



Course Brochure

2014-2015

Wang Yanan Institute for Studies in Economics

Xiamen University

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Note:

1. Most of the courses listed in this brochure are taught in English. A few courses taught in Chinese are marked.
2. Normally, each course credit requires 16- 18 credit hours of teaching.
3. In the curriculum, the course type notation "C" stands for compulsory courses and "E" for elective courses.
4. Some programs share the same courses, and these courses are only listed in the program that has the majority of students enrolled in the class. If a course appearing in one program curriculum but missing from its collection of syllabi, please locate it from other programs using the search function on the course title.
5. This brochure will be updated concerning on the courses offered in the spring semester. The updated version will be released before the spring semester of 2015.

Overview of Degree Programs at WISE

WISE focuses on high-quality economics and finance education, frontier research, and intensive international academic exchanges and cooperation. With excellent faculty members recruited from top overseas universities, all academic programs are conducted in English at the international standard.

Bachelor's Degree Programs	
<p>Four-year Undergraduate Program</p> <p>Economics</p>	<p>Two/Three-year Double Degree Program for undergraduate students from other schools at XMU</p> <p>Economics Finance Statistics</p>
Master's Degree Programs	
<p>Three-year Master's Programs for Chinese Students</p> <p>Academic Master's Programs</p> <ul style="list-style-type: none"> ● Western Economics ● Quantitative Economics ● Finance ● Labor Economics ● Statistics ● Regional Economics <p>Professional Master's Programs</p> <ul style="list-style-type: none"> ● Finance ● Applied Statistics 	<p>Two-year Master's Programs for International Students at WISE and the School of Economics (SOE)</p> <p>WISE:</p> <ul style="list-style-type: none"> ● Finance ● Financial Engineering ● Western Economics (Economic Theory) ● Management Economics ● Quantitative Economics <p>SOE</p> <ul style="list-style-type: none"> ● International Trade (International Business)
PhD Programs	
<p>Four-year</p> <ul style="list-style-type: none"> ● Western Economics ● Quantitative Economics ● Finance ● Labor Economics ● Statistics ● Regional Economics 	

Part One
Curriculum

1. International Undergraduate Experimental Program

Economics

Course Name	Course Type	Credit
1st Year		
Fall Semester		
Principles of Accounting	C	3
Principles of Economics	C	3
Business Communication I	C	1
Spring Semester		
Microeconomics	C	3
Linear Algebra	C	3
Business Communication II	C	1
Summer Term		
Business Communication III	C	1
2nd Year		
Fall Semester		
Business Communication IV	C	1
Macroeconomics	C	3
Introduction to Probability Theory	C	3
Spring Semester		
Financial Economics	C	3
Mathematical statistics	C	3
Economic History	C	3
Business Communication V	C	1
History of Economic Doctrines	E	3
Summer Term		
Business Communication VI	C	1
3rd Year		
Fall Semester		
Econometrics	C	3
Mathematical Economics	C	3
Chinese Economy	C	3
International Finance	E	3
Urban Economics	E	3
Corporate Finance	E	3
Spring Semester		
Economic Growth	E	3
Time Series Analysis	E	3
Law and Economics	E	3
Financial Statement Analysis	E	3
Environmental Economics	E	3
International Trade	E	3
Categorical Data Analysis	E	3
4th Year		
Fall Semester		
Thesis Writing I	C	3
Game Theory	E	3
Other Elective Courses		

2. Undergraduate Double Degree Programs

Economics

Course Name	Course Type	Credit
1st Year		
Fall Semester		
Microeconomics I	C	3
Econometric I	C	3
Macroeconomics I	C	3
Mathematical Economics	C	3
Spring Semester		
Econometric II	C	3
Microeconomics II	C	3
Macroeconomics II	C	3
Financial Mathematics	C	3
Summer Term		
Business Communication*	C	3
2nd Year		
Fall Semester		
Business Communication*	C	3
Microeconometrics and Applications	C	3
Time Series Econometrics and its Applications	C	3
Asset Pricing	E	3
International Finance	E	3
Spring Semester		
Business Communication*	C	3
Urban Economics	E	3
Financial Derivatives Analysis	E	3
Corporate Finance	E	3
Application of Financial Econometrics	E	4
Undergraduate Thesis Writing	E	3

*For Business Communication, students only need to take it once during their study period.

Finance

Course Name	Course Type	Credit
1st Year		
Fall Semester		
Business Communication*	C	3
Microeconomics I	C	3
Econometric I	C	3
Macroeconomics I	C	3
Mathematical Economics	C	3
Spring Semester		
Econometric II	C	3
Microeconomics II	C	3
Macroeconomics II	C	3
Financial Mathematics	C	3
2nd Year		
Fall Semester		
Business Communication*	C	3
Asset Pricing	C	3
Financial Econometrics	C	3
International Finance	E	3
Microeconometrics and Applications	E	3
Spring Semester		
Financial Derivatives Analysis	E	3
Actuarial Science and Insurance	E	3
Corporate Finance	E	3
Urban Economics	E	3
Application of Financial Econometrics	E	4
Stochastic Processes	E	3
Undergraduate Thesis Writing	E	3

*For Business Communication, students only need to take it once during their study period.

Statistics

Course Name	Course Type	Credit
1st Year		
Fall Semester		
Business Communication*	C	3
Probability Theory	C	3
Spring Semester		
Mathematical Statistics	C	3
Principles of Economics	E	3
2nd Year		
Fall Semester		
Regression Analysis	C	3
Computational Data Analysis Using Software	C	3
Time Series Analysis	C	3
Financial econometrics	E	3
Spring Semester		
Multivariate Statistical Analysis	C	3
Data Mining	C	3
Categorical Data Analysis	E	3
3rd Year		
Fall Semester		
Asset Pricing	C	3
Actuarial Science and Insurance (Chinese)	E	3
Microeconometrics and Applications	E	3
Spring Semester		
Stochastic Processes	E	3
Application of Financial Econometrics	E	4
Undergraduate Thesis Writing	E	3

*Business Communication will be offered in each semester (including the Summer Term) from the first year to the third year. Students only need to take it once during their study period.

3. WISE-SOE International Master's Programs

Master of Economics in Finance

Course Name	Course Type	Credit
1st Year		
Fall Semester		
Macroeconomics	C	3
Microeconomics	C	3
Business Statistics	C	3
Financial Economics	C	3
Chinese Language Basic I	C	2
Spring Semester		
Econometrics	C	3
Corporate Finance*	C	3
Fixed Income Analysis*	C	3
Derivatives Analysis*	C	3
2nd Year		
Fall Semester		
Other elective courses		

Courses marked with *: Provided by other programs at WISE

Master of Economics in Financial Engineering

Course Name	Course Type	Credit
1st Year		
Fall Semester		
Macroeconomics	C	3
Microeconomics	C	3
Business Statistics	C	3
Financial Economics	C	3
Chinese Language Basic I	C	2
Spring Semester		
Econometrics	C	3
Stochastic Processes*	C	3
Time Series Analysis*	C	3
Derivatives Analysis*	C	3
2nd Year		
Fall Semester		
Other elective courses		

Courses marked with *: Provided by other programs at WISE

Master of Economics in Management Economics

Course Name	Course Type	Credit
1st Year		
Fall Semester		
Macroeconomics	C	3
Microeconomics	C	3
Business Statistics	C	3
Financial Economics	C	3
Chinese Language Basic I	C	2
Spring Semester		
Econometrics	C	3
Corporate Finance*	C	3
2nd Year		
Fall Semester		
Advanced Macroeconomics*	C	3
Advanced Microeconomics*	C	3
Other elective courses		

