useful in real empirical analysis.</p> |   |                                 |                                  |
| 課程目標 Course Objectives  |   |                                 |                                  |
| <p>為本所必修課程之一，本所學生必須具有計量經濟學的訓練才能，根據經濟理論作實證分析，預測等分析，為本所特色之一。</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   | Using R   |                                 |                                  |
| 2   | Review of matrix theory                                   |                                 |                                  |
| 3   | Review of probability and distribution theory             |                                 |                                  |
| 4   | Estimation and inference                                  |                                 |                                  |
| 5   | Large sample distribution theory                          |                                 |                                  |
| 6   | Linear regression model and least squares                 |                                 |                                  |
| 7   | Statistical properties of the least squares estimator (I) |                                 |                                  |
| 8   | Statistical properties of the least squares estimator (I) |                                 |                                  |
| 9   | 期中考試週 Midterm Exam  |                                 |                                  |
| 10  | Inference and prediction                                  |                                 |                                  |
| 11  | Functional form and structural change                     |                                 |                                  |

|    |   |  |
|----|---|--|
| 12 | Specification analysis and model selection (I)  |  |
| 13 | Specification analysis and model selection (II) |  |
| 14 | Generalized regression model                    |  |
| 15 | Instrumental variables estimation               |  |
| 16 | Series correlation; model with lagged variables |  |
| 17 | Maximum likelihood estimation                   |  |
| 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<br>Items                    | 配分比例<br>Percentage | 多元評量方式 Assessments |          |          |          |          |          |          |    |
|----------------------------------|--------------------|--------------------|----------|----------|----------|----------|----------|----------|----|
|                                  |                    | 測驗<br>會考           | 實作<br>觀察 | 口頭<br>發表 | 專題<br>研究 | 創作<br>展演 | 卷宗<br>評量 | 證照<br>檢定 | 其他 |
| 平時成績 General Performance         |                    |                    |          |          |          |          |          |          |    |
| 期中考成績 Midterm Exam               | 30%                | ✓                  |          |          |          |          |          |          |    |
| 期末考成績 Final Exam                 |                    |                    |          |          |          |          |          |          |    |
| 作業成績 Homework and/or Assignments | 30%                |                    | ✓        |          |          |          |          |          |    |
| 其他 Miscellaneous (term paper)    | 40%                |                    |          |          |          |          |          |          |    |

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.)

William H. Greene, *Econometric Analysis*, 6th ed., 2008 New Jersey: Prentice Hall

James H. Stock and Mark Watson, *Introduction to Econometrics*, Boston: Addison-Wesley, 2007

Grant V. Farnsworth (2008) *Econometrics in R*. PDF and a browsable HTML version files are available at [www.r-project.org](http://www.r-project.org) *Introduction to Econometrics*, Boston: Addison-Wesley, 2007

Christian Kleiber and Achim Zeileis, *Applied Econometrics with R*, Springer, 2008

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.)

[faculty.ndhu.edu.tw/~jli](http://faculty.ndhu.edu.tw/~jli)

其他補充說明 (Supplemental instructions)