東吳大學經濟系博碩士班 108 學年度中英文課程摘要

博士班(Ph. D. Program)　碩士班(Master Program)

經濟學系博碩士班課程綱要 Department of Economics (Graduate Programs)

課程名稱/Courses	中文簡介	Introduction
個體經濟學 **MICROECONOMICS** **【MEC66401】**	碩一　必 (3-0) 本課程主要是透過嚴謹的數理推演以介紹個體經濟學理論，修課同學將可學習到未來研究所需之經濟分析方法。本課程將探討個人、廠商與政策制定者等經濟個體的決策問題，主要之課程內容包括:生產者理論、消費者理論，以及不確定性之下的最適選擇。	Master program　Required (3-0) This course presents advanced microeconomic analysis using standard economic methodologies so that students can use economic methods in their research. Throughout this course, we will discuss how individuals, firms, and policymakers use microeconomic tools to analyze and solve problems. This course covers a variety of topics concerning the microeconomics, such as producer theory, consumer theory, and choice under uncertainty.
個體經濟理論(A) **MICROECONOMICS (A)** **【DEC84501】**	博一　必　(3-0) 本課程主要著重在賽局理論方面的介紹，以及賽局理論在個別領域的應用分析。課程內容包含完全資訊與不完全資訊兩種設定下的靜態賽局與動態賽局。學生應在課程訓練下理解賽局的設定與均衡解的觀念，並應用在拍賣、協商等應用實例上。	Ph. D. program　Required (3-0) This course is graduate level introduction to game theory. Topics includes: introduction to game theory; games with perfect information (static and dynamic games), and games with imperfect information. At the end of the course, students should be able to use the concept of Nash equilibrium, the concept of Subgame Perfect Equilibrium and the logic of Bayesian games; and apply these concepts to some real-world cases such as auctions and bargaining.
個體經濟理論(B) **MICROECONOMICS (B)** **【DEC84601】**	博一　必　(0-3) 本課程的目標是在探討資源分配的理論(theory of resource allocation)，既在完全競爭的環境下，探討三個主要課題：市場機能(market mechanism)所產生的	Ph. D. program　Required (0-3) The objective of the course is to investigate the theory of resource allocation, using the general equilibrium approach. It mainly includes three issues: (1) What will be

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	分配為何？這些分配是否合適(desirable)？市場機能是否能達到特定的合適分配(desirable allocations)？本課程並探討公共財與外部性下的資源分配問題。	the allocations generated by the market mechanism in competitive environments? (2) Are these allocations “desirable?” (3) Could the markets achieve some specific desirable allocations? The course will also cover the issues on public goods and externalities.
總體經濟學 **MACROECONOMICS** **【MEC66601】**	碩一　必　(3-0) 課程介紹個體化的總體經濟學,特色是具有個體最適化決策、與市場全面均衡。我們將由最簡化的模型開始導入，逐步納入更多部門與更多市場。藉由一般均衡的總體分析架構，我們將介紹各個學派的核心概念，以及他們對於景氣循環的看法。並且經由假設的改變,探討各個學派對景氣循環的解釋與政策建議。最後，我們將以連續時間模型來討論經濟成長問題。	Master program　Required (3-0) In this course, we would like to emphasize the microeconomic foundation and the general equilibrium feature of macroeconomics.　Based on these two features, the construction of macro models will be consistent as the framework is extended to include more sectors and/or sectors or as more assumption is imposed or relaxed.Given this general equilibrium approach to macroeconomics, we then introduce different macro schools and their policy implications on the issues of business fluctuations.　The last topic will then cover a continuous-time model which is a basic framework for analysis of economic growth.
金融與經濟應用程式 **FINANCIAL AND APPLIED ECONOMICS PROGRAMMING** **【MEC68701】**	碩一　必　(0-3) 本課程最終目的將採用 Python 與 R 程式語言來完成計量模型計算。過程中將分別善用此兩種程式語言的優點，首先利用 Python 對網路爬蟲並擷取資料，自動化與資料倉儲。再善用 R 對於陣列資料處裡的優勢來對資料加工或運算，最終採用 R 所提供的套件來完成模型的計算。	Master program　Required (0-3) This course uses advantages of Python and R language to practice econometrics models. Python will be applied to automatic web scraping and data storage. R language then will be applied to data processing and to complete econometrics models.
經濟與投資分析 **ECONOMIC AND INVESTMENT ANALYSES**	碩一　必　(0-2) 本課程將由任課教師規劃本系教師與業師組織此門課程，課程內	Master program　Required (0-2) This course arranges teachers and industrial experts to guide students to