Courses marked with *: Provided by other programs at WISE

Master of Economics in Western Economics (Economic Theory)

Course Name	Course Type	Credit
1st Year		
Fall Semester		
Advanced Macroeconomics I*	C	3
Advanced Microeconomics I*	C	3
Advanced Econometrics I*	C	3
Mathematical Economics*	C	3
Chinese Language Basic I	C	2
Spring Semester		
Advanced Macroeconomics II*	C	3
Advanced Microeconomics II*	C	3
Advanced Econometrics II*	C	3
Foundations of Finance*	C	3
2nd Year		
Fall Semester		
Other elective courses		

Courses marked with *: Provided by other programs at WISE

Master of Economics in Quantitative Economics

Course Name	Course Type	Credit
1st Year		
Fall Semester		
Macroeconomics	C	3
Microeconomics	C	3
Business Statistics	C	3
Chinese Language Basic I	C	2
Spring Semester		
Econometrics	C	3
<i>Financial Econometrics *</i>	C	3
<i>Categorical Data Analysis *</i>	C	3
<i>Multivariate Statistics Analysis*</i>	C	3
<i>Mathematical Statistics *</i>	C	3
<i>Applied Non-parametric Econometrics*</i>	C	3
2nd Year		
Fall Semester		
<i>Time Series Analysis I*</i>	C	3
<i>Time Series Analysis II*</i>	C	3
<i>Micro-econometrics*</i>	C	3
<i>Micro-econometrics and Application*</i>	C	3
<i>Spatial Econometrics*</i>	C	3
Other elective courses		

- Courses marked in italic: Major core courses; subject to availability.
- Students should choose four of the ten major core courses.
- Courses marked with *: Provided by other programs at WISE.

Master of Economics in International Trade (International Business)

Course Name	Course Type	Credit
1st Year		
Fall Semester		
Macroeconomics	C	3
Microeconomics	C	3
Business Statistics	C	3
Chinese Language Basic I	C	2
Spring Semester		
Econometrics	C	3
Taxation in China	C	3
2nd Year		
Fall Semester		
Chinese Economy*	C	3
Financial System in China	C	3
International Trade	C	3
Other elective courses		

Courses marked with *: Provided by other programs at WISE

4. Master and PhD Programs

Course Name	Course Type	Credit
1st Year		
Fall Semester		
Advanced Macroeconomics I	C	3
Advanced Microeconomics I	C	3
Advanced Econometrics I	C	3
Mathematical Economics	C	3
Spring Semester		
Advanced Macroeconomics II	C	3
Advanced Microeconomics II	C	3
Advanced Econometrics II	C	3
Advanced Financial Economics	C	3
2nd Year		
Fall Semester		
Applied Nonparametric Econometrics	E	2
Advanced Topics on Macroeconomics I	E	2
Micro-Econometrics	E	2
Professional Writing and Oral English (Master)	C	2
Time Series Analysis I	E	2
Labor Economics	E	2
Asset Pricing I	E	2
Advanced Topics on Finance	E	2
Advanced Topics in Cross-Strait Financial Market I	E	2
Security Investment	E	2
Industrial Organization*	E	2
Urban Economics*	E	2
Financial Statement Analysis*	E	2
Spring Semester		
Financial Econometrics	E	2
Advanced Corporate Finance	E	2
Asset pricing II	E	2
Law and Economics*	E	2
Derivatives Analysis	E	3
Environmental Economics*	E	2
Financial Statement Analysis*	E	2
Thesis Writing and Master Opening Report	C	2
Professional English Writing (PhD)	C	2
The Chinese Economy: Transitions and Growth	E	2
Fixed Income Analysis	E	2
Micro-Econometrics	E	2
Applied Microeconometrics	E	2
Applied Nonparametric Econometrics	E	2
Advanced Topics on Macroeconomics II	E	2
Topics in Financial Innovations	E	2
Advanced Topics in Cross-Strait Financial Market II	E	2

Courses marked with * are offered by other programs at WISE.

Part Two
Course Information

International Undergraduate Experimental Program (Fall Semester)

1. Business Communication (I)

Targeted Programs:
First year students
Course Type:
Compulsory
Prerequisite:
Instructors:
Roslyn Bowers
Reference Book:
Course Description:
<p>This course, Business Communication and Culture seeks, among other things, to explore and deepen students' understanding of not only the field of communication, but also in a broader sense, how it relates to the international business society and culture of the Eastern and Western worlds. Through research and other activities, students get the opportunity to participate in an interactive communicative process of discovery, and in creating and sharing of knowledge and information on international perspectives of business, including cultural similarities and differences. It therefore prepares students for any international challenges that they may encounter in their professional and academic life in a foreign country or international firm.</p> <p>In the Business Communication (I), students focus on the following:</p> <ul style="list-style-type: none">➤ Advancing all four English language skills – speaking, listening, reading & writing, with a focus on speaking and listening.➤ Business ethics and social responsibility of managers➤ Development of time management skills - planning and exercising conscious control over the amount of time spent on specific activities➤ Cooperative learning – working together in small groups➤ Netiquette – rules for communicating on the internet➤ The essentials of making effective presentations to inspire change➤ Discovering and understanding existing cultural differences between China and the western world through varying activities.➤ Action oriented projects to inspire change

2. Business Communication (IV)

Targeted Programs:
Second year students
Course Type:
Compulsory
Prerequisite:
Instructors:
Chris WHITE
Reference Book:
Course Description:
This class is meant to prepare students for study and life outside of China. Specifically, this class hopes to allow for greater ease in adapting to an English language environment and a different culture, including classes and life. There are three major areas this class will focus on, namely, improving students' English skills, enhancing students' ability to successfully adapt to a new culture, and advancing students' presentation skills.

3. Chinese Economy

Targeted Programs:
Third year students
Course Type:
Compulsory
Prerequisite:
Instructors:
Xiaojia BAO
Reference Book:
<ul style="list-style-type: none">➤ Naughton, Barry. 2007. The Chinese Economy: Transitions and Growth. Cambridge, Mass.: The MIT Press.➤ *Loren Brandt and Thomas Rawski. 2008. China's Great Economic Transformation. Cambridge University Press (Optional)➤ Chow, Gregory C. 2007. China's Economic Transformation, 2nd Edition, Blackwell Publishing, Oxford et al.➤ Spence, Jonathan D. 1999. The Search for Modern China, 2nd Revised edition, W. W. Norton & Co., New York.➤ J. Fan and R. Morck. 2012. Capitalizing China, University of Chicago Press, Chicago, IL➤ Lieberthal, Kenneth, 2004. Governing China: From Revolution to Reform. New York: W.W. Norton and Company.➤ WU Jinglian, 2005, Understanding and Interpreting Chinese Economic Growth
Course Description:
<p>The course provides a general introduction to the background and current structure of Chinese economy. It aims to help students understanding sources of Chinese economic growth and analyzing economic problems in China using empirical and theoretical approaches. We will first cover the basic geographic and demographic backgrounds and a brief introduction on economic growth history in China. Following it, we will mainly explore the behavior and decision-- making of main players in the economy, including firms, governments and households. Throughout the way, we will integrate industrialization, decentralization and urbanization together. In the end, the course will cover specific fields including trade and financial system in China.</p>

4. Corporate Finance

Targeted Programs:
Third and fourth year students
Course Type:
Elective
Prerequisite:
Instructors:
Li-Chuan TSAI
Reference Book:
Corporate Finance, 10 th Edition (McGraw-Hill/Irwin, 2009) by Stephen Ross, Randolph Westerfield, Jeffrey Jaffe.
Course Description:
This course emphasizes the modern fundamentals of the theory of finance, while providing contemporary examples to make the theory come to life. The course aims to present corporate finance as the working of a small number of integrated and powerful intuitions, rather than a collection of unrelated topics. The course develops the central concepts of modern finance: arbitrage, net present value, efficient markets, agency theory, options, and the trade-off between risk and return, and use them to explain corporate finance with a balance of theory and application.

