東吳大學經濟系學士班 109 學年度中英文課程摘要

經濟學系學士班 Department of Economics (Bachelor Programs)

109.08.08 修訂

課程名稱	中文簡介	英文簡介
微積分 CALCULUS	經一　必修 (3-3) 本科目介紹數學裡最常應用於商業、經濟上的幾個概念和方法。內容包括：(1)極限與微分(2)微分的應用：變動率、極值、最佳化問題、估算、隱函數微分(3)指數與對數函數(4)積分：定積分、重積分、積分的應用(5)多變數函數及偏微分：多變數函數的極值、限制條件下的極值、Lagrange 方法(6)三角函數(7)泰勒多項式與無窮級數。	Freshman required (3-3) This course introduces several important mathematics concepts and approaches used in business and economics. It covers：(1) Limits and the deriative. (2) Applications of the derivative：rate of change, relative extrema, optimization problems, estimation, implicit differentiation. (3) The exponential and natural logarithmic functions. (4) Integration：definite integral, double integral, applications of the integral. (5) Functions of several variables and partial derivatives：maxima and minima of functions of several variables, constrained optimization, Lagrange's method. (6) The trigonometric functions. (7) Taylor polynomials and infinite series.
經濟學原理 PRINCIPLES OF ECONOMICS	經一　必修 (3 - 3) 本科目講授經濟行為、決策之基本原理及經濟問題之分析方法。教學內容分為個體經濟學與總體經濟學兩大部份。前者包括消費者行為、生產者行為、市場結構、生產要素市場、所得分配、市場失靈與政府干預、公共選擇。後者包括國民所得衡量、所得決定理論、通貨膨脹與失業、總合需求行為、貨幣政策、財政政策、供給面經濟學。	Freshman　required (3-3) This course covers economic behaviors, principles of decision-making, and methods of economic analysis. Subjects are divided into two parts: microeconomics and macroeconomics. The former includes consumer choice theory, producer's behaviors, market structures, factor markets, income distribution, market failure and government intervention, and public choice theory. The latter includes national income, theories of income determination, inflation and unemployment, aggregate demand, monetary policy, fiscal policy, and the supply side economics.
會計學 ACCOUNTING	經一　必修　(3 - 3) 本課程教學內容涵括基本會計觀念的介紹、會計循環處理程序、複式分錄記錄之運用、財務報表的編製、財報分析及相關的決策制定等。並配合實習課程，以加強初學者之會計操作處理能力。 本課程講授章節共有十個主題，內容包括：(1) 會計的基本觀念介紹、(2) 會計循環之完成、(3) 買賣業會計、(4) 內部控制及現金之處理、(5) 應收款項會計處理、(6)長期性資產會計處理、(7) 負債會計處理、(8) 公司會計、(9)財務報表編製、(10) 財報分析。	Freshman　required (3-3) This course includes the introduction of basic accounting concept, accounting cycle procedure, record of double entry and the utilization, prepare of financial statement.　It also provides the users of financial analysis and decision making and best practice by means of on-line train. This course includes 10 tops are (1) Why Accounting Matters, (2) Understanding and complete the accounting cycle process, (3) Accounting for Merchandisers, (4) Internal Control Systems and Cash, (5) Receivables Accounting, (6) Long-term Assets Accounting, (7) Accounting for Liabilities, (8) Corporate Accounting, (9) Prepared Financial Statements, (10) Analyzing Financial Statements.
個體經濟學 MICROECONOMICS	經二　必修 (3-3) 本科目主要藉經濟循環流通過程之二部門模式，探討供需與均衡、消費者行為、生產者行為、廠商與市場型態、生產因素市場、一般均衡及福利經濟學等理論。期使學生明瞭消費部門與生產部門間的經濟活動和彼此之間的相互關係，以及如何利用相對價格的功能解決經濟	Sophomore　required (3 - 3) Microeconomics is study of the circular flow of economic cycle by two sector model. It deals with the demand, supply and market equilibrium; consumer's behavior; producer's behavior; theory of firm and market structure; factor markets; general equilibrium theory and welfare economics. This course is designed to help students realize the economic activities of

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	問題。	the interaction between the consumers and producers and know how to solve the economic problems by the relative price.
總體經濟學 MACROECONOMICS	經三　必修 (3/3) 透過簡單的總體經濟模型觀察一個經濟體系的經濟活動，分析景氣循環的原因及其與經濟體系內一些重要的變數，如失業率、通貨膨脹率間之關連。主要的課題包括：國民所得，物價水準，失業，通貨膨脹，政府政策，國際貿易以及經濟成長等。	Sophomore　required (3-3) This course is to understand economic activies in an aggregate level of an economy, such as a nation, by establishing a macroeconomic model. The main topics include national product, price level, unemployment, inflation, economic policies, economics growth, and international trade.
統計學 STATISTICS	經二 必修　(3 - 3) 本科目旨在使學生瞭解在不同的目的及不同性質的資料下，如何吸收資料的精華，並根據機率理論作統計分析及推論。講授內容包括：(一)敘述統計；(二)機率、機率分配—統計推論的基礎；(三)推論統計—估計和檢定；(四)無母數分析；(五)變異數分析;（六）迴歸分析。	Sophomore　required　(3 - 3) This course equips students with ability to collect and analyze data. It teaches students to make inference about population by probability theory. The contents include: (1) Descriptive statistics; (2) Probability and probability distributions; (3) Statistical inference - estimation and hypothesis testing; (4) Nonparametric methods; (5) Analysis of variance;(6) Regression analysis.
經濟數學 MATHEMATICS FOR ECONOMICS	經二 選修 (2 - 2) 數學為分析經濟問題的重要工具，近代經濟理論的蓬勃發展得力於數理工具的運用。本課程旨在教導學生，如何以嚴謹而客觀的數理方法去分析與研究經濟問題，以增進對經濟問題的瞭解。主要講授內容為：基本概念、單變數微積分與最適化分析、線性代數、多變數微積分、多變數的最適化分析、有限制的最適化分析以及比較靜態分析。	Sophomore　Required　(2 - 2) Mathematics is an important analytical tool to help us understand and handle with economic problems. The development of modern economic theories relies heavily on this tool. The purpose of this course is to enhance students' ability to study economics by using a rigorously mathematical method. The topics covered in this course are Fundamentals, Univariate Calculus and Optimization, Linear Algebra, Calculus for Multivariate Functions, Optimization of Multivariate Functions, Constrained Optimization, and Comparative Static Analysis.
貨幣銀行學 MONEY AND BANKING	經三 必修 (3 - 3) 本課程介紹金融機構與金融市場的功能與運作、以及各種金融工具包含衍生性金融商品、貨幣需求、貨幣供給過程、貨幣政策工具、貨幣政策的執行、IS-LM 模型、總合供給與總合需求、貨幣與產出、貨幣政策傳遞機制、通貨膨脹原因與結果。	Junior required (3 - 3) This course introduces the functions and operations of financial institutions and markets, financial instruments including derivatives, demand for money, money supply process, monetary policy instruments, conduct of monetary policy, IS-LM model, aggregate supply and aggregate demand, money and output, channels for monetary policy, and causes and consequences of inflation.
財政學 PUBLIC FINANCE	經三　必修　(3-3) 本學科旨在探討在混合式經濟體系下公共部門之經濟學，內容所涵蓋之範圍不僅包括公共收入之籌集，而且涉及公共支出對資源配置、所得分配與經濟穩定之影響。對各項問題之探討同時兼顧實質面與貨幣面之衝擊，公司兩部門間之交互作用、剖析公共收支對民間部門之影響，若無公共部門之介入則私經濟部門又將如何運作?	Junior　required　(3-3) The discipline deals with the economics of the public sector as that sector operates in a mixed system. Its operation includes not only financing but bas broad bearing on the level and allocation of resource use, the distribution of income, and the level of economic activity. Although our subject matter is traditionally referred to as public finance, the book thus deals with the real as well as the financial aspects of the problem. The public sector operates in interaction with the private, both sectors enter the analysis. Not only do the effects of expenditure and fax policies depend upon the reaction of the private sector, but the