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【MEC68801】	容包含國際財經雜誌與新聞導讀，介紹及教導學生如何解讀專業財經資料庫，如何從事國際經濟分析、產業分析與投資分析。最終並訓練學生撰寫及口頭報告這些相關分析。	read international business maganize and news, how to interpret business data, and how to analyze international economics, industrial economics, and investment. Finally, students will be trained how to write and orally report analyses.
總體經濟理論(A) **MACROECONOMICS (A)** **【DEC84501】**	博一　必　(3-0) 本課程將含括大部份的動態總體模型，主要重點將於內生成長模型。課程內容包括 The Solow-Swan Model, The Ramsey Model, 一個部門的內生成長模型，二個部門的內生成長模型(特別考量人力資本角色), 產品多樣化與技術進步，提升產品質與技術進步, 勞動供給與人口。	Ph. D. program　Required (3-0) This course will cover most of the dynamic macroeconomic models. Particular attention will be given to new growth theory which includes growth models with exogenous saving rates (The Solow-Swan Model), growth models with consumer optimization (The Ramsey Model), one-sector models of endogenous growth, two-sector models of endogenous growth (with special attention to the role of human capital), technological change: models with an expanding variety of products, technological change: models with improvements in the quality of products, labor supply and population
總體經濟理論(B) **MACROECONOMICS (B)** **【DEC84601】**	博一　必　(0-3) 本課程目的有以下兩點： 第一, 更深入的探討”個體化的總體經濟學”,主要介紹間斷時間的模型。 第二,在總體理論三的基礎下，本學期將介紹更深入探討總體議題，包括內生成長理論、景氣循環、失業問題、財政政策等幾個重要的問題。	Ph. D. program　Required (0-3) Two objectives of this course: First, we have further discussions on micro-foundation of macroeconomics.　Second, based on the theoretical training (growth model and basically continuous-time version of macro models) of Macroeconomics III, we start reading of papers on several important macro topics (literature review). The main topics are: (1) (Endogenous) Growth theory (2) (Real) Business cycle

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		(3) Labor market and unemployment (4) Fiscal policies (The government's behavior)
應用計量經濟學(一) **APPLIED ECONOMETRICS I** **【MEC67501】**	碩一　必　(3-0) 本課程之目標在培育學生具備基礎計量經濟理論的同時，能以相關計量軟體，尤其是 R 語言進行對應的計量模型實證分析，因此除了介紹計量方法外，將強調以實際資料進行實証分析，提高學生之經濟實證分析能力。	Master program　Required　(3-0) This course is designed to cultivate students with fundamental econometric knowledge, and with skills to, in particular R language, analyze real data　in the corresponding econometrics models. In addition to the introduction of econometrics methodology, analyses of real data will be stressed in order to enhance students' empirical ability.
應用計量經濟學(二) **APPLIED ECONOMETRICS II** **【MEC67601】**	碩一　必　(0-3) 本課程係延續上學期應用計量經濟學(一)之課程，課程之目標在培育學生具備進階個體計量知識與總體計量知識，因此除了介紹這些計量方法外，也強調以實際個體與總體資料進行實証分析，尤其強調 R 語言的應用，以期提高學生之經濟實證分析能力。	Master program　Required (0-3) This course is designed as a continuation of the Applied Econometrics I, and is designed to cultivate students with advanced microeconomstrics and macroeconometrics. In addition to introduction of econometrics methodology, this course stresses applications of micro and macro data on microeconomstrics and macroeconometrics models, in particular R language, in order to enhance students' empirical ability.
計量經濟學理論與應用(A) **THEORY AND APPLICATIONS OF ECONOMETRICS (A)** **【DEC96001】**	博一　必　(3-0) 本課程旨在培育博士班學生計量經濟學基本理論及應用能力。在課程設計上，將教授計量經濟學研究所水準應具備之計量方法，包括單一迴歸方程式及聯立迴歸方程式之計量理論方法，同時，亦將介紹這些方法在不同經濟課題上之應用方式及實證研究重點，以期提高學生之計量分析能	Ph. D. program　Required (3-0) This course attempts cultivate Doctoral students' knowledge in theory and application of Econometrics.　The course will introduce major quantitative and econometric methods at graduate level, which covers models related to single regressions and simultaneous regressions.　To promote students' empirical research

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	力。	ability, the course also explores ways to empirically apply these econometric methods in relevant economic issues.
計量經濟學理論與應用(B) **THEORY AND APPLICATIONS OF ECONOMETRICS (B)** **【DEC96101】**	博一　必　(0-3) 本課程旨在培育博士班學生計量經濟學理論及應用能力。在課程設計上，更深入討論個体計量理論尤其是有限應變數之模型,例如 Probit , Logit Ordered Probit, Multi-Logit 等模型。總體計量則學習傳統的時間序列模型，如 AR, MA, ARMA, ARIMA 模型和統計套裝軟體 R。	Ph. D. program　Required (0-3) To help the students understand more deeply the theories of Econometrics with applications using the statistical software R. Microeconometrics covers especially those models with limited dependent variables such as Probit,Logit ,Ordered Probit and Multi-Logit models. Macroeconometrics covers the traditional time series models such as AR, MA, ARMA, ARIMA models.
保險專題研究 **SEMINAR ON INSURANCE STUDIES** **【DEC96201】**	博一　必　(3-0) 本課程為培養經濟博士班學生具備保險理論原理及實證研究的能力。透過保險經典書籍及保險頂尖期刊的主題式探討，幫助學生耕深入的了解經濟與財務理論在保險產業的的應用。主要內容為： 1. 保險理論 2. 風險承擔與不確定性 3. 人壽保險與財產保險 4. 健康保險 5. 保險實證研究發展	Ph. D. program　Required (3-0) This seminar is for the Ph.D. students of Economic Program to develop the research ability on insurance theories and empirical applications. Through reading and discussion of different subjects of articles in "Handbook of Insurance" and Top -4 Insurance Journals, students are expected to learn economics and finance theories and their applications on insurance industry.
財務數量研究 **SEMINAR ON FINANCIAL MATHEMATICS** **【DEC96301】**	博一　必　(0-3) 本課程以財務數學方法(隨機財務模型)為基礎，深入介紹與隨機資產模型、投資組合及風險評估之理論及實證研究。藉由財務及數量分析相關的文獻內容，幫助博士班學生充實研究發展的專業能力。在此規畫下，我們期望學生得以拓展學術研究的專業領域，並提升博士班學生在相關研究的發表能量。	Ph. D. program　Required (0-3) This course is based on financial mathematics (stochastic financial models) and focuses on the theories and empirical studies on stochastic asset modeling, investment portfolio, and risk measurement. It helps the Ph.D. students to enhance their academic ability by learning finance and mathematical analysis related literature. We expect them can explore