5. Econometrics

Targeted Programs:
Third year students
Course Type:
Compulsory
Prerequisite:
Instructors:
Xuexin WANG
Reference Book:
<ul style="list-style-type: none">➤ Stock, J.H. and Watson, M. W. , Introduction to Econometrics, 2nd Edition, Pearson Education, 2007.➤ Bruce E. Hansen., Econometrics, Chapter 1 to 6 (http://www.ssc.wisc.edu/~bhansen/econometrics/)➤ Wooldridge, J.M., Introductory Econometrics, 4th Edition, South-Western College Publishing, 2009.
Course Description:
Econometrics introduces students to multiple regression methods for analyzing data in economics and related disciplines. Extensions include regression with discrete random variables, instrumental variables regression, and regression with time series data. The objective of the course is for the student to learn how to conduct and how to criticize empirical studies in economics and related fields.

6. Game Theory

Targeted Programs:
Third and fourth year students
Course Type:
Elective
Prerequisite:
Instructors:
Yun WANG
Reference Book:
<ul style="list-style-type: none">➤ Game Theory for Applied Economists, by Robert Gibbons, Princeton University Press Reprint edition (July 13, 1992), ISBN-10: 0691003955, ISBN-13: 978-0691003955➤ An Introduction to Game Theory, by Martin J. Osborne, Publisher: Oxford University Press (August 7, 2003), ISBN-10: 0195128958, ISBN-13: 978-0195128956
Course Description:
<p>This course introduces students to the basic concepts of game theory, which is the theory of strategic interactions. The emphasis is on the unifying perspective that game theory offers to questions in economics, and many other disciplines including business, biology, political science as well as everyday life. The basic concepts of game theory will be presented using a wide range of substantive and intellectually stimulating applications. After completing this course students will be able to view social interactions as strategic games, to use game theoretic concepts to predict behavior in these interactions and to conceive of ways in which altering the rules of the game will affect outcomes.</p>

7. Industrial Organization

Targeted Programs:
Third and fourth year students
Course Type:
Elective
Prerequisite:
The prerequisite for this course is Microeconomics. Students are presumed to be familiar with multivariate calculus, probability theory and basic optimization theory. You are encouraged to enroll concurrently in the course "Game Theory" taught by Yun WANG.
Instructors:
Brett GRAHAM
Reference Book:
<ul style="list-style-type: none">➤ Church, Jeffrey and Ware, Roger, Industrial Organization: A Strategic Approach, Berkeley Electronic Press, 2000.➤ Shy, Oz, Industrial Organization: Theory and Applications, The MIT Press, 1996
Course Description:
<p>In general equilibrium models the standard neoclassical assumption is that agents take prices as given, and may therefore ignore the decisions of others in the market. The assumption is reasonable when there are a large number of firms (and consumers) but is unrealistic in most markets. When there are only a few firms operating in a market, firms must make strategic choices, i.e. the decisions of competing firms must be considered when a firm makes its own decision. In this course we analyze market outcomes in the presence of such strategic interaction.</p> <p>One of the main concepts associated with this strategic interaction is market power. What are the determinants of market power? How do firms create, utilize, and protect it? When are antitrust enforcement or regulation appropriate policy responses to the creation, maintenance, or exercise of market power? This course emphasizes the importance of strategic competition and how firms can shelter their market power and economic profits from competitors. The focus on firm conduct to acquire and maintain market power also establishes the intellectual foundation for determining appropriate government policy in such environments.</p>

8. International Finance

Targeted Programs:
Third and fourth year students
Course Type:
Elective
Prerequisite:
N. Gregory Mankiw, Macroeconomics 7th Edition
Instructors:
Yufei YUAN
Reference Book:
<ul style="list-style-type: none">➤ N. Gregory Mankiw, Macroeconomics 7th Edition➤ Paul R. Krugman, Maurice Obstfeld and Marc J. Melitz, International Economics: Theory and Policy 9th Edition➤ Jeffrey D. Sachs, Felipe B. Larrain, Macroeconomics in the Global Economy Prentice-Hall
Course Description:
<p>Perhaps more than ever before, an international perspective is required to address the fundamental questions of macroeconomics. What determines the level of economic activity in an economy? What determines the pace of economic growth? What are the effects of monetary and fiscal policy? An international perspective not only improves understanding of these familiar questions, but it also allows one to consider important new questions. For instance, why do some countries run trade deficits or surpluses? Should such imbalances concern policy makers? Why do some countries encounter financial crises? What is the proper response to these crises?</p> <p>In this course, we will build a framework that allows us to address the many interesting questions of international macroeconomics. In this context, several important topics will be discussed, including the following.</p> <ul style="list-style-type: none">➤ What role does monetary and fiscal policy have in open economies?➤ Is there a need for new international financial institutions?➤ What are the merits of European Monetary Union?➤ What are the tradeoffs between fixed and flexible exchange rates?➤ What can account for financial crises?

9. Introduction to Probability Theory

Targeted Programs:
Second year students
Course Type:
Compulsory
Prerequisite:
No prior preparation in probability is required, but familiarity with algebra and multivariate calculus is assumed. There are no formal prerequisites.
Instructors:
Seong Yeon CHANG
Reference Book:
➤ Ross, S. (2009), A First Course in Probability, Prentice Hall, 8th edition. (required) ➤ Casella, G. and R. Berger (2002), Statistical Inference, Duxbury Press, 2nd edition.
Course Description:
This course is an introductory level probability course with a focus on the theoretical foundations of probability theory. The primary objective is to provide an introduction to probability theory necessary for the subsequent study of statistics and econometrics. Topics covered include methods of counting, axioms of probability, random variables, discrete and continuous probability distributions, expectation, moment generating functions, conditional probability and conditional expectations, multivariate distribution, Markov's and Chebyshev's inequalities, laws of large numbers, and the central limit theorem.

10. Literature Review and Thesis Writing

Targeted Programs:
Fourth year students
Course Type:
Compulsory
Prerequisite:
Instructors:
Lei MENG
Reference Book:
傅十和、朱迪·M. 佩雷拉合著. 2012. 如何撰写并发表英文经济学论文. 上海: 格致出版社.
Course Description:
This course introduces students to the ethics, the elements, and the structure of undergraduate thesis writing in the economics discipline. It covers topics such as how to find a topic, where to find data, how to do citation, how to do literature review, how to do empirical research, how to write a thesis, and how to do thesis presentation. The course serves as a helping tool to accompany thesis supervision of WISE faculty members.