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		need for fiscal measures is determined by how the private sector would perform in their absence.
國際貿易 INTERNATIONAL TRADE	經三 必修 (3 - 0)或(0 - 3) 本課程擬討論國際貿易的重要理論與當前問題，我們將介紹經典的貿易理論，討論經濟成長與國際貿易關係，評估貿易政策的效果。此外，訓練學生如何運用這些國際貿易理論來分析現實國際貿易問題將是本課程的重點之一。	Junior required (3-30) or (0 - 3) This course mainly provides the most important theories and an up-to-date analytical framework on international trade theory. We will discuss traditional trade theory, relationship between economic growth and international trade, and effect of the trade policies. Moreover, the application of international trade theories in current events is also emphasized in this course.
國際金融 INTERNATIONAL FINANCE	經三 必修 (3 - 0)或(0 - 3) 本課程擬討論重要的國際金融理論與問題，我們將介紹國際收支、匯率與外匯市場、匯率的決定、開放的總體分析模型、最適通貨區、國際金融市場與工具、國際貨幣制度等問題。此外，訓練學生運用國際金融理論來分析現實社會的經濟問題將是本課程的重點之一。	Junior required (3-30) or (0 – 3) This course mainly provides the most important theories and an up-to-date analytical framework on international financial theory. We will introduce balance of payments, exchange rates and the foreign exchange market, exchange rates determination, open macroeconomic model, optimum currency area, international financial markets and instruments, and current international monetary arrangements. In addition, the application of international trade theories in current events is also emphasized in this course.
經濟書報導讀 INTRODUCTIONS TO ECONOMICS IDEAS AND NEWS	經一 選修 (2-0) 本課程希望幫助學生瞭解經濟學理論可以豐富的應用於實際生活中。內容包含：（一）經濟學相關網站或部落格，以經濟學觀點討論社會現象。（二）報章雜誌對世界經濟現況之報導。	Freshman elective (2 - 0) The purpose of this course is to demonstrate to students that economic thinking could be used to analyze a wide range of social phenomenon. Class materials include articles from the famous Becker-Posner Blog and worldwide economic news.
Python 基礎程式與經濟應用 BASIC PYTHON PROGRAMMING AND ECONOMIC APPLICATION	經一 選修 (2-0) 本課程透過 Python 程式語言培育學生具備程式設計的基礎能力。課程內容包含基本物件操作(如變數、矩陣與陣列)、命令(判斷式與迴圈)、資料結構(tuple、list 與 dictionary)、符號運算、繪圖等內容。此外，亦培育學生透過 Python 程式語言解決經濟與金融資料分析的問題。	Freshman elective (2 - 0) This course is designed to cultivate students with basic programming (Python programming language). The topics include basic objects (variable, matrix, and array), command (if, for, and while), data structure (tuple, list, and dictionary.), symbolic computation, plotting, etc. This course also teaches students to analyze the economic and finance data through the Python programming。
R 基礎程式與經濟應用 BASIC R PROGRAMMING AND ECONOMIC APPLICATION	經一 選修 (0-2) 本課程透過 R 程式語言培育學生具備程式設計的基礎能力。課程內容包含物件操作(如變數、矩陣、資料架框、清單)、流程控制、迴圈設計、繪圖、自訂函數、資料擷取與儲存等。此外，亦培育學生透過程式語言解決經濟資料分析的問題。	Freshman elective (0 - 2) This course is designed to cultivate students with basic programming (R programming language). The topics include operations of variable, matrix, data frame and list, loop, control structure, plotting, function design, data capture and storage, etc. This course also teaches students to analyze the economic data through the R programming。
企業管理 BUSINESS MANAGEMENT	經一 選修 (2 - 2) 企業管理以管理功能為課程主軸，另以企業功能為輔，期使修讀同學了解企業運作的原理以及企業管理的重要議題。管理功能講授內容包括計劃、組織、領導、控制等單元，企業功能講授內容則以人力資源、行銷、財務、資訊以及作	Freshman elective (2 - 2) The purpose of this course is to familiarize the students with basic modern management concepts and important issues of business operation. The topics introduced are (1) the evolution of management thought; (2) the management process include - planning, organizing, staffing, leading and

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	業管理等單元之概要理論為主，課程參酌相關實例及個案，使學習者得以瞭解理論運用於實務，建立管理實務之觀念。	controlling; (3) the future of management theory and challenge; (4) the business function which include human resources, marketing, financing and MIS.
投資學 INVESTMENT	經二　選修 (3 -0) 本課程目的在於幫助學生瞭解現代投資理論與其對投資管理的應用。內容涵蓋金融市場、資產評價與投資組合管理。除了介紹投資學的基本理論外，亦引導學生將理論應用於實務上。	Sophomore elective (3-0) This course provides a basic understanding of modern investment theory and its application to investment management. The topics cover financial market, asset valuation, and portfolio management. When students finish this course, they are expected to have a thorough understanding of theoretical issues and an ability to link theory to practice.
財務經濟學 FINANCIAL ECONOMICS	經二　選修 (0-3) 探討現代企業財務經理人(financial manager)所面臨的投資決策(investment decision)與融資決策(financing decision)課題，兼具理論與實務。除一般股份有限公司的財務行為外，本課程有一半以上的內容討論債券與股票的投資。本課程並強調資本市場行為與運作及企業經濟行為有關的內容。為使學生實際接觸外面財經世界，在開學後第二週，本課程將在電腦教室，介紹 TEJ 財經資料庫，讓學生進入資料庫，實際的抓取資料。爾後學期中，將針對不同主題，要求學生到資料庫抓取資料，進行資料分析的實作。另外，本課程也要求，學生上學期作財務投資(financial investments)的報告，下學期作實質投資(real investments)的報告。	Sophomore elective (0-3) The major topics of the course are the investment and financing decisions encountered by the chief financial officer in a modern corporation.
廠商決策理論與應用 DECISION MARKETING UNDER UNCERTAINTY MODEL AND CHOICE	經二　選修 (2/2) 希望可透過此一門課程讓同學們了解並學得「制訂決策」的重點與技巧，除此之外，更希望同學們學得團隊合作的精神與應有的正確態度與價值觀。此課程主要是欲探討「廠商決策的重點與技巧」，其內容大致為以下幾點： (1)　在現今不確定性高且又複雜的環境下，廠商該如何做出正確的經營管理決策呢？又該如何避免掉入錯誤決策的陷阱呢？ (2)　如何檢視「思考架構」呢？ (3)　「組織分工」的重要性 (4)　垂直與水平兩種思考模式該如何交互運用呢？ 在(1)與(2)中大致上是運用一些統計、經濟的基礎概念再加上幾篇實用的文章作為理論的架構，然後再試著將理論與實務作結合與應用。	Sophomore elective (2-2) By this course we hope students can learn and understand the important points and skills of 「how to make strategies」. Beside this, we hope students can learn more about the spirit of teamwork, and train the correct attitude and values in the learning process. This course is to discuss 「how to make strategies of companies」. Its content is roughly the following：(1)How do companies plan correct strategies of management in the environment of high uncertain and complex condition? How to avoid falling in traps of making wrong strategies?(2)How to review 「the structure of thought」?(3)The important concepts and principle of 「the division of organization management」(4)How to apply mutually with both vertical thought model and horizontal thought model? In the sections of （1）and（2）, we roughly use some base concepts of statistics and economics, and increase some practical articles to be the structure of theory, then we try to combine and apply with the theory and practical cases.
金融機構與市場 FINANCIAL INSTITUTIONS	經二　選修 (2 - 2) 本課程之主要內容為簡介金融機構功能	Sophomore elective (2 - 2) This course focuses on overview of main