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		different academic fields and improve their publication potential in related journals.
專題討論(一) **SPECIAL TOPICS IN ECONOMICS (I)** **【MEC61201】** **【MEC61202】**	碩&博　必　(1-0) 經由邀請校內外學者專家至本系講演特定議題之研究,本科目旨在介紹當前國內外重要之經濟議題,並且提昇學生撰寫經濟學研究報告之能力。除注重參予以及與演講者及同學間之互動外,期末書面報告是本科目評量之首要依據。	Master & Ph. D. program Required (1-0) Via the presentation on a particular economic subject by scholars, this course is designed to expose the students to currently important economic issues, and to strengthen students' ability in writing economic thesis. In addition to class attendance and the two-way interaction with the speaker, an end-of-semester report is required and essential.
專題討論(二) **SPECIAL TOPICS IN ECONOMICS (II)** **【MEC62001】** **【MEC62002】**	碩&博　必　(0-1) 經由邀請校內外學者專家至本系講演特定議題之研究,本科目旨在介紹當前國內外重要之經濟議題,並且提昇學生撰寫經濟學研究報告之能力。除注重參予以及與演講者及同學間之互動外,期末書面報告是本科目評量之首要依據。	Master & Ph. D. program Required (0-1) Via the presentation on a particular economic subject by scholars, this course is designed to expose the students to currently important economic issues, and to strengthen students' ability in writing economic thesis. In addition to class attendance and the two-way interaction with the speaker, an end-of-semester report is required and essential.
統計分析 **STATISTICAL ANALYSIS** **【WEC67001】**	碩&碩專　選　(1-0) 此課程複習及加強一些線性代數與統計定理，使同學對碩一上的計量經濟學有足夠的基礎。課程內容包括: 線性代數的複習(向量和矩陣)及統計複習。	Master & EMBA program Elective (1-0) This course tries to help the students understand some theories of Linear Algebra and Statistics which are the necessary background for Econometrics. It covers Review of some statistics used in Econometrics. Review of linear algebra including vectors and matrices.

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總體經濟方法 **MACROECONOMICS ANALYSIS** **【MEC68201】**	碩　選　(1-0) 本課程將整理基本的總體分析模型，介紹總體經濟理論常用的數學分析工具。	Master program　Elective (1-0) This course briefly summarizes the key concepts of macroeconomics. I also introduce some useful mathematic skills for macroeconomics analysis.
貨幣經濟學 **MONETARY ECONOMICS** **【MEC63001】**	碩&博　選(3-0) 本科目主要在探討貨幣與經濟活動的可能關係，及政府的貨幣政策如何影響經濟活動。講授主題涵括： 1. 貨幣供給 2. 貨幣需求 3. 貨幣與物價 4. 利率期限結構 5. 貨幣政策中間目標 6. 貨幣政策傳遞機能 7. 貨幣政策的制訂與執行。	Master & Ph. D. program Elective (3-0) This course mainly emphasizes the possible relationships between money and economic activities, and how the monetary policy affects real activities. The main topics are: 1. Money supply 2. Money demand 3. Money and price 4. Term structure of interest rate 5. Intermediate target of monetary policy 6. Transmission mechanism of monetary policy 7. Conduct of monetary policy.
數理經濟學 **MATHEMATICAL ECONOMICS** **【MEC63201】**	碩&博　選　(3 - 0) 本科目旨在為經濟研究所的同學紮好數學基礎。內容主要是介紹集合(包括開集合、閉集合…等)、函數(凹、凸函數、齊次、位似函數和最大值函數…等)等觀念。另外，靜態最適化理論也會提到。	Master & Ph. D. program Elective (3-0) The purpose of this course is to equip the graduate students of economics with solid mathematical background. It covers the concepts of sets (such as open sets and closed sets) and functions (such as concave and convex functions). The theories of static optimization will also be addressed.
總體經濟金融新思維 **NEW THINKING ON MACROECONOMICS AND FINANCE** **【WEC85301】**	碩&碩專　選　(2-0) 讓學生瞭解： 1、全球金融危機前，主流的總體經濟金融思維，以及其所存在的問題。 2、全球金融危機發生的原因、主要央行的因應對策(尤其是非傳統性貨幣政策)，以及國際間進行	Master & EMBA program Elective (2-0) To help students understand the following topics： The mainstream thinking and problems of macroeconomics　and finance before the outbreak of the global financial crisis.