11. Macroeconomics

Targeted Programs:
Second year students
Course Type:
Compulsory
Prerequisite:
Instructors:
Cheryl LONG
Reference Book:
Gregory Mankiw: <i>Macroeconomics</i> (7th Edition)
Course Description:
This course follows the introduction to macroeconomics and is designed to deepen your understanding of economic activities at the aggregate level, from the following three aspects. First, we will study the most important models on economic growth, business cycles, and international trade. In addition, we will seek to understand the microeconomic behaviors behind such aggregates as national income and output, unemployment, inflation and economic growth, in order to explore possible solutions to economic problems. Lastly, discussions of past economic events and applications of economic concepts to analyze the real world issues are another main part of this course. The goal is to teach you how to interpret macroeconomic processes in an economically coherent way.

12. Mathematical Economics

Targeted Programs:
Third year students
Course Type:
Compulsory
Prerequisite:
Instructors:
Yu REN
Reference Book:
Mathematical for Economics, First Edition, by Carl P. Simon and Lawrence Blume ISBN 0-393-95733-0
Course Description:
This course is designed to introduce a wide range of mathematical techniques used in senior undergraduate level economics courses. Topics include the tools used to analyze equilibrium models, comparative-static models, optimization, and, to a limited extent, dynamic models. The course will extensively employ linear algebra and basic calculus.

13. Principles of Accounting

Targeted Programs:
First year students
Course Type:
Compulsory
Prerequisite:
Instructors:
Zhigang QIN
Reference Book:
Fundamental Accounting Principles, 21th Edition, John J. Wild, Ken W. Shaw, Barbara Chiappetta, ISBN 978-7-300-18314-5, http://www.crup.com.cn/Item/117676.aspx .
Course Description:
Principles of Accounting is an introduction to financial and managerial accounting. The course will focus on the content, interpretation, and uses of accounting information including financial statements as well as other accounting information used for planning and control purposes within a business. The objective of the class is to help you develop a better understanding of these concepts and learn how to apply them to your life.

14. Principles of Economics

Targeted Programs:
First year students
Course Type:
Compulsory
Prerequisite:
Instructors:
Jiaming MAO
Reference Book:
N. Gregory Mankiw, Principles of Economics, Edition TBA
Course Description:
This course provides an introduction to the principles and theories of Economics. The course is split between the study of microeconomics, which focuses on the decision making of individuals and firms, and the study of macroeconomics, which examines the behavior of aggregate economic variables such as output, consumption, inflation, and unemployment. The goal of the course is to equip students with a fundamental understanding of how the economy works and allow them to apply basic economic theories and intuition to analyze real life problems. The course serves as a foundation for intermediate micro- and macroeconomics.

15. Urban Economics

Targeted Programs:
Third and fourth year students
Course Type:
Elective
Prerequisite:
The intent of this course is to expose you to a number of ideas in modern urban economics. We will emphasize the use of modeling techniques that build directly upon the material covered in intermediate microeconomics. If you have not yet taken microeconomics, or the equivalent, you should prepare to work very, very hard to keep up with your peers, and should see me immediately to discuss your readiness to take the course. You should also be comfortable with basic calculus and working with algebraic expressions.
Instructors:
Xiaofang DONG
Reference Book:
<ul style="list-style-type: none">➤ Arthur O'Sullivan, Urban Economics, 6th ed., McGraw-Hill Irwin➤ Jan K. Bruckner, Lectures on Urban Economics, MIT Press➤ Richard J. Arnott, A companion to Urban Economic, Blackwell Publishing
Course Description:
<p>The field of urban economics addresses a wide variety of questions and topics. At the most general level, it introduces space into economic models and studies the location of economic activity. Urban economics typically cover a wide range of theoretical approaches and policy options.</p> <p>In this course, our primary focus will be on answering general and interesting questions such as, Why do cities exist? How do firms decide where to locate? Why do people live in cities? What determines the growth and size of a city? Which policies can modify the shape of a city? A simple monocentric model will be introduced to give a basic idea what is the difference between the spatial model and traditional economic model. Then we will analyze specific economic problems that arise because we are living in cities, such as crime and poverty, housing, segregation, congestion, pollution, education, and public policy. I highly encourage and value students who can put those economic problems specifically in Chinese background.</p>

International Undergraduate Experimental Program (Spring Semester)

1. Business Communication (II)

Targeted Programs:
First year students
Course Type:
Compulsory
Prerequisite:
Instructors:
Roslyn Bowers
Reference Book:
Course Description:
<p>In the Business Communication (II), students focus on the following:</p> <ul style="list-style-type: none">➤ Development of time management skills - planning and exercising conscious control over the amount of time spent on specific activities➤ Cooperative learning – small group activities - working together in small groups➤ Simulation of work environment activities➤ Business structures➤ Business memos – effective memo writing for business purposes➤ Developing skills for inspiring change in work environments➤ The essentials of making effective presentations to inspire change➤ Discovering and understanding existing cultural differences between China and the western world through varying activities.➤ Action oriented projects to inspire change

2. Business Communication (V)

Targeted Programs:
Second year students
Course Type:
Compulsory
Prerequisite:
Instructors:
Chris WHITE
Reference Book:
Course Description:
<p>In the Business Communication (V), students focus on the following:</p> <ul style="list-style-type: none">➤ Deepening one's understanding of the field of communication – how it works➤ Understanding communication to acquire knowledge of the functionality of organizations➤ Cultivating time management skills – avoiding procrastination, effective organization of time➤ How is communication used to make organizations function to its maximum➤ Communication styles – how these styles vary around the world from culture to culture➤ Netiquette – rules for communicating on the Internet➤ How communication styles contribute to the variety of business styles existent worldwide➤ Gaining knowledge of how an organizational culture creates specific communication expectations➤ Effective and persuasive business writing – letters, memos, etc.➤ Evaluate articles and other material about social, political and ethical situations for doing business within varying cultures

3. Categorical Data Analysis

Targeted Programs:
Third and fourth year students
Course Type:
Elective
Prerequisite:
Probability and Statistics, linear model, estimation and testing theory.
Instructors:
Zhenghui FENG
Reference Book:
Required: An Introduction to Categorical Data Analysis. Second Edition. Alan Agresti (2007). John Wiley & Sons. Optional: ➤ Analysis of Categorical Data. Agresti, A., New York: Wiley, 2002. ➤ Generalized Linear Models. 2nd Ed. McCullagh P. and Nelder J., London: CRC Publishers, 1989. ➤ 《属性数据分析引论（第二版）》张淑梅 王睿 曾莉 译，高等教育出版社。 ➤ 《实用多元统计方法与SAS系统》高惠璇，北京大学出版社。
Course Description:
This course deals with statistical models for the analysis of categorical data. It is designed for undergraduate students taking an introductory course in categorical data analysis, which has a low technical level and does not require familiarity with advanced mathematics such as calculus or matrix algebra. Topics to be covered include introduction to categorical data, inference for contingency tables, generalized linear models, with emphasis on logistic regression and logit models, and a little bit on models for matched pairs.

4. Economic Growth

Targeted Programs:
Second, third and fourth year students
Course Type:
Elective
Prerequisite:
The prerequisite for this course is Macroeconomics II.
Instructors:
Mouhua LIAO
Reference Book:
David N. Weil, Economic Growth, third edition, Pearson Addison Wesley (ISBN: 0321795733)
Course Description:
A theoretical and empirical examination of economic growth and income differences between countries. Focuses on both the historical experience of countries that are currently rich and the process of catch-up among poor countries. Topics may include population growth, accumulation of physical and human capital, technological change, natural resources, income distribution, geography, government, and culture.