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AND FINANCIAL MARKETS	及其風險管理。在金融機構功能方面，依序討論銀行業、保險業、證券業、投資銀行業、投信業等各種金融機構之業務內容及監理機制；在風險管理方面，則討論金融機構面臨之各項風險（利率風險、市場風險、信用風險、作業風險及流動性風險等）及管理風險之具體方法。	activities and risk management of financial institutions. Firstly, we will introduce the main products and services provided by financial institutions such as banks, insurance companies, securities firms, investment banks, mutual fund companies and finance companies. Secondly, we will discuss risks faced by these institutions, which are interest rate risk, market risk, credit risk, operational risk and liquidity risk. Finally, we will introduce some tools to measure and manage those risks effectively.
證券投資分析與實務 THE STOCK INVESTMENT AND THE PRACTICAL	經二 選修 （2-2） 教學目標:已修習過經濟學原理→修畢本課程『證券投資分析與實務』(實務為主、理論為輔)→瞭解證券投資工具(股票市場及債券市場為主)之意義、重要性、分析技巧及投資個案之實務→一方面有益同學未來證券投資相關工作之尋找、一方面有助個人投資理財之規劃。 教學方向: 股票投資分析實務方面：自基本面、政策面、資金面、市場面、產業面、個股面、技術面(所謂面面俱到)，去綜合探討股票市場。 債券投資分析實務方面：深入探討總經分析，以期準確預測利率走勢(因為債券投資成敗全在利率之研判)。	Sophomore elective (2-2) Teaching Target: People who have already studied the economics principle →Finish this curriculum, which is『The stock investment and the practical』(practical first, then the theory)→Well know the meaning, importance of the stock investment tool (stock market and bonds market at first), analyze the technique and invest the individual cases practiced →on one side it helps the related work in the future, on the other side it helps the programming of personal investment and finance. Pedagogy: <u>Stock investment</u> analysis is to probe into the stock market based on influence of fundamental aspect, political aspect, market aspect, industry aspect, stock aspect, and technical aspect. <u>Bond market</u> analysis, to go deep into macro economic analysis and forecast the interest rate in the future(the success of investment will all be depending on the direction of interest rate).
財經英文會話 BUSINESS CONVERSATION [for Economics Majors]	經二 選修 （2- 0） 這門課程的主要目的是在讓學生練習在一般商業場合中所使用的各種口頭會話及其型式。其中包括五個主要領域：社交、電話、會議、商業促銷以及談判。而這門課並不要求學生有特殊的商業知識，而是純粹要加強學生對於聽與說的技巧。而課程中將包括一個由 2~3 個學生一組的上台報告。	Sophomore elective (2-0) The purpose of the class is to let students practice using the types of English oral structures that are commonly used in business. The five key areas that will be covered are: Socializing, Telephoning, Meetings, Making Business Presentations, and Negotiating. No special knowledge of business terms or concepts is required as the course will focus on improving the students' speaking and listening skills. There will be one presentation that will be done in groups of 2 – 3 students.
財經英文閱讀 BUSINESS READING [for Economics Majors]	經二 選修 （0-2） 學生在課堂中將學習到一般使用於商業文章的字彙及其表示方式。學生再課堂中需研讀一些商業文章（如經濟學人、華爾街日報、The Financial Times 等）。而閱讀的主題本身將著重在一些有趣的商業及經濟議題如投資、實質資產市場、品牌、商業規範以及金融歷史等。課程計畫將包括針對一間公司的產業情況以及歷史等作出一個完整的報告以及參與一個線上的股票市場模擬遊戲等。	Students will learn English vocabulary and expressions as commonly used in the business press. Extensive reading of the business press [*The Economist, The Wall Street Journal, The Financial Times, etc.*] will be required of students. Readings will focus on topically interesting business and economic issues such as investments, the real estate market, branding, business ethics, financial history, etc. Projects / assignments may include following one company and its industry throughout the term and making a major report/presentation on it and participating in an on-line stock market game.
經濟與生活	經二 選修 (0-2)	Sophomore elective (0-2)

課程名稱	中文簡介	英文簡介
ECONOMICS AND LIVING	經濟系所開有關經濟學之課程大部分以理論(包括數學推導)為主；本課程把經濟理論與日常生活作更進一步連結，希望幫助同學們活出真正美好且有效率的生活。	This course tries to help students understand more deeply about the concepts of Economic theories and their applications in our daily life. Hopefully students may live a better and efficient life through this course.
金融證照研習 LEARNING IN FINANCIAL CERTIFICATES	經二 選修 (0-1) 本課程的目標是幫助學生瞭解各項金融證照的性質、有關聯的職業、及考試的準備，以便畢業前取得合適的證照。本課程是由具有金融證照訓練之專業的台灣金融研訓院講員授課。	Sophomore elective (0-1) The objective of the course is to assist the students in understanding the contents of various financial certificates, the prospect of their related occupations, and their test preparation. The lecturers of the course are from Taiwan Academy of Banking and Finance, a well-known and professional training center in Taiwan, providing necessary information and training programs for acquiring various financial certificates.
財務報表分析 FINANCIAL STATEMENT ANALYSIS	經二 選修 (2-0) 1.授課目標：為商學相關科系的學生建立財務報表的基本閱讀能力，進而有興趣自修培養財務視野的分析規劃能力，作為爾後提升職涯競爭力的基礎。 2.授課方式：以台灣證券交易所之上市、上櫃、及興櫃公司之財務報表進行理論與實務兼顧的案例分析。 3.授課內容：包括財務報表分析簡介、財務報告與分析、融資活動分析、投資活動分析、運活動分析、現金流量分析、資本投資報酬與獲利性分析、前景分析、信用分析、股東權益分析與企業評價。	Sophomore elective (2-0) 1.The purpose of this course for students in Business college is: (1)to know the knowledge map of Financial Statement Analysis; (2) to know the practices of Financial Statement Analysis; (3)to use the knowledge of Financial Statement Analysis in discovering, analyzing andstudying the issues for Business. 2.The contents of this course include the following:(1) Financial Reporting and Analysis. (2) Analyzing Financing Activities. (3) AnalyzingInvesting Activities. (4) Analyzing Operating Activities. (5) Return on Invested Capital andProfitability Analysis. (6) Prospective Analysis. (7) Credit Analysis. (8) Equity Analysis and Valuation.
Excel VBA 實用案例分析 EXCEL VBA WITH CASE STUDY	經二 選修 (0-2) Excel VBA 不僅可以處裡資料運算、外部資料庫的匯入與匯出、網路資料擷取與自動化報表的產生等等。本課程上半部將介紹基本的操作介面、資料型態、流程控制與簡單的錯誤處裡，下半部將採用數個有趣的完整案例，藉由產生的樂趣中讓學生學習獨立完成撰寫 VBA 程式的能力。	Sophomore elective (0-2) This course guides students how to program VBA to complete interesting tasks. The first part of this course introduces interface, data type, for-loop, and error handling, which are followed by some practically interesting examples. The purpose of this course is to equip students with basic VBA programming ability.
數理經濟學 MATHEMATICAL ECONOMICS	經三 選修 (2 - 2) 本科目旨在訓練學生進階的數學分析經濟學的能力，重點以經濟動態分析方法為主。講授內容包括積分與經濟的應用、線性一階差分方程式、非線性一階差分方程式、線性二階差分方程式、線性一階微分方程式、非線性一階微分方程式、線性二階微分方程式、差分與微分的聯立方程式、最適控制理論。	Junior Elective (2 - 2) The objective of this course is to enhance the students' ability to analyze economics using advanced mathematical method. The topics to be covered in the course are Integration and Economics Applications, Linear, First-Order Difference Equations, Nonlinear First-Order Difference Equations, Linear Second-Order Difference Equations, Linear First-Order Differential Equations, Nonlinear First-Order Differential Equations, Linear Second-Order Differential Equations, Simultaneous Systems of Differential and Difference Equations, and Optimal Control Theory.
計量經濟學	經三 選修 (2 - 2)	Junior elective (2-2)