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	金融管制改革的相關內容。 3、後全球金融危機的新思維，以及尚在發展的總體經濟金融理論，特別是行為經濟學、神經經濟學的發展與應用。	Reasons that caused the global financial crisis and responsive measures taken by major central banks around the world, especially the unconventional monetary policy, as well as financial regulatory reforms pursued in the international community. New thinking in a post-global financial crisis era, and the development in emerging areas, such as behavioral economics and neuroeconomics, and their applications.
金融科技導論 **INTRODUCTION TO FINTECH** **【MEC67801】**	碩&碩專　選　(0-3) 本課程介紹破壞性創新對金融服務業的衝擊，與對金融消費者金融活動型態的改變。如同世界經濟論壇(WEF)指出，未來金融服務的六大領域將受到 FinTech 衝擊。無現金社會等新型態生活、機器人理財等新服務工具將是未來層出不窮新變化的開端，去仲介化的金融架構、去中心化的交易服務，都將是未來金融社會的常態。本課程除了對 FinTech 做基本介紹，也對其未來趨勢、發展限制、商機所在、產業衝擊等主題做相關的講授。	Master & EMBA program Elective (0-3) FinTech is an umbrella name of the disruptive innovations in the financial industry. The existing financial services and consumer behaviors have been experiencing shocks from FinTech. According to the WEF (World Economic Forum) in June 2015, FinTech has redefined and reshaped a new financial ecosystem with 6 functions and 11sets of innovations. This course will provide students with most updated knowledge about FinTech.
投資學 **INVESTMENT** **【MEC68601】**	碩&博　選　(3 - 0) 本課程目的在於幫助學生瞭解現代投資理論與投資管理的應用。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。	Master & Ph. D. program 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. In addition to introduce the basic theoretical frameworks, this course guides students to be familiar with investment

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		practices.
<u>投資學專題</u> **<u>SEMINAR IN THE INVESTMENT</u>** **【MEC68901】**	碩　選　(0-2) 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。	Master Program　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.
<u>區域經濟學(一)</u> **<u>REGIONAL ECONOMICS(I)</u>** **【MEC65601】**	碩&博　選　(3 - 0) 傳統的非空間經濟模型加入空間因素考量後，將使得經濟分析之結果更貼近現實，空間競爭之研究主要在於探討，當存在空間上分散的消費者與廠商時，寡占廠商間之策略互動。本課程將介紹區域經濟學之文獻發展，而課程重點著重於，在各種不同的空間型態以及廠商的競爭策略之下，空間競爭相關文獻關注之重要議題，並同時涵蓋社會福利與政府的政策分析等效率相關議題。	Master & Ph. D. program Elective (3-0) Spatial considerations not only make an economic analysis more realistic, but also lead to findings over the impact of space on an agent's decision. The model therein has been devised to investigate the oligopolistic interaction generated by a market operating with spatially dispersed firms and consumers. This course will provide an introduction to the literature development of regional economics. We will focus on the wide spectrum of issues has been analyzed in the literature on spatial competition, such as from various market spaces, to various competition strategies of firms, and to an efficiency consideration.
<u>區域經濟學(二)</u> **<u>REGIONAL ECONOMICS(II)</u>** **【MEC65101】**	碩&博　選　(0 - 2) 都市經濟學乃使用經濟學的方法去探討與都市有關的議題。近來有許多經濟學者在此領域有突破性的進展，而研究成果亦應用至其他領域之中。本課程的主要內容包括都市使用理論、新經濟地	Master & Ph. D. program Elective (0-2) Urban economics explores urban related issues by economic approach.　Recently many economists obtain break-through in this field and the research results are applied to other

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	理學派（核心邊陲模型）、都市勞動市場議題、都市交通問題、都市成長與發展等。	fields. This course will introduce Urban Land Use Theory, New Economic Geography (Core-Periphery Model), Urban Labor Market issues, Urban Transportation Problems, Urban Growth and Development.
經濟學方法論 **ECONOMIC METHODOLOGY** **【WEC84701】**	碩&博&碩專　選　(0-2) 本科目旨在針對特定之經濟哲學觀與方法論做深入淺出之討論。涵蓋項目包括知識與必須具備之條件、經驗論、古典之經濟哲學與方法論、the received view（邏輯實證論、邏輯經驗論、否證論）、the received view 之瓦解、1980 年代後之方法論（以批評實在主義為主）。	Master & EMBA & Ph. D. program Elective (0-2) This course is aimed at the introduction of economic philosophy and methodology. Topics covered include knowledge and its required conditions, empiricism, the classical view on economic philosophy and methodology, the received view (logical positivism, logical empiricism, theory of falsification), the unravel of the received view, strands of economic methodology since the 1980s (with special emphasis on the critical realism).
國際貿易 **INTERNATIONAL TRADE** **【MEC65201】**	碩&博　選　(0 - 3) 本科目之學習目的是教授國際貿易領域之最新知識，使學生能具備從事相關研究的基本能力。藉由對國貿理論及實證提供一完整、有系統、清晰的彙整，學生得以學習到國際貿易之實證理論、不完全競爭市場與國際貿易、產業內貿易理論、及貿易政策工具等重要內容。	Master & Ph. D. program Elective (0-3) The purpose of the subject is intended to bring students to the forefront of knowledge in international trade and prepare them to undertake their own research. Through a clear, complete, up-to-date, balanced, and systematic summary of international trade theory and evidence, students learn to understand the pattern of trade and terms of trade and the role of the government in international trade. Contents cover the positive theory of international trade, monopolistic competition and international trade, intra-industry trade under oligopoly, the instruments of trade policy.