5. Economic History

Targeted Programs:
Second year students
Course Type:
Compulsory
Prerequisite:
Instructors:
He YANG
Reference Book:
Please refer to the course syllabus for details.
Course Description:
<p>This course presents an overview of world economic history from an organizational perspective. Topics include agricultural organization in Medieval Europe, industrial organization before and after the Industrial Revolution, the rise of corporation and the organization of the guild system, etc.</p>
<p>COURSE GOALS</p>
<p>(1) Learn about economic history. We will study major questions in world economic history from an organizational and an institutional perspective.</p>
<p>(2) Learn how to apply economic models and tools to understand real-world economic phenomena. The study of economic history provides a wonderful testing ground to apply the models and tools you have learned in other economics courses to evaluate real-world economic phenomena.</p>
<p>(3) Develop critical thinking skills / learn how to evaluate an economic argument. By critiquing research papers and newspaper articles, you will learn how to evaluate the strengths and weaknesses of different economic arguments.</p>

6. Environmental Economics

Targeted Programs:
Third and fourth year students
Course Type:
Elective
Prerequisite:
Instructors:
Minqiang ZHAO
Reference Book:
Required Textbook ➤ Charles D. Kolstad, Environmental Economics 2nd Edition, Oxford University Press, 2010 (ISBN: 0199732647) ➤ International Edition: Charles D. Kolstad, Intermediate Environmental Economics 2nd Edition, Oxford University Press, 2011 (ISBN: 0199732655) Recommended Readings for Undergraduate Students ➤ Peter Berck and Gloria Helfand, The Economics of the Environment, Prentice Hall, 2010 (ISBN: 0321321669) ➤ Eban S. Goodstein and Stephen Polasky, Economics and the Environment, 7th Edition, John Wiley & Sons Inc, 2014 (ISBN: 1118539729) Recommended Readings for Graduate Students ➤ Timothy C. Haab and Kenneth E. McConnell, Valuing Environmental and Natural Resources: The Econometrics of Non-market Valuation, Edward Elgar Publishing Ltd, 2002 (ISBN: 1840647043) ➤ John Whitehead, Tim Haab and Ju-Chin Huang, Preference Data for Environmental Valuation: Combining Revealed and Stated Approaches, Routledge, 2011 (ISBN: 0415774640)
Course Description:
The aim of this course is to help you understand the connection between economics and the environment, and how economic analytical tools can be used to make private and public economic decisions that involve environmental resources. The economic analytical tools that will be discussed in this course include demand-supply analysis, consumption theory and budget constraint, methods to value public goods (based on both revealed-preference and stated-preference approaches), production theory and pollution, market failure and negative externalities, government policies to address negative externalities (for environmental protection), and benefit-cost analysis.

7. Financial Economics

Targeted Programs:
Second year students
Course Type:
Compulsory
Prerequisite:
The prerequisites for this course are introductory courses in accounting, statistics and economics. Finance is very mathematical and you will need to utilize material developed in the prerequisite courses. If you have not taken these courses, you may have great difficulty in this one. If you are not trained in accounting before, please read the first four chapters in the textbook.
Instructors:
Yu ZHANG
Reference Book:
<ul style="list-style-type: none">➤ Bodie, Merton and Cleeton (BMC), Financial Economics, 2nd edition.➤ Bodie, Kane and Marcus (BKM), Investments, 8th edition.
Course Description:
This course is about foundation of finance, financial markets: financial assets (securities) and how they are valued and traded. Financial markets constitute the financial environment in which the firm operates. For the most part, we take the viewpoint of a user of the financial market: an investor, investment advisor, or someone using the market to hedge (reduce) risk.

8. Financial Statement Analysis

Targeted Programs:
Second, third and fourth year students
Course Type:
Elective
Prerequisite:
Instructors:
Helen Chen CLARK
Reference Book:
Financial Statements Analysis Evaluation, Third Edition (2013), ISBN 978-1-61853-009-7 Easton, McAnally, Sommers and Zhang, Cambridge Business Publishers
Course Description:
Financial Statement Analysis is primarily concerned with reviewing and understanding a company's financial statements (e.g. balance sheet, income statement, statement of stockholders' equity, and statement of cash flows), assessing the financial health of the company, its strengths and weaknesses by using various sources and analytical tools, thus enabling more effective management/credit/investment decision making. Some basic accounting concepts will be reviewed and discussed as building blocks throughout the course.

9. International Trade

Targeted Programs:
Second, third and fourth year students
Course Type:
Elective
Prerequisite:
Intermediate microeconomics
Instructors:
Luhang WANG
Reference Book:
Krugman, Melitz, and Obstfeld, International Economics: Theory and Policy Pearson Education Limited; Global edition of 9 th revised edition (referred to as KMO in what follows) Chapter 1-12
Course Description:
This course introduces fundamental concepts in international trade and shows how general tools of economic analysis can be applied in the trade context. More specifically, we will develop models to explain why trade may happen and what differences it can make. We will also explore the empirical literature to test how well the models perform in terms of matching the facts we observe. The third goal of this course is to understand the role of government in international trade and the effectiveness of trade policies.

10. Law and Economics

Targeted Programs:
Third and fourth year students
Course Type:
Elective
Prerequisite:
Instructors:
Cheryl LONG
Reference Book:
Robert Cooter and Thomas Ulen, Law and Economics (Addison-Wesley, 6 ed.), or 史晋川译中文版, 格致出版社/上海三联书店/上海人民出版社;
Course Description:
This course provides an introduction to law and economics. Standard economic theory will be applied to analyze law and legal institutions and to study the origin, nature, and consequences of the "rules of the game" as they pertain to individual and group behaviors. Specifically, applications of economic theory in property law, contract law, tort law, crime and prosecution, and other related topics will be discussed. By the end of this course, students are expected to: 1. understand the effects of the legal system on economic behaviors; 2. learn "how to think like an economist" about legal rules; 3. understand both the advantages and the limitations of economic models about human behaviors; and, 4. gain some understanding of how social scientists conduct quantitative analysis.

11. Linear Algebra

Targeted Programs:
First year students
Course Type:
Compulsory
Prerequisite:
Instructors:
Ming FANG
Reference Book:
Linear Algebra, by Zhifeng Hao, Guorui Xie, Guoqiang Wang, Zhijian Wu.
Course Description:
<p>This is a first linear algebra course. The course starts from solving linear equation systems. Based on linear systems, we introduce the concept of matrix and operations on matrices. Then, the determinant of a square matrix and the rank of a matrix are also introduced as the most often used tools to analyze the properties of matrices. Other related topics are also covered, for example, vector spaces, linear transformation, eigenvalues, eigenvectors, quadratic form, etc. Several topics and comments, such as the Jordan canonical form of a square matrix, will be added as supplementary materials to the book occasionally. As an introductory course, the goal is to prepare the students for further study and research in the direction of linear algebra and its applications.</p> <p>Many concepts and operations are new. To get familiar with all these, one needs to practice a lot of exercises. The exercises in the book are divided according to the corresponding sections for the students to have a timely practice of the course materials. (See the end of this syllabus.) Of course, the students are highly recommended to find other sources of problems from elsewhere. Regarding the homework, the students can discuss it with others, but are required to finish the writing individually. Recitation sessions are given from time to time.</p> <p>The course is taught mainly in English, and the students are encouraged to participate in the course in English. However, English is not a must and Chinese can also be used for communication especially when there is a confusion in English. Hopefully, the students can get used to thinking of mathematics in English by the end of this course. But English will not be a criterion for determining the course grade.</p>