課程名稱	中文簡介	英文簡介
ECONOMETRICS	本科目旨在介紹計量經濟理論及其應用，使學生了解如何利用統計學的迴歸分析從事經濟理論的實證分析。講授內容包括:(1)統計相關理論的複習 (2)單一方程式模型之設定、估計及推論，並討論模型各樣基本假設不能滿足時的解決方法；(3)如何運用電子計算機來作各種估計和預測。	The objective of this course is to introduce the basic econometric theory and its applications so that the students know how to analyze economic problems with regression analysis. It'll cover (1) a review of some relevant statistics (2) the specification, estimation and prediction of single equation models, and the solutions to violations of some basic assumptions. (3) application of software package to make estimations and predictions of econometric models.
區域經濟學 REGIONAL ECONOMICS	經三 選修 (2 -2) 區域經濟學乃把「空間」視為一個向度去重新檢視經濟議題的科目，探討決定經濟活動在空間分布的因素及其改變所產生的影響。本課程乃區域經濟學的入門。授課內容包括區位理論、聚集經濟、空間定價、都市體系、區域成長、地租、都市土地使用、土地使用管制、住宅問題、都市交通問題等。	Junior Elective (2 -2) Regional Economics is to treat “space” as a dimension to re-examine the issues in economics. This course is to identify the factors governing the distribution of economic activities over space and to explore the consequences when these factors changes. This course is an introduction to regional economics, exploring the distribution of economic activities over space. The topics to be covered in the course are Location Theory, Agglomeration Economies, Spatial Pricing Theory, Urban Systems, Regional Growth, Urban Land Use, Land Use Control, Housing Issues, and Urban Transportation Problems.
賽局理論與應用(A) THE THEORIES AND APPLICATION OF GAME THEORY(A)	經三 選修 (3-0) 賽局理論分析決策者在互動的環境下如何做出最適決策。本課程介紹賽局論的基礎理論，包含：策略式賽局定義，最佳反應及納許均衡及其應用，混合策略。不完全資訊靜態賽局之貝氏納許均衡及其應用，拍賣與廠商私有資訊。	Junior elective (3-0) Game theory analyzes equilibrium behavior in an environment with interaction. This course introduces the basic concepts of game theory, including the following topics: definition of strategic form game, best response, Nash equilibrium and it's application, mixed strategy. We also cover static incomplete information game, Bayesian Nash equilibrium and it's application on auction and firm behavior.
賽局理論與應用(B) THE THEORIES AND APPLICATION OF GAME THEORY(B)	經三 選修 (0-3) 本課程介紹有時間先後順序之詳盡式賽局之定義，均衡概念及應用。涵蓋以下內容：完全資訊詳盡賽局之子賽局完美奈許均衡，重複賽局，動態廠商賽局。不完全資訊動態賽局則包含傳訊賽局與代理問題兩大主題。	Junior elective (0-3) This course introduces the basic concept of extensive form game, it's definition, equilibrium concepts and application. The following materials are covered: backward induction and subgame perfect Nash equilibrium, repeated game, dynamic firm behavior, and signaling game and principal agent problem. The last two are incomplete information dynamic game involving belief updating.
消費者行為研究 CONSUMER'S BEHAVIOR STUDY	經三 選修 (2 - 2) 希望透過此一門課程可讓同學們學習，如何藉著了解消費者心目中的認知與偏好，進而擬訂廠商的行銷策略；並藉著分析現今消費者行為實際個案，讓同學們不僅可以活用理論且亦能夠了解消費行為與市場的動向，訓練同學們從外而內的思考方式。除此之外，更希望同學們能學得團隊合作的精神與應有的正確態度與價值觀。其內容大致如下：（一）廠商實際個案市場定位分析（二）消費者行為類型分析（三）產品組合分析（四）	Junior elective (2 - 2) By this course we hope students can learn how to know the sense and the preference of consumers in mind, then decide the company's marketing strategy further. By analyzing the practical case of consumer's behavior, students not only apply theories in the practical case but also know more about the consumer's behavior and the trend of market. To train the students how to use the thinking method from outside into inside. Beside this, we hope students can learn more about the spirit of teamwork, and train the correct attitude and values in the learning process. Its content is roughly the