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<u>群體智慧在財務學上的應用</u> **<u>COLLECTIVE WISDOM IN FINANCE</u>** **【MEC84201】**	碩&博　選　(0– 3) 本課程除簡單介紹許多有關的財務與投資軟體(如 Matlab、Excel VBA、Qnet　、Pythia 與 NeuroSolution 等),協助同學認識與建構各種軟體在財務管理與投資學的應用，提昇同學設計與研發能力，並希望藉由理論與實務相互結合，達成獨力研究與教學相長的目標。 本課程軟體應用主要可分為兩部份。一為傳統的計算智慧方法(遺傳演算法、遺傳規劃、類神經網路、模糊邏輯、決策樹、支援向量、灰預測、灰關聯等)外，另一部份則為研究群體智慧與生物模擬演算法(果蠅最佳化演算法、人工免疫演算法、粒子群演算法、混合蛙跳演算法、貓群演算法、細菌覓食演算法、蚊群演算法、魚群演算法、蜂群演算法、量子演算法等)在財務與投資學上的應用。	Master & Ph. D. program Elective (0-3) People, who are living in the information age of the 21st century, should require the knowledge of investment and finance, but how to use computers and software efficiently is obviously particularly important. This course not only introduces how to build rigorous financial and investment models, but also independently provides the concise computer and statistical tools for prediction, classification, and decision-making to analyze the actual data of financial and investment issues. In addition, this course also introduces many of the relevant financial and investment software (such as Matlab, Excel VBA, Qnet, Pythia and NeuroSolution, etc.) to assist the students to learn the necessary knowledge in financial management and investment and to construct a variety of software applications. It is hoped that we can enhance student’s research ability together by investment and financial theory and practice to design and to promote their R & D to reach the goal of innovation independently, both for our learning and teaching carrier. This course is divided into two parts. One is traditional computational intelligence (genetic algorithms, genetic programming, neural networks, fuzzy logic, decision tree, support vector, grey prediction, grey relation etc.);The other focuses studies of the

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		collective wisdom of bio-simulation algorithm (fruit fly optimization algorithm, artificial immune algorithm, particle swarm optimization, mixed leapfrog algorithm, cat swarm optimization, mosquito swarm optimization, bacteria foraging algorithm, fish school algorithm, bee colony algorithm,and quantum algorithms, etc.) for Investment and finance.
經濟成長 **ECONOMIC GROWTH** **【MEC67101】**	碩&博　選　(0–3) 本課程將教導同學熟悉經濟成長理論與相關的數理分析工具，以便將來進行相關研究時，可以具有足夠的知識與工具。	Master & Ph. D. program Elective (0-3) The goal of this course is to study the main issue of the economic growth and the basic analysis methods of the growth model.　We will discuss the implications of various macroeconomic policies for economic growth.　Helps prepare students to undertake research of their own.
新興市場產業發展專題 **ISSUES ON INDUSTRIAL DEVELOPMENT IN EMERGING MARKETS** **【MEC67201】**	碩&碩專　選　(0– 1) 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，才能在經濟上存活。本課程將探討這個過程，並研析未來的可能發展。	Master & EMBA program 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 international competition. Only those who managed to stay on the supply chain, or could create their

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		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** **【MEC68101】**	碩&碩專　選　(0-2) 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。	Master & EMBA program 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.
計量經濟學專題 **TOPICS IN ECONOMETRICS** **【MEC68301】**	碩、博　選　(3 - 0) 使學生更深入瞭解個體計量理論，例如 Probit, Logit, Multi-Logit, Ordered Probit … 等模型。	Master & Ph. D. program Elective (3-0) To help the students understand the theories of Microeconometrics more deeply especially those models with limited dependent variables, such as Probit, Logit, Multi-Logit, Ordered Probit models.
資料分析與應用 **MODELS FOR DATA ANALYSIS** **【WEC95701】**	碩&碩專　選　(0-2) 本課程將教授經濟數據的計量分析方法及估計技術，旨在協助學生了解分析模型的運作原理、應用方法及其限制；而所教授之分析模型的應用涵蓋時間序列資料、橫斷面資料以及面板數據資	Master & EMBA program Elective (0-2) Students will learn the methodology behind different estimation techniques used in analyzing econometric data. Our goal is to understand how models work, their use and their limitations.