12. Mathematical Statistics

Targeted Programs:
Second year students
Course Type:
Compulsory
Prerequisite:
Introduction of probability theory: We will review the probability theory in the first two weeks of the class but the students must have taken a probability course before taking this class.
Instructors:
Wei ZHONG
Reference Book:
<ul style="list-style-type: none">➤ An Introduction to Mathematical Statistics And Its Applications, Larsen and Marx, 5th Edition.➤ Probability and Statistics for Economists, Yongmiao Hong, manuscript, 2012.➤ Statistical Inference, Casella and Berger, 2nd Edition.
Course Description:
In this course, you will learn: sampling from the normal distributions; order statistics; methods of finding estimators including method of moment estimation and maximum likelihood estimation; properties of point estimators; unbiased estimation; sufficiency and completeness; uniformly minimum-variance unbiased estimator (UMVUE); parametric interval estimation; tests of hypotheses; the trinity of tests; most powerful test; chi-square test; goodness-of-fit test.

13. Microeconomics

Targeted Programs:
First year students
Course Type:
Compulsory
Prerequisite:
Algebra and calculus (principles of economics is also recommended)
Instructors:
Jacopo MAGNANI
Reference Book:
Robert S. Pindyck & Daniel L. Rubinfeld: Microeconomics, 7th edition, Tsinghua University Press, 2010 (or previous editions),
Course Description:
This course covers the classical topics of individual choice by consumers and firms, competitive markets, strategic interaction and market failures.

14. Time Series Analysis

Targeted Programs:
Third and fourth year students
Course Type:
Elective
Prerequisite:
Probability and Statistics
Instructors:
Yingxing LI
Reference Book:
<ul style="list-style-type: none">➤ Time Series Analysis with applications in R, Jonathan D. Cryer and Kung-sik Chan (required)➤ Analysis of Financial Time Series, Ruey S. Tsay, 2010.➤ Statistics and Data Analysis for Financial Engineering, David Ruppert, 2011.
Course Description:
This is an introductory course, with emphasis on practical aspects of time series analysis. Methods are hierarchically introduced, starting with terminology, and progressing to different models and inference procedures. Students are expected to learn the skills needed to do empirical research with time series data.

International Undergraduate Experimental Program (Summer Term)

1. Business Communication (III)

Targeted Programs:
First year students
Course Type:
Compulsory
Prerequisite:
Instructors:
Roslyn Bowers
Reference Book:
Course Description:
In the Business Communication (III), students focus on the following: <ul style="list-style-type: none">➤ Focus on developing effective writing skills➤ Writing – elements of style➤ Intercultural professionals – differences & similarities➤ Non verbal communication➤ The impact of culture➤ Effective group presentations

2. Business Communication (VI)

Targeted Programs:
Second year students
Course Type:
Compulsory
Prerequisite:
Instructors:
Roslyn Bowers
Reference Book:
Course Description:
<p>In the Business Communication (VI), students focus on the following:</p> <ul style="list-style-type: none">➤ Understand the important values and perspectives that come from different cultures➤ Focus on communication practices and processes to better understand how as an individual one can influence any organizational culture➤ Gain a multi-perspective view of organizational culture➤ Acquire quantitative and qualitative techniques for conducting analyses of organizational cultures➤ Examine how organizational culture is shaped by communication, technology and globalization➤ Evaluate articles and other material about social, political and ethical situations for doing business within varying cultures.➤ Time management – advanced strategies for job hunting, examinations etc.➤ Simulated job interviews➤ Advanced writing techniques and writing resumes and personal statements➤ Conducting workshops and getting involved in action oriented projects➤ Feel highly confident to work professionally with an international organization or to study abroad.

Undergraduate Double Degree Programs (Fall Semester)

1. Application of Financial Econometrics

Targeted Programs:
Second year students
Course Type:
Elective (Economics, Finance)
Prerequisite:
You should be familiar with <ul style="list-style-type: none">➤ An introductory course in econometrics, textbook such as Gujarati (2003)➤ An introductory course in finance, a good textbook is Bodie and Merton (1999)
Instructors:
Yanan HE
Reference Book:
<ul style="list-style-type: none">➤ Main textbook: Chen Deng-Ta, 2012, Applied Econometrics - Advanced Lecture Notes on EViews, Peking University Press, Beijing, China. (available on Amazon, Dangdang, and JD)➤ Secondary textbook: IHS EViews (2013a,b)➤ Suggested reading: Brooks (2008), Tsay (2005)
Course Description:
<p>This course focuses on using and applying the software for carrying out the empirical study in finance. We will learn by example with EViews (you are encouraged to use R or other software). The emphasis throughout the lectures is on a valid application of the softwares to real data and problems in finance. By the end of the course, students will have good knowledge of</p> <ul style="list-style-type: none">➤ Familiar with EViews (general understanding of R, SAS and Matlab)➤ management of finance data➤ analysis of finance data➤ econometric analysis <p>In the class, the corresponding mathematics models are briefly introduced, to the extent that EViews inputs and outputs are well defined. How to tackle real-world problems are trained through case studies.</p>

2. Asset Pricing / Financial Economics

Targeted Programs:
First, second and third year students
Course Type:
Compulsory (Finance) , Elective (Economics, Statistics)
Prerequisite:
This is an introductory level course which does not require in-depth knowledge on economics or finance. Students are expected to be skillful in using high-school math to make relevant calculations.
Instructors:
Liuliu NIU, Jiaquan YAO, Qian HAN
Reference Book:
Zvi Bodie, Robert C. Merton and David L. Cleeton, Financial Economics, English version, 2 nd edition, 2011-1, published by Renmin University Press, authorized by Pearson Education. ISBN 9787300131740.
Course Description:
This is an introductory course to financial economics, which lays foundations for more specialized course that have a narrower focus on subfields of finance. The course is suitable for students with diverse backgrounds to seek a solid understanding and overview of the entire field of finance.

3. Business Communication and Culture

Targeted Programs:
Second and third year students
Course Type:
Compulsory (Economics, Finance, Statistics)
Prerequisite:
Instructors:
Ben HUNTER, Marilia RESENDE
Reference Book:
RESENDE, Marilia and Ji Yuhua (2012) A PRACTICAL COURSE IN INTERCULTURAL COMMUNICATION. Shanghai: SFLEP.
Course Description:
<p>This course introduces intercultural communication concepts, with a focus on business communication and how the contrasting cultures of Eastern and Western worlds relate to these concepts. The course comprises two major halves, the first half is based on intercultural communication and introduces the main theories of communication as it relates to cultures. The second half presents fundamentals of business communication commonly used among English speakers.</p> <p>The course aims to:</p> <ul style="list-style-type: none">➤ highlight how language, culture and communication are related;➤ differentiate the various methods people use to communicate➤ appraise the diversity of cultures and increase cultural awareness;➤ appreciate similarities and respect differences of cultures;➤ recognize contrasting aspects of business communication between East & West➤ identify effective communication techniques within a business context;➤ anticipate & avoid potential problems in intercultural business communication;➤ develop knowledge, skill & strategies to deal with intercultural misunderstandings;

4. Computational Data Analysis Using Software

Targeted Programs:
Second year students
Course Type:
Compulsory (Statistics)
Prerequisite:
<ul style="list-style-type: none"> ➤ An introductory course in probability and statistics ➤ An introductory course in econometrics
Instructors:
Haifeng XU
Reference Book:
<ul style="list-style-type: none"> ➤ Main textbook: Lecture notes ➤ Secondary textbook: Stata 统计分析与应用 ➤ Suggested reading: statistics with stata updated for version 10, Introductory Econometrics - A Modern Approach
Course Description:
This course focuses on general understanding of econometric analysis and using the software - Stata. The aim of this course is to make you familiar with using Stata. We will teach in a very applied way using real-world dataset. In the end, you should be able to start doing analyses with Stata.