課程名稱	中文簡介	英文簡介
	行銷研究多變量分析（五）市場機會缺口分析。	following： 1.Analysis Market Position by Manufacturer's Practical Case 2.Analysis the Perception and Preference by Customers' Behavior Model 3.Analysis Products Mix by BCG Model 4.Marketing Research by Multi-Variation Analysis Analysis the Gap by Marketing Opportunity Model
期貨與選擇權 FUTURES AND OPTIONS	經三 選修 (2-2) 本課程接續「財務經濟學」課程，為有興趣於財務、投資理論的同學，提供專題式與較深入的研討，上課主要內容為選擇權與期貨。本課程將探討選擇權與期貨的投資策略，並且介紹選擇權的評價模型。本課程並將利用電腦軟體與 Excel 的數量分析方法作為輔助教學工具。	Junior elective (2 - 2) The course following Financial Economics provided in the previous semester is to investigate the issues on futures and options markets in the way as introducing preliminary financial engineering. It will require practical exercises, using financial databases and some software.
理財分析與實務 THE THEORY AND PRACTICE OF FINANCIAL PLANNING	經三 選修 (2 - 2) 隨著金融商品的創新與多元化發展，近年來理財規劃服務已成為金融業的重要業務項目，因此擁有足夠理財知識與規劃能力蔚為金融市場潮流。為讓學生能瞭解理財規劃的基本架構與實務運用，並通過台灣金融研訓院的理財規劃人員考試，本課程涵蓋理財工具運用及理財規劃實務。內容有「金融機構的功能與規範」、「債券與股票投資」、「共同基金」、「衍生性金融商品」、「保險與信託」、「理財規劃流程」、「個人或家庭財務報表的編製與分析」、「現金流量管理」、「租屋、購屋與換屋規劃」、「子女養育與教育金規劃」、「退休規劃」、「投資策略運用」及「全方位理財規劃」。此外，為使學生更進一步瞭解實務操作，本課程也提供學生到企業參訪的機會。	Junior elective (2 - 2) With the innovation and diversification of financial products, personal financial planning becomes one of the most important businesses in financial industry. College graduates equipped with adequate financial planning knowledge and abilities will gain lots of advantages. The purpose of this course is to introduce the framework and practice in financial planning. It also assists students to get the license of Financial Planner awarded by Taiwan Academy of Banking and Finance. This course consists of financial tools application and financial planning practice. It includes the following topics: 1. The function and regulation of financial institutions 2. The investment of bonds and stocks 3. Mutual fund 4. Financial derivatives 5. Insurance and trust 6. The flowchart of financial planning 7. The preparation and analysis of family financial statement 8. The management of cash flow 9. Housing financial planning 10. Children rearing financial planning 11. Retirement financial planning 12. The strategy of investment 13. Comprehensive financial planning This course also provides the opportunities for financial corporation visits.
財經新聞製作與分析 ECONOMIC NEWS EDITING & ANALYSIS	經三 選修 (0 - 2) 授課目標：使學生了解財經專業報紙的組織與運作模式，財經新聞記者的待遇、升遷與生涯規劃，講授財經新聞報導分析與評論，所需之專業知識。增加經濟系學生的職場競爭力。 授課內容：1.報社的組織運作。2.財經報	Junior elective (0 - 2) 1. Purpose of Instruction: To understand the operations of professional financial newspaper’s office; to know the financial journalist’s salary, promotion, and career’s plan. Figure out newspaper report’s analysis and comments; improving the business students’ competitive advantage.

課程名稱	中文簡介	英文簡介
	紙的經營管理。3.行情表的製作與解讀。4.新聞發展趨勢與研判。5.專欄與社論寫作。6.財經記者的生涯規劃。	2. Contents: (1) The progress and procedure of newspaper office. (2) Financial newspaper's operation and management. (3) The components and explanations of market index and quotation. (4) The trends of news' development and judgments. (5) The writings of feature and editorial. (6) Financial pressman's career plan.
基礎金融商品訂價 INTRODUCTION TO QUANTITATIVE FINANCE	經三 選修 (2-2) 本課程將介紹當代的金融產品及其定價。學生能逐漸學習到哪些是權證和期貨商品，以及如何利用它們來獲利，並如何能夠找出其「正確」的價格。為了達成以上目的，學生們將慢慢地進入於機率的世界中，因為金融產品的定價需要利用其未來的價格，而此價格是不確定的，因此事先需要作出簡單的機率假設。所有相關的概念將會逐步使用許多範例加以介紹，並將利用 Excel 表格以真實的數據予以表達。若要學習本課程，熟悉基本的統計和微積分是必要的，但不強制需有預先的財務相關知識。講義將會在課堂上提供，本課程無指定教科書。	Junior Elective(2-2) This is an introduction to the modern world of financial products and their pricing. Students will learn gradually what are products such as options and futures, how can one use them to make money and how one can find their "right" price. To do this, students will be slowly exposed to the world of probability since pricing a financial product requires knowledge of its future price that no one has, hence simple probabilistic assumptions need to be made. All relevant concepts will be gradually introduced with many examples and there will be illustrations with real data using excel spreadsheets. Some familiarity with basic statistics and calculus is required. Knowledge of finance is not necessary. Lecture notes will be provided at the class so there is no need for a textbook.
財務金融與 R 語言 R LANGUAGE AND FINANCE	經三 選修 (0-3) 學生將學習基本的金融概念，如股票市場如何運作以及現有的不同金融產品。接下來我們將討論財務數據和 GARCH 等基本模型的統計分析以及用於衍生定價的連續財務模型。隨機微積分等數學工具將被引入，真實數據（來自網站）將藉助於免費軟件 R 來說明所有引入的技術概念。	Junior Elective (0-3) Students will learn basic financial concepts like how the stock market works and the different financial products in existence. Then we will discuss the statistical analysis of financial data and basic models like GARCH as well as continuous financial models used for derivative pricing. Mathematical tools like stochastic calculus will be introduced and real data (from websites) will illustrate all the introduced technical concepts with the help of the free software R. If time permits, discussion of financial optimization will conclude this course.
期貨與選擇權商品實務與應用 THE PRACTICE AND APPLICATION OF FUTURES AND OPTIONS	經三 選修 (0-1) 本課程著重在期貨選擇權市場與商品實務介紹，課程設計如下： (1)國內期貨商品簡介 (2)國內選擇權商品簡介 (3)選擇權交易策略(進階) (4)國外期貨商品簡介 (5)期中報告(模擬交易競賽) (6)大陸期貨市場簡介 (7)程式交易與管理期貨(CTA)介紹 (8)期貨選擇權風險控管案例 (9)期末報告	Junior Elective (0-1) The main purpose of this course is understanding real world of Futures and options market. The following are the sections of this course: (1) Introduction of Futures products listed in Taiwan Futures Exchange. (2) Introduction of Options products listed in Taiwan Futures Exchange. (3) Introduction of advanced Options trading strategies. (4) Introduction of foreign Futures and Options. (5) Mid-term report. (Simulation Trading Contest) (6) Introduction of Futures and Options in China (7) Introduction of program trading and