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	料(Panel Data)。除了能夠習得計量經濟學的現代語言外，透過本課程，學生將能夠靈活運用所學之數據分析技術。	Students will also learn techniques applied to data beyond time-series, i.e. panel data and cross-sectional data. In the end, students will have a good feeling about the modern language of econometrics and will be able to apply the techniques learnt.
產業經濟學 **INDUSTRIAL ECONOMICS** **【MEC68401】**	碩&博　選　(3–0) 本課程教學目標在於介紹研究所的產業組織理論。產業組織理論和其他個體經濟領域的相關理論主要不同之處在於其對不完全競爭市場、廠商的內部組織及現實機構之重視。因此，本課程主要焦點著重於介紹廠商或企業組織使用於增加其經濟租/利潤之策略。	Master & Ph. D. program Elective (3-0) This course intends to provide students with an introduction to modern Industrial Organization theory at the graduate level. Industrial Organization is distinguished from other subfields of microeconomics by its focus on imperfectly competitive markets, the internal organization of firms, and real world institutions. As such, a major focus of this course is on strategies businesses use to enhance economic rents.
財務經濟學 **FINANCIAL ECONOMICS** **【MEC73401】**	碩&博　選　(0 -30) 本課程的目標是在探討現代企業經理人(financial manager)所面臨的投資決策(investment decision)與融資決策(financing decision)的諸多課題。內容重在觀念與理論的闡明，以做為日後財務研究之基礎。。除介紹一般財務管理的內容外，並包括資本市場行為、運作及企業經濟活動有關的內容。	Master & Ph. D. program Elective (0-3) The objective of the course is to study the financial issues on the investment decisions and the financing decisions faced by the financial managers in modern corporations. It will be concerned with not only financial theories but also practical issues, making the foundation for graduate students' future research. The course will cover general financial topics as well as the behaviors of capital markets and the economic activities of modern corporations.
國際金融 **INTERNATIONAL FINANCIAL**	碩&博　選　(3 - 0) 本課程首先要討論外匯市場與國	Master & Ph. D. program Elective (3-0)

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【MIT30401】	際貨幣市場之形成與運作，同時也將介紹國際貨幣的動態調整體系；其次要利用台灣的實際資料說明國際收支帳的議題，進而探討政策搭配問題；接著則說明在固定匯率下與浮動匯率下的開放總體經濟相關變數的決定及其調整過程，並分析不同匯率制度之下的總體經濟政策效果，而貶值與就業之間的關係亦將在此部分予以討論。最後要分析匯率動態的問題，包括匯率調整行為及政策宣告效果。	The first part of this course starts with a detailed analysis of the foreign exchange and international money markets. We will also introduce the monetary dynamics of international adjustment in this part. A description of balance of payments accounting and an explanation of alternative exchange rate concepts are illustrated by examining actual Taiwan data in the second part. The assignment problem is also investigated. The third and fourth parts of this course present full coverage of the state of the art in open economy macroeconomics, both under fixed and flexible exchange rates. In this part, the issue of macroeconomic policies under alternative exchange rates as well as the relationship between devaluation and employment will be discussed. In addition, we will incorporate new theoretical developments on exchange-rate dynamics and policy-announcement effects in the final part.
績效評估：生產力與效率分析 **PERFORMANCE EVALUATION: PRODUCTIVITY AND EFFICIENCY ANALYSIS** **【MEC65401】**	碩&博　選　(3 - 0) 自企業個體、產業乃至國家間之績效表現，均能利用生產力與生產效率模式加以評估；利用此模式除了可衡量經濟學之技術變動、分配效率外，管理學所重視之廠商間管理效率差異亦能衡量而得。本課程將介紹多種衡量生產力與效率之績效評估模式，同時，亦將注重實證研究用電腦程式之操作及結果之解釋與分析。	Master & Ph. D. program Elective (3-0) To evaluate performance of business firms, industries, and countries, the productivity and efficiency models are well known as effective tools. The models can not only measure the technical change and allocation efficiency in production economics, but also assess the management efficiency which is much appreciated by management sciences.　This course will introduce several major assessment models for measuring the

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		productivity and efficiency of decision making units. We also ask students to conduct empirical research using computer and statistical packages.
財務軟體應用 **SOFTWARE APPLICATIONS IN FINANCE** **【MEC76501】**	碩&碩專&博 選 (0–2) 本課程除簡單介紹有關財務與投資的知識外，主要協助同學認識與建構各種軟體(如 R, Python, Matlab、Excel VBA 等)在財務管理與投資學的應用。內容有證券風險；終值、現值、年金現值等；K 線圖或各種技術指標(如 KD、RSI、MACD、乖離率、DMI 、OBV 等) 等交易策略；債券的風險（如存續期間）；投資組合理論（如效率前緣）；證券市場線、資本資產訂價、投資組合績效(夏普指標、崔納指標、詹森指標、VaR 等）；期貨的持有成本；選擇權(買權、賣權或 Black-Scholes 評價等。	Master & EMBA & Ph. D. program Elective (0-2) People, who are living in the information age of the 21st century, should require the knowledge of investment and finance, but how to use computers programs and software efficiently is obviously particularly important. This course not only introduces how to build rigorous financial and investment models, but also independently provides the concise computer and statistical tools for prediction, classification, and decision-making to analyze the actual data of financial and investment issues. This course introduces many of the relevant financial and investment software (such as R, Python, Matlab, Excel VBA, etc.) to assist the students to learn the necessary knowledge in financial management and investment and to construct a variety of software applications. It analyzes securities risk, final value, present value, annuity of cash flow, K-line charts or a variety of technical indicators (eg, KD, RSI, MACD, BIAS, DMI, OBV, etc.) trading strategies, risk of bonds, portfolio theory, securities market line, capital asset pricing, portfolio performance (Sharpe Index, Treynor, Jensen indicators, VaR, etc.), futures holding costs, call option, put option, and Black-Scholes formula etc.