5. Econometrics I

Targeted Programs:
First year students
Course Type:
Compulsory (Economics, Finance)
Prerequisite:
Calculus, Linear Algebra.
Instructors:
Ying FANG, Yanan HE, Qingliang FAN
Reference Book:
<ul style="list-style-type: none"> ➤ Lecture Notes on Probability and Statistics Theory for Economists, Yongmiao Hong. ➤ Probability and Statistical Inference, Second Edition by Robert Bartoszynski and Magdalena Niewiadomska-Bugaj, John Wiley & Sons, Inc., 2008. ➤ Statistical Inference, Casella, G. and Berger, R. L. Duxbury Press, 2002.
Course Description:
This is an introductory level course in econometrics. This course help student understand the theory of probability and statistics. At the end of the course, students should understand the basic concepts and methods in probability and statistics. They should get the basic knowledge of random variables, distributions, estimations, and hypothesis testing. They should be able to construct linear regression models to analyze data in real problems.

6. Financial Derivatives Analysis

Targeted Programs:
Second and third year students
Course Type:
Elective (Economics, Finance, Statistics)
Prerequisite:
Instructors:
Dingming LIU
Reference Book:
Hull, J. (2010): Options, Futures, and Other Derivatives, 7th Edition. Pearson Education. (8th Edition is also ok)
Course Description:
This module introduces the concept of derivative pricing based on the idea of an arbitrage-free market. Basic derivative instruments such as forwards, futures, options, and swaps will be covered. Valuation models for forwards and the Black-Scholes model for options will be studied. The difference between forwards and futures will be discussed. The module contents will also address the hedging issue and the trading issue. From a hedging perspective, option Greeks, interest rate and currency swaps versus exposures, and forward-spot basis risks will be studied. From a trading perspective, arbitrage opportunities, violations of parities such as put-call parity, and other options strategies will be reviewed.

7. Mathematical Economics

Targeted Programs:
First year students
Course Type:
Compulsory (Economics), Elective (Finance)
Prerequisite:
Instructors:
Sen GENG
Reference Book:
Mathematical for Economics, First Edition, by Carl P. Simon and Lawrence Blume (ISBN 0-393-95733-0)
Course Description:
This course is designed to introduce a wide range of mathematical techniques used in senior undergraduate level economics courses. Topics include the tools used to analyze equilibrium models, comparative-static models, optimization, and to a limited extent, dynamic models. The course will extensively employ linear algebra and basic calculus.

8. Microeconometrics and Applications

Targeted Programs:
Second and third year students
Course Type:
Compulsory (Economics), Elective (Finance, Statistics)
Prerequisite:
Instructors:
Kailing SHEN
Reference Book:
<ul style="list-style-type: none">➤ Handbook of Labor Economics, Vol 3A, Orley C. Ashenfelter and David Card, Chapter 23, Empirical Strategies in Labor Economics, by Joshua D. Angrist and Alan B. Krueger (downloadable from http://www.irs.princeton.edu/pubs/pdfs/401.pdf)➤ Microeconometrics: methods and applications, by Cameron and Trivedi, 微观计量经济学方法与应用, 科林-卡梅隆, 普拉温-特里维迪, 机械工业出版社➤ Mostly harmless econometrics: an empiricist's companion, Joshua D. Angrist and Jörn-Steffen Pischke Princeton and Oxford: Princeton University Press
Course Description:
Based on all the econometrics tools studied in the previous terms, this course prepares our students for applying the most appropriate econometric tools in your own empirical works, especially using micro data. By explaining the advantages and potential problems of common identification strategies, we expect students develop a sense of how to make choices among different strategies based on data available and problem at hand.

9. Principles of Economics

Targeted Programs:
First year students
Course Type:
Compulsory (Economics, Finance), Elective (Statistics)
Prerequisite:
Instructors:
Mouhua LIAO, Xiaoyi HAN
Reference Book:
Principles of Economics, N. Gregory Mankiw, 6th edition* South-Western Cengage.
Course Description:
This course covers basic principles of microeconomics and macroeconomics. Students will learn how to apply basic economic theories and tools to analyze real life economic issues and public policies, "thinking like an economist." This course also provides economic intuitions for mathematically oriented intermediate economics courses.

10. Probability Theory

Targeted Programs:
First year students
Course Type:
Compulsory (Statistics)
Prerequisite:
No prior preparation in probability is required, but familiarity with algebra and multivariate calculus is assumed. There are no formal prerequisites.
Instructors:
Seong Yeon CHANG
Reference Book:
➤ Ross, S. (2009), A First Course in Probability, Prentice Hall, 8th edition. (required) ➤ Casella, G. and R. Berger (2002), Statistical Inference, Duxbury Press, 2nd edition.
Course Description:
This course is an introductory level probability course designed for the double degree program at WISE. The primary objective is to provide an introduction to probability theory necessary for the subsequent study of statistics and econometrics. Topics covered include methods of counting, axioms of probability, random variables, discrete and continuous probability distributions, expectation, moment generating functions, conditional probability and conditional expectations, multivariate distribution, Markov's and Chebyshev's inequalities, laws of large numbers, and the central limit theorem.

11. Regression Analysis

Targeted Programs:
Second year students
Course Type:
Compulsory (Statistics)
Prerequisite:
Instructors:
Lvzhen SHEN
Reference Book:
J.H. Stock and M.W. Watson, <i>Introduction to Econometrics</i> (1 st , 2 nd , 3 rd edition)
Course Description:
This course introduces students to multiple regression methods for analyzing data in economics, finance and related disciplines. Extensions include regression with discrete random variables, instrumental variables regression, analysis of random experiments and quasi-experiments, and regression with time series data. The objective of the course is for the student to learn how to conduct – and how to critique – empirical studies in economics, finance and related fields. Accordingly, the emphasis of the course is on empirical applications. The mathematics of econometrics will be introduced only as needed and will not be a central focus.

12. Time Series Analysis

Targeted Programs:
Second year students
Course Type:
Compulsory (Statistics)
Prerequisite:
Instructors:
Yingxing LI
Reference Book:
<ul style="list-style-type: none">➤ Time Series Analysis with applications in R, Jonathan D. Cryer and Kung-sik Chan, Springer, 2010.➤ Analysis of Financial Time Series, Ruey S. Tsay, 2010.➤ Statistics and Data Analysis for Financial Engineering, David Ruppert, 2011.
Course Description:
This is an introductory course, with emphasis on practical aspects of time series analysis. Methods are hierarchically introduced, starting with terminology, and progressing to different models and inference procedures. Students are expected to learn the skills needed to do empirical research with time series data.