課程名稱	中文簡介	英文簡介
		Managed Futures Business. (8) Case study-The risk management of Futures and Option trading. (9) Final report
債券投資分析與實務 ANALYSIS AND PRACTICES OF INVESTMENT IN FIXED-INCOME SECURITIES	經三 選修 (2-2) 1. 已修習過經濟學原理→修完本課程『債券投資分析與實務』(實務為主、理論為輔)→瞭解債券投資工具之意義、重要性、及分析技巧→一方面有益同學未來債券投資相關工作之尋找、一方面有助個人投資理財之規劃。 2. 債券投資分析實務：深入探討總經分析，以期準確預測利率走勢(因為債券投資之成敗全在利率之預測研判)。	Junior Elective (2-2) 1. Finished "Principles of Economics" class→Complete this class "Analysis and practices of investment in fixed-income securities" (Focus on actual practices, with theory as support) → Learning the methods, importance, and analysis of bond market instruments) →This will help students whom enrolled in the course on future career planning in related fields, also strengthen student's knowledge in personal financial investments. 2. Analysis and practices of Investment in fixed-income securities: to look into bond market from global economics and predict the direction of interest rates (Bond market investment relies solely on the trend of interest rates).
金融科技概論 INTRODUCTION TO FINANCIAL TECHNOLOGY	經三 選修 (3-0) 本課程主要目標是讓學生認識有關金融科技的相關議題。課程內容包含金融科技的歷史與發展、社群媒體、P2P 借貸、群眾募資、第三方支付、虛擬貨幣與程式交易等議題。透過此課程的學習，學生將具備金融科技的基礎知識。	Junior Elective (3-0) The course aims to give an insight into financial technology. The contents cover history and development of financial technology, social media, P2P lending, crowd funding, third-party payment, virtual money and program trading. After the course, students will have a fundamental knowledge of financial technology.
大數據計量經濟學 BIG DATA ECONOMETRICS	經三 選修 (0-3) 本課程目標在培育學生具備大數據計量分析的能力。課程內容包含網路資料擷取、數據清理、分類分析、分群分析、關聯分析等內容。除了介紹分析的方法外，也強調以實際經濟與財務資料進行實證分析，尤其強調 R 語言的應用，以期提高學生之經濟與財務實證的分析能力。	Junior Elective (0-3) This course is designed to cultivate students with big data econometrics. The contents include web crawler, data clearing, classification analysis, cluster analysis, and association analysis. In addition to introduction of big data econometrics methodology, this course stresses applications of economic and finance data on big data analysis, in particular R language, in order to enhance students' empirical ability.
人工智慧與金融科技 ARTIFICIAL INTELLIGENCE AND FINANCIAL TECHNOLOGY	經三 選修 (0-3) 隨著網絡技術的快速發展，研究現代經濟學的同學們除了需具備有關金融與經濟的理論基礎外，應該嘗試跨越科技去學習有關電腦的知識，以人工智慧方法分析金融與經濟資料，這也是我們學校未來所強調的主流趨勢。本課程除探討人工智慧的方法外，將配合金融科技的發展趨勢，強化金融科技方面的應用，使同學們都能以學以致用，本課程包括基本的電腦編程如 Python、R 語言外，並將以實例說明如何利用人工智慧的方法來解決一些經濟與金融科技的問題，希望可以培養出一些「跨界人才」，成為炙手可熱的企業新寵。	Junior Elective (0-3) With the rapid development of network technology, in addition to learn the theoretical knowledge of economics and finance, all students who studying modern economics should try to learn computer-related knowledge across science and technology and analyze financial and economic information with artificial intelligence. It is also the mainstream trend that our school will emphasize in the future. In addition to exploring methods of artificial intelligence, this course will complement the development trend of financial technology and strengthen its applications so that students can apply what they have learned. This course includes basic computer programming such as Python and R language, and it will illustrate how to use artificial intelligence to solve some economic

課程名稱	中文簡介	英文簡介
		and financial technology problems. It is hoped that some "cross-border talents" can be cultivated in this course and will become the new darling of hot companies in the future.
數理統計學 MATHEMATICAL STATISTICS	經三 選修 (3-0) 以機率論為基礎，了解常用分佈的理論特性，進而瞭解何謂點估計與區間估計，接著進入統計學方法最廣泛使用的假設檢定與線性回歸方法。本課程將以理論推導為主軸，在此課程同學們將有機會認識到統計學的嚴謹邏輯之基礎。	Junior Elective (3-0) In this course, we introduce the theorems about common distributions, sampling distributions, point estimations, interval estimations, hypothesis tests, and linear regressions. We focus on the mathematical inferences to realize the theoretical fundamentals of statistics and how statistics can play an important role in the area of data analysis.
財務風險管理 FINANCIAL RISK MANAGEMENT	經三 選修 (0-3) 本課程主要目標是讓學生了解如何去測量、預測、進而管理市場風險。我們將專注於利用量化方式來研究市場風險。本課程將建構在投資學的基礎上，針對不同計量方法進一步的了解風險為何以及如何管理風險。除了概念的解說，也會有理論上的推導，更重要的是，我們將會搭配程式語言對實際資料的進行分析，期許同學們在修習此課程後能具備操作基礎風險管理方法的即戰力。	Junior Elective (0-3) The main objective in this course is understand how to measure, forecast, and manage market risks. We focus on the study of market risk from a quantitative point of view. After learning this course, we expect that participants will be familiar to econometrics and basic programming skills to manage portfolio or market risks with real data.
機器學習導論 INTRODUCTION TO MACHINE LEARNING WITH R	經三 選修 (2-0) 1. 介紹何謂機器學習 2. 利用 R 處理資料 3. 利用近鄰演算法實作基本分類問題 4. 利用樸素貝葉斯實作分類問題 5. 使用決策樹處理分類問題 6. 迴歸方法 (線性迴歸、嶺迴歸、Lasso 迴歸) 7. 神經網絡與支援向量機 8. 其他方法 (梯度提升法、k-means 分群法、隨機森林)	Junior Elective (2-0) 1. Introducing Machine Learning 2. Managing and Understanding Data with R 3. Basic Classification Using Nearest Neighbors 4. Basic Classification Using Naive Bayes 5. Classification Using Decision Trees and Rules 6. Regression Methods (Linear regression, Ridge Regression, Lasso Regression) 7. Neural Networks and Support Vector Machines 8. Further Topics (Boosting, k-means clustering, Random forests).
行為經濟學 BEHAVIORAL ECONOMICS	經三 選修 (2-0) 行為經濟學是一門結合心理學洞見與經濟學模型分析的學科，這門課的目的在於提供行為經濟學中主要研究領域的基礎知識。在這門課中我們將探討: (1)傳統經濟學的侷限，(2)行為經濟學如何納入心理學洞見捕捉人們的行為，以及(3)模型的應用。	Junior Elective (2-0) The aim of this course is to provide a grounding in the main areas of study within behavioral economics, which incorporates insights from psychology into economic models and analyses. In this course, we will illustrate: (1) the limitations of standard economic models, (2) the models that have been developed to capture the behaviors, and (3) applications of these models.
時間序列分析 TIME SERIES ANALYSIS	經三 選修 (0-3) 在這門課程中，我們將介紹基本時間序列方法，其中包含了 AR 模型、ARMA 模型、ADF 檢定、單根檢定、VAR 模型與 GARCH 波動率模型。除了介紹模型理論概念，也會帶領同學利用實際資料進行分析並給予經濟解釋。讓同學能學習到經濟領域中的資料分析技巧。	Junior Elective (0-3) In this course, we introduce the basic method of time series analysis including AR model, ARMA model, ADF test, unit-root test, VAR model and GARCH model for volatility forecasting. Except for the theoretical concepts, it would lead students to provide some economic explanations for the historical market data. Overall, we hope that it can provides the technical skill for data analysis in the economics.
國際政治經濟學	經四 選修 (2 - 2)	Senior elective (2 - 2)