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全球化，經濟整合與國際貿易 **GLOBALIZATION, ECONOMIC INTEGRATION, AND INTERNATIONAL TRADE** 【MEC82401】	碩　選　(1–0) 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。	Master program　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 world 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.
公共經濟學專題 **TOPICS ON PUBLIC FINANCE** 【MEC77001】	碩&博　選　(3–0) 本課程將從總體的角度講授研究生程度的公共經濟學專題。此專題課程，將包含三個主題。第一及第二主題，皆探討達到社會福利最大的最適租稅配置問題。政府為維持其基本運作，以及推行公共建設，必須尋求資金來源，而國家最大宗的收入來源就是租稅。租稅如何課徵、對誰課徵、	Master & Ph. D. program Elective (3-0) This course uses methods of economic analysis to introduce the essential theories and applications of Public Finance to students about the role of government playing in economic activities from an economist's point of view.　By exploring issues of public expenditure, public income (taxation)

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	何時課徵，長久以來是經濟學家所關心的議題。定額稅對經濟活動是最沒有扭曲效果的，但缺乏量能課稅的基本精神，極度的不公平，因此近代的政府大都課徵以所得和財產為基礎的直接稅，輔以部分的間接稅，如消費稅。以所得為稅基所課徵的稅稱為所得稅，是先進國家政府收入最重要的來源，依來源分為勞動所得稅與資本所得稅。第一個主題，在「齊質個人」的設定之下，探討最適租稅的議題，主要重點為租稅效率。史丹佛大學的 Judd (1985)和哈佛大學的 Chamley (1986)，首先將財政學中著名的 Ramsey rule 納入總體動態模型中分析，得到最適的資本稅長期應為零的結論，翻轉了傳統靜態部分均衡模型得出的應多課資本稅的理論。這樣的對比顯示投入要素間在靜態模型和動態模型的需求彈性大小相反。我們將進一步考慮人力資本、勞動市場磨擦、政府生產性和消費性支出，Pigou 稅以及累進稅率，探討 Chamley-Judd result 在動態效率面向的全面有效性。 第二個主題，在「異質個人」的設定之下分析，除了關心平均經濟成長外，由於有不同的人，也關心所得分配以及財富分配。Mirrlees (1971)是第一篇分析公平與效率的抵換關係的文章，我們將在 Mirrlees 的架構下探討最適租稅的問題。第三個主題則探討，一旦模型中的個人的存活期間為有限期時，由於個人為風險趨避者，將儲蓄過度造成資本過	and fiscal adjustment (public debt), the class seek to let students have further knowledge about the various the functioning of modern nations' public sector. Both an empirical and theoretical approach will be used to answer these questions, supplemented by the most current literature in the field. The ultimate goal of this course is for students to not only understand the framework of public finance, but also to be able to apply this framework for relative working or studying.

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	度累積，形成動態的無效率，因此需要政府介入，設計年金制度來解決動態無效率的問題。 Diamond (1965)首先建構 overlapping generation (OLG) model 來刻劃此種現象，在本主題中，我們將運用 OLG 模型來分析最適的資本累積和人力資本累積，以及為達到最適境界，政府所需使用的政策工具，包含年金保險制度、PSYG 制度、延長退休、遺產稅和教育補貼的議題都將議及。	
計算智慧與網路金融科技 **COMPUTATIONAL INTELLIGENCE AND INTERNET FINANCIAL TECHNOLOGY** **【MEC67901】**	碩&碩專&博　選　(3–0) 凡是研究現代經濟學的同學們除了需具備有關經濟學的理論基礎外，利用電腦工具以統計學與計算智慧分析網路金融巨量資料，將是未來的主流趨勢。本課程將配合網路科技的發展趨勢，強化金融科技的應用需求，使同學們得以學以致用，其中包括程式設計並與網路結合。 隨著網絡技術的發展趨勢，本課程除將循序漸進地介紹各種網路軟體外，並將結合我們獨創的計算智慧方法-果蠅演算法(FOA)及領導者與追隨者(LFOA)演算法，這將大大增強傳統計量方法的效率。本課程將使學生都能夠學習到一些電腦編程知識和軟件應用（如 R，Python，Matlab,Tableu 等）並得以瞭解如何利用計算智慧的方法來解決各種複雜的即時經濟與金融問題。	Master & EMBA & Ph. D. program Elective (3-0) In addition to learning the theoretical knowledge of economics, all students who study modern economics should use computer tools to analyze the data of online finance by means of statistics and computational intelligence, it will be the mainstream trend in the future. This course will be in line with the development trend of network technology, strengthen the application of financial technology needs, so that students can apply their knowledge, including the design and integration with the network by software applications. Therefore, with the development trend of network technology, this course will be a step-by-step approach to the various network software, and will briefly introduce our Innovative Computational Intelligence methods - Fruit Fly Algorithm (FOA) and Leader