13. Time Series / Financial Econometrics

Targeted Programs:
Second year students
Course Type:
Compulsory (Economics, Finance)
Prerequisite:
Instructors:
Tingguo ZHENG
Reference Book:
Analysis of Financial Time Series (3ed) by Ruey S. Tsay, 2010
Course Description:
This course aims to provide students with a firm understanding of the econometric methods used in empirical finance research. Both theoretical finance models and econometric methods are introduced, and the emphasis is on the interplay between the two. The course covers discrete time as well as continuous time models. Topics covered: <ul style="list-style-type: none">➤ Statistics Properties of Financial Market Data (Chapter 1)➤ Basics of Time Series Analysis (Chapter 2)➤ Univariate Time Series Models (Chapter 2)➤ Univariate GARCH Models (Chapter 3)➤ Continuous-Time Models (Chapter 6)➤ Vector Autoregression (VAR) Models (Chapter 8)➤ Cointegration Analysis (Chapter 8)➤ State-Space Models and Kalman Filter (Chapter 11)

Undergraduate Double Degree Programs (Spring Semester)

1. Business Communication and Culture

Targeted Programs:
Second and Third year students
Course Type:
Compulsory (Economics, Finance, Statistics)
Prerequisite:
Instructors:
TBD
Reference Book:
Course Description:
<p>Business Culture and Communication examines a focus on the foundations of International Business and methodologies to provide successful achievements and standards in the international business environment. Special emphasis is placed on the role in the evolving development of international business conversation. This includes an overview of multilingual curricula with a general focus on terminology for linguistically responsive business instruction and assessment techniques. Participation is expected as well as being in proper attendance. Being a speaking business course, everyone is highly advised to actively participate. Various coursework including homework, in class assignments, attendance, effort and a final exam will also be calculated for a final note.</p> <p>We are evaluating the entire global business experience, whether we interact with a product, a service, or a combination. So the fundamental focus is providing value throughout the value chain, whether that value chain encompasses a product, a service, employer or employee.</p> <p>Increasingly, companies within China and abroad are interested in their impact on the global economy as well as on the overall business environment. We will evaluate the “triple bottom line” of financial, social, and environment performance. We will view the importance of ethics and social responsibility in creating successful organizations. We will evaluate materials encompassing social ethical situations for doing business while still maintaining a successful organization and or business.</p>

2. Corporate Finance

Targeted Programs:
Second and third year students
Course Type:
Elective (Finance, Economics, Statistics)
Prerequisite:
Instructors:
PeiLin HSIEH
Reference Book:
<i>Corporate Finance, 9th Edition</i> (McGraw-Hill/Irwin, 2009) by Stephen Ross, Randolph Westerfield, Jeffrey Jaffe.
Course Description:
This course emphasizes the modern fundamentals of the theory of finance, while providing contemporary examples to make the theory come to life. The course aims to present corporate finance as the working of a small number of integrated and powerful intuitions, rather than a collection of unrelated topics. The course develops the central concepts of modern finance: arbitrage, net present value, efficient markets, agency theory, options, and the trade-off between risk and return, and use them to explain corporate finance with a balance of theory and application.

3. Data Mining

Targeted Programs:
Second year students
Course Type:
Compulsory (Statistics)
Prerequisite:
Instructors:
Hongli GUO
Reference Book:
Pang-Ning Tan, Michael Steinbach, Vipin Kumar. <i>Introduction to Data Mining</i> . China Machine Press, 2010.
Course Description:
Data mining is a technology that blends traditional data analysis methods with sophisticated algorithms for processing large volumes of data. It has also opened up exciting opportunities for exploring and analyzing new types of data and for analyzing old types of data in new ways. So the teaching objectives of the course includes: <ul style="list-style-type: none">➤ Fundamental concepts of data mining;➤ Data preprocessing(including feature selection, dimensionality reduction, normalization and data subsetting);➤ Algorithms of data mining(such as classification, association analysis, clustering, and anomaly detection);➤ The application of data mining to real problems (including the operation of Clementine).

4. Econometrics II

Targeted Programs:
First year students
Course Type:
Compulsory (Economics, Finance)
Prerequisite:
The prerequisite for this course is Econometrics I. A good background in probability and statistics, calculus, and matrix algebra.
Instructors:
Xuexin WANG, Haiqiang CHEN
Reference Book:
Required: Stock, J.H. and Watson, M.W., <i>Introduction to Econometrics</i> , 2nd Edition, Pearson Education, 2007. Optional: Wooldridge, J.M., <i>Introductory Econometrics: A Modern Approach</i> , 4th Edition, Soth-Western College Publishing 2009.
Course Description:
This course is an introduction to the theory and application of econometric techniques. We will discuss how econometric models are formulated, estimated, used to test hypotheses, and used to forecast. This course aims at providing the students with good working knowledge of simple and multiple regression model, as well as a number of more advanced topics.

5. Financial Mathematics

Targeted Programs:
First year students
Course Type:
Compulsory (Finance), Elective (Economics, Statistics)
Prerequisite:
You should be familiar with: <ul style="list-style-type: none">➤ An introductory course in finance, textbook such as Bodie and Merton (1999)➤ An introductory course in probability and statistics
Instructors:
Dengta CHEN
Reference Book:
<ul style="list-style-type: none">➤ Main textbook: Shreve (2004)➤ Secondary textbook: Neftci (2000)➤ Suggested reading: Hull (2009), Joshi (2008)
Course Description:
<p>This course presents the binomial asset pricing model, which is used as a vehicle for introducing in a simple setting the concepts needed for the continuous-time theory. By the end of the course, students will have good knowledge of</p> <ul style="list-style-type: none">➤ no-arbitrage method of option pricing in a binomial model➤ risk-neutral pricing➤ notions of martingales and Markov processes.➤ change of measure➤ American derivative securities➤ random walk, random interest rates, and forward measure <p>which are essential to understanding the methodology of modern quantitative finance. Some of exercises extend the theory and others are drawn from practical problems in quantitative finance. Besides, some topics will be carried out in Finance Lab of WISE.</p>

6. Macroeconomics

Targeted Programs:
First year students
Course Type:
Compulsory (Economics, Finance)
Prerequisite:
N. Gregory Mankiw, Principles of Macroeconomics 5th Edition, Cengage Learning, 2008 (ISBN: 0-324-59466-6)
Instructors:
Marcel BLUHM, Xiaoning LONG, Yufei YUAN
Reference Book:
➤ N. Gregory Mankiw, Macroeconomics 7th Edition, Worth Publishers, 2008 (ISBN:1-4292-1887-8) ➤ Paul R. Krugman, Maurice Obstfeld and Marc J. Melitz, International Economics: Theory and Policy 9th Edition ➤ Jeffrey D. Sachs, Felipe B. Larrain, Macroeconomics in the Global Economy Prentice-Hall
Course Description:
<p>Perhaps more than ever before, an international perspective is required to address the fundamental questions of macroeconomics. What determines the level of economic activity in an economy? What determines the pace of economic growth? What are the effects of monetary and fiscal policy? An international perspective not only improves understanding of these familiar questions, but it also allows one to consider important new questions. For instance, why do some countries run trade deficits or surpluses? Should such imbalances concern policy makers? Why do some countries encounter financial crises? What is the proper response to these crises?</p> <p>In this course, we will build a framework that allows us to address the many interesting questions of international macroeconomics. In this context, several important topics will be discussed, including the following.</p> <ul style="list-style-type: none">➤ What role do monetary and fiscal policy have in open economies?➤ What are the merits of European Monetary Union?➤ What are the tradeoffs between fixed and flexible exchange rates?➤ What can account for financial crises?

7. Mathematical Statistics

Targeted