課程名稱	中文簡介	英文簡介
INTERNATIONAL POLITICAL ECONOMICS	本科目旨在探討國際經濟與國際政治之互動，涵蓋項目包括:國際政治經濟體系、國際政治經濟學之研究取徑、援外政策、經濟制裁、外人投資、智慧財產權、貿易政策之決定理論、國際合作。	This course is aimed at the exploration on the interactions between international economy and international politics. Subjects covered include system of international political economy, research approaches to international political economy, foreign aid, economic sanction, foreign investment, intellectual property rights, trade policies, and international cooperation.
產業經濟學 INDUSTRIAL ECONOMICS (Undergraduate)	經四 選修 (2 - 2) 產業經濟學下學期的課程重點在於賽局理論，利用賽局理論的觀點探討廠商間的競爭關係。 我們所熟知的廠商競爭策略有數量競爭、價格競爭以及非價格競爭。廠商之間的非價格競爭包括：廣告、研發以及專利權等，上述的議題我們透過 Cournot 模型、Bertrand 模型以及 Hotelling 模型加以介紹。廠商間除了競爭的議題外，尚有水平整合與垂直整合的議題。目前台灣的銀行業正在整合的工作，其整合屬於水平整合，整合後的效果為何？我們可以由產業經濟理論洞燭先機。 總之，本課程除產業經濟理論的介紹外，更希望將理論與實務結合。	Senior elective (2 - 2) During second semester, we put a key point on game theory in this course (Industrial Economics). We discuss a competitive relationship among firms by game theory. The firms' competitive strategies have quantity competition, price competition and non-price competition. The non-price competition involves advertisements, R&D and patents, etc. We use Cournot model, Bertrand model and Hotelling model to introduce about mentioned issues. Besides a competitive issue, we will also discuss the issues of horizontal merger and vertical merger. The bank industry in Taiwan is engaged in a job of merger. It belongs to a horizontal merger. We are interested that what the effect is after merger? We may get some viewpoints using the industrial economics theory. To sum up, besides the industrial economics theory involves in this course, we also hope that the theory and the practice could be combined.
貨幣理論與政策 MONETARY THEORY AND POLICY	經四 選修 (2 -2) 1.貨幣理論與政策之簡介 2.古典學派與凱因斯學派之比較 3.各種貨幣需求理論之分析 4.各種貨幣供給理論之分析 5.凱因斯學派的改革論點 6.凱因斯一般理論的貨幣理論	Senior elective (2 - 2) 1. An Introduction to Monetary Theory and Policy. 2. The Static Classical and Keynesian Models. 3. The Theories of Demand for Money. 4. The Theories of Supply for Money. 5. The Keynesian Revolutions. 6. The Keynes' General Theory as Monetary Theory
勞動經濟學 LABOR ECONOMICS	經四 選修 (2 -2) 本課程著重理論與實務的討論，先回顧勞動市場的現象，再試圖以理論來解釋。包含的主題有勞動供給、勞動需求、勞動均衡、補償薪資差異、人力資本投資、勞動力遷徙、勞動市場歧視與工作動機。	Senior elective (2 - 2) This course reviews stylized facts in labor markets and tries to use theories to explain these facts. Topics discussed include labor supply, labor demand, labor market equilibrium, wage differential, human capital and investment, labor mobility, labor market discrimination, and work incentives.
管理經濟學 MANAGERIAL ECONOMICS	經四 選修 (2 - 2) 本科目主要在探討如何將個體經濟理論應用在消費者行為分析和企業經營決策上，結合經濟理論及統計計量的分析，探討如何有效解決企業面對的問題，幫助學生熟悉經濟概念並靈活的運用在不同產業結構下廠商的決策分析。	Senior elective (2 - 2) Managerial Economics brings together topics in microeconomics that can be applied to business decision making in various market structures. The objective of Managerial Economics is to help students understand and predict the economic forces shaping real-world business decisions and develop overall analytical skills of student.
經濟論壇(A)(B) LECTURE ON ECONOMICS(A)(B)	經四 選修 (1-0)(0-1) 本課程擬邀請產官學界的經濟相關專家進行專題演講，分享他們在專業領域上	Senior Elective (1-0)(0-1) 1. This course intends to invite experts to give a speech. 2. This course aims to make students

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	的經驗，藉由面對面的溝通，讓學生瞭解實際經濟社會的運作模式。	understand the theories of economic and its practice in the real word.
校外實習(一)(二)(三) INTERNSHIP 1 INTERNSHIP 2 INTERNSHIP 3	經四　選修 (0 - 3) (0 - 3) (0 - 3) 本課程透過與不同金融機構的合作，讓學生得以有機會將自己所學之專業知識應用於職場，探索自己的職涯興趣，熟悉職場倫理。在畢業前提供學生與職場接軌的機會，縮短學生畢業後職涯探索時程。	Senior elective (0 - 3) (0 - 3) (0 - 3) This course works with diverse financial institutions and, accordingly, brings opportunities to students to apply specialized knowledge they have learned to workplaces, to explore their own career interests, and to get familiar with employment ethics. Furthermore, it also urges students to get on track with labor market earlier and shortens the duration of job seeking after graduation.
貨幣金融專題討論(A)(B) TOPICS ON MONEY AND FINANCE(A) (B)	經四　選修 (1 - 0) (0 - 1) 本課程擬以專題演講的方式，向已具備貨幣銀行及國際金融基本知識的大四學生(及碩士班學生)，講解、討論台灣、中國大陸與國際之金融發展、貨幣與外匯政策之演變、金融危機，以及科技金融之發展等近一、二十年與貨幣金融相關的實務性講題。本課程預定每學期討論 8 或 9 個議題(原則每次上課討論 1 個議題)，其中大部分講題將邀請校內外學者專家到課上講授。	Senior elective (1 - 0) (0 - 1) This seminar course will explain to and discuss with the students, who have basic knowledge on monetary theory and international finance, the financial development of Taiwan and China, the major issues and changes in the monetary and international finance area, and the Fintech development, which have occurred in the past 2 decades. This course will cover 8 or 9 topics (one topic each time). Some of the topics will be addressed by invited scholars or specialists.
健康經濟學 HEALTH ECONOMICS	經四　選修 (3 - 0) 本課程將介紹經濟概念用於分析健康醫療產業。內容包含目前健康經濟體的表現；個人對健康、醫療服務及醫療保險需求與生產上的特性；成本效益分析；醫療保險所產生的逆向選擇與道德風險以及政府政策的影響。	Senior elective (3 - 0) This course provides an introduction to economic concepts and their use in analyses of the health care sector. The concepts developed in class and through readings will be applied to assess the efficiency with which health care resources are used and the equity with which health care is distributed. We will explore in a variety of contexts, including the performance of the “health care economy;” the demand for and production of "good health;" the demand for health care services; the costs and benefits of specific health care resource use; decisions to obtain health insurance; and the role of government in the health care sector.
機器學習與 Python MACHINE LEARNING WITH PYTHON	經四　選修 (2 - 0) 本課程將介紹機器學習的基本概念。內容包含監督學習(Supervised learning)，非監督學習(Unsupervised learning)，使用上的問題與挑戰以及有效的運用 Python 進行機器學習。	Senior elective (2 - 0) This course provides a broad introduction to machine learning. Topics include: (i) Introduction to Machine Learning. (ii) Supervised learning (parametric/non-parametric algorithms, support vector machines, kernels, neural networks). (iii) Unsupervised learning (clustering, dimensionality reduction, recommender systems, deep learning). (iv) Best practices in machine learning (bias/variance theory; innovation process in machine learning and AI). (v) Applications of Machine Learning with Python.
量化交易 QUANTITATIVE TRADING	經四　選修 (0 - 2) 量化交易是以投資學、統計學、計量經濟學為基礎，輔以電腦程式來進行證券交易。透過證券資料的特性與數量模型，期待學生能驗證資料的規律和制定策略，並嚴格執行已制定的策略進行投資，以求獲得可以持續與穩定的超額回	Senior elective (0 - 2) Quantitative trading is based on investment, statistics, and econometrics, supplemented by computer programs for securities trading. Through the characteristics and quantitative models of securities data, students are expected to verify the laws of the data and formulate strategies, and strictly implement these

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	報。	strategies for obtaining sustainable and stable excess returns.
海外經濟研究專題 GLOBAL ECONOMIC STUDY	經四 選修 (0-3) (與碩士班合開) 本課程以訓練學生具備國際經濟知識，並提供海外學習活動經驗為目標。本課程由三部分之學習活動所組成。 1.海外活動行前之教學。此部分課程著重訓練學生參於海外活動時所應具備之基礎能力。 2.海外實地學習活動。此部分課程將帶領學生至海外進行相關之國際經濟學習研究活動。 3.海外活動之心得與實證討論。	Senior Elective (0-3) The course aims to equip students with basic economic knowledge of other regions of the world, and provides an overseas learning experience for them. The course is composed of three parts: 1.A pre-trip preparation course. 2.A short-term overseas study program. 3.A result report after participating in the overseas study program.
亞洲經濟研究 ASIAN ECONOMIC STUDY	經四 選修 (0-3) (與碩士班合開) 本課程以訓練學生具備國際經濟知識，並提供海外學習活動經驗為目標。本課程由三部分之學習活動所組成。 1.海外活動行前之教學。此部分課程著重訓練學生參於海外活動時所應具備之基礎能力。 2.海外實地學習活動。此部分課程將帶領學生至海外進行相關之國際經濟學習研究活動。 3.海外活動之心得與實證討論。	Senior Elective (0-3) The course aims to equip students with basic economic knowledge of Asian regions, and provides an overseas learning experience for them. The course is composed of three parts: 1. A pre-trip preparation course. 2. A short-term overseas study program. 3. A result report after participating in the overseas study program.
全球化、經濟整合與國際貿易 GLOBALIZATION, ECONOMIC INTEGRATION, AND INTERNATIONAL TRADE	經四 選修 (1-0)(與碩士班合開) 在全球化的浪潮中，產品的貿易、產業的國際分工，以及跨國間的經濟整合， 是近二十年來探討貿易自由化及產業全球化最被關注的議題。尤其全球性之貿易組織（WTO）以及區域性之貿易組織，如歐盟（EU），北美自由貿易協定（NAFTA）， 及東南亞國協（ASEAN）等之形成，讓生產因素之移動(如人才、資金、研發、中間財）以及廠商之全球佈局呈現從未有的結構與重整。本課程將從「一般均衡分析」之理論模型出發，探討有關產品貿易、生產因素移動、廠商之跨國佈局、群聚效應，以及福利水準之變化等與貿易自由化密切相關之各項議題。	Senior Elective (1-0) In the last 20 years, under the trend of globalization, the trade of goods, the specialization on industry, and the economic integration between countries or regions are the important issues in company with the liberalization of world trade. Especially, the establish of the word trade organization (WTO) and the regional trading group (for example EU, NAFTA, ASEAN etc.) will not only reduce the powers of national governments, but also increase the mobility of production factors (labors, capital, R&D, intermediate good etc.), and also induce the firms to relocate their plants and headquarter. Based on the theoretical model with “the general equilibrium analysis” approach, this course would study and examine some concerning and interesting issues such as the influence of trade liberalization on the international trade of goods, the mobility of production inputs, the movement of firms, the agglomeration of industry, the economic integration, and the inequality of welfare between countries.
新興市場產業發展專題 ISSUES ON INDUSTRIAL DEVELOPMENT IN EMERGING MARKETS	經四 選修 (0-1)(與碩士班合開) 新興經濟體在世界經濟中的地位日形重要，而其產業結構也歷經重大改變。對資源貧瘠新興國家而言，典型的發展步驟是從消費品的進口替代開始，到此類產品的出口，到此類產品上游原料和零組件的進口替代及出口擴張。在此過程中，國際競爭激烈，最後能留在供應鍊上，或創造出本身價值鍊者，才能在經	Senior Elective (0-1) Emerging economies now occupy an ever larger share of the world economy, and have undergone important changes in its structure of industries. For resource-poor emerging countries, a typical process of development begins with import substitution (IS) of consumer goods, then moves on to the export of such goods, and finally to the IS and export of intermediate materials or components. During the process, there is intensive

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	濟上存活。本課程將探討這個過程，並研析未來的可能發展。	international competition. Only those who managed to stay on the supply chain, or could create their own value chains could survive. This course will investigate the process and analyze what might happen in the future.
管理經濟專題 TOPICS IN MANAGERIAL ECONOMICS	經四　選修 (0 - 2)(與碩士班合開) 本課程從介紹管理控制比模型開始，再講述生產力，規模經濟，中小企業，內生技術進步，技術移轉與擴散，創新，以及廠商的訂價行為。教材多為個人過去發表的論文及產業組織教科書。	Senior elective (0 - 2) This course differs from other general Managerial Economics courses in two ways. First, it will start from presenting a managerial control ratio model that can be applied to analyze any real company. Then it will cover the areas in productivity, economies of scale, small-and-medium sized enterprises, endogenous technical progress, technology transfer and diffusion, innovation, and oligopoly pricing. None of these topics are adequately discussed, or even mentioned in existing ME textbooks. Second, the teaching materials are all from the lecture’s publications except the last two topics.
投資學專題 SEMINAR IN THE INVESTMENT	經四　選修 (0 - 2)(與碩士班合開) 本課程目的在於幫助學生瞭解現代投資理論與其對投資管理的應用。內容涵蓋投資組合與衍生性金融商品。除了介紹基本理論外，亦引導學生將理論應用於實務上。	Senior elective (0 - 2) This course provides a basic understanding of modern investment theory and its application to investment management. The topics cover portfolio managements and financial derivatives. When students finish this course, they are expected to have a thorough understanding of theoretical issues and an ability to link theory to practice.
公共政策與財經專題 CURRENT TOPICS IN PUBLIC POLICY AND ECONOMIC ISSUES	經四　選修 (3 - 0)(與碩士班合開) 本課程內容主要為透過經濟與財政理論來了解並分析當前公共政策與財經議題。希望學生能對當代公共政策與財經議題產生興趣，並培養其運用所學理論來分析不同政策議題的能力，以發揮學以致用的學習效果。	Senior elective (3 - 0) This course will focus upon the analyses and evaluations of current topics related to fiscal policies and economic issues. It comprehensively includes government expenditures, tax reform, financial management policies, economic issues, and so on. It is expected that upon completion of this course, students will equip with the application capability on evaluation of fiscal policies and economic issues.
資本市場實務與操作 PRACTICE AND OPERATION OF CAPITAL MARKET	經四　選修 (2 - 0) (與財精系、會計系、國貿系合開) 本課程將介紹資本市場的運作及金融機構的中介功能。主要內容包含資產管理公司、信評機構、投資銀行的基礎功能與運作方式，並透過資產定價、投資風險、信用風險的實務探討，協助學生能將財務及投資的理論與市場實務加以結合。另本課程之主要特色為課程由財精系、國貿系、經濟系及會計系教師與業界教師(群益金融集團為主)共同授課。	Senior elective (2 - 0) This course will introduce the operation of capital markets and the intermediary functions of financial institutions. The main contents include the basic functions and operations of asset management companies, credit rating agencies, and investment banks. Through practical discussions on asset pricing, investment risks, and credit risks, students are assisted to integrate financial and investment theory with market practice. In addition, the main feature of this course is that the course is jointly taught by teachers from the Department of Financial Engineering and Actuarial Mathematics, the Department of International Trade, the Department of Economics and the Department of Accounting, and industry teachers (mainly from the Capital Financial Group).