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		and Followers (LFOA) algorithm, which will greatly enhance the efficiency of traditional econometrics methods. This course will enable students to learn some computer programming knowledge and software applications (such as R, Python, Matlab, Tableau, etc.) and also to learn how to use computational intelligence to solve a variety of complex economic and financial issues.
財務時間序列 **FINANCIAL TIME SERIES** **【MEC68001】**	碩&博　選　(3–0) 本課程目標在培育學生具備財務時間序列分析的能力。除了介紹時間序列模型外，亦應用這些模型於財務相關的議題。議題包含衍生性金融商品定價與避險、選擇權價格隱含資訊推論、交易策略與市場效率性。	Master & Ph. D. program Elective (3-0) This course is designed to cultivate students with financial time series. In addition to introduction of financial time series models, this course stresses their applications in finance topics. The topics include pricing and hedging of financial derivatives, information inferences from option prices, trading strategies, and market efficiency.
網路理論專題 **COURSE ON SOCIAL AND ECONOMIC NETWORKS** **【MEC76601】**	碩&博　選　(0– 3) 本課程介紹社會與經濟網路理論中的重要議題。主要包含網路形成理論、穩定網路的特徵、均衡的探討、網路賽局以及網路理論的應用等。課程目標在訓練學生瞭解(1)什麼是網路理論；(2)如何研讀論文；及(3)如何分析評論論文。	Master & Ph. D. program Elective (0-3) This course introduces some of the main topics on social and economic network theory, which has rapidly developed during the past few decades. These topics include network formation, stability, equilibrium, network games, and theoretical applications. The goals of this course are making students to learn the following: 1. what network theory is, 2. how to study research papers, and 3.how to analyze and critique research

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		papers.
海外經濟研究專題 **GLOBAL ECONOMIC STUDY** **【MEC76701】**	碩&碩專　選(0 – 3) 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。 一、 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。 二、 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。 三、 海外活動之心得與實證討論。	Master & EMBA program　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** **【MEC76901】**	碩&碩專　選(0 – 3) 本課程以訓練學生具備國際經濟知識，並提供亞洲國家學習活動經驗為目標。本課程由三部分之學習活動所組成。 一、 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。 二、 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。 三、 海外活動之心得與實證討論。	Master & EMBA program　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.
財務經濟學專題研究 **TOPICS IN FINANCIAL EOCNOMICS** **【MEC83401】**	碩&博　選　(0 - 3) 傳統經濟學偏重理論，金融風暴之後，財務經濟學的發展有許多變化，本課程希望幫助有經濟學基礎的同學加強對於實務財金實務的瞭解，提升研究與職場競爭的能力。又因為近年來兩岸特色金融發展快速，本課程也將加強這方面的授課內容。內容如下： 1. 交易成本與不對稱資訊 2. 現值與無套利機會理論 3. 衍生金融工具定價	Master & Ph. D. program　Elective (0-3) This class introduces basic theory and its application of finance. Main topics include (1)pricing of financial derivatives, (2)stock market analysis, (3)mutual fund management, (4)fixed income securities and credit rating, (5)finance related data bank and computer software, (6) risk evaluation and management.

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	4. kelly Criterion 資本累積理論 5. 財務風險管理 6. 行為與神經財務經濟學的發展	
產業經濟學專題研究 **SELECTED TOPICS ON INDUSTRIAL ECONOMICS** **【MEC68501】**	碩&博　選　(0–3) 本科目旨在介紹競爭法經濟分析理論，使學生瞭解如何將經濟分析運用於競爭法；除說明基本經濟分析及產業組織理論外，並研討政府對產業組織之規範與幹預(即所謂規範經濟理論)，更兼論公平交易法。內容包含市場界定;市場力測度;獨占結合聯合等行為;及垂直價格交易限制行為,與垂直非價格交易限制行為。	Master & Ph. D. program Elective (0-3) This objective of the course is to show students how analyzes economic theory and applies economic methods for the competition law.
銀行經營專題研討 **SEMINAR IN BANKING MANAGEMENT** **【WEC93101】**	碩&碩專　選　(2-0) (1) 討論銀行的功能及提供的服務 (2) 美國聯邦準備銀行制度及美國政府如何管理銀行 (3) 金融控股法成立的背景及金控公司的近況 (4) 金融改造及台灣銀行業界的變革 (5) 討論銀行消費金融的最新發展 (6) 銀行及非銀行競爭產品的新趨向 (7) 法人金融發展的最新狀況 (8) 銀行國際化及海外市場發展的介紹 (9) 銀行授信風險的管理及方法 (10) 信用評等評分制度的討論 (11) 資產負債管理的說明及討論 (12) 銀行財務報表的分析及研究 (13) 投資銀行如何投資金融市場及資本市場 (14) 利用評等工具對銀行進行評等評分	Master & EMBA Program Elective (2-0) (1) An Overview of Banks and Their Services (2) Organizational Structure of the Federal Reserve System & The Impact of Government Policy and Regulation on Banking (3) The Background of the Financial Holding Act & the Development of Financial Holding Companies (4) Re-Engineering of the Banking Industry and Its Impact on the Banks in Taiwan (5) To Discuss the Development of the Consumer Banking (6) The Trend of the Competitive Products Between Banks and Non-banks (7) The development of Corporate Banking (8) The Internationalization of the Banks and the Introduction of the Development of the Overseas

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	(15) 資本適足率及新巴賽爾資本協定	Market (9) Credit Risk Management (10) Measuring and Evaluating Bank Performance (11) Asset-Liability Management Techniques (12) Analysis of the Financial Statements of a Bank (13) Investment Banks' Techniques in the Financial and Capital Markets (14) Make Use of CAMEL to Evaluate a Bank (15) Managing the Bank's Investment Portfolio and Liquidity Position & BASEL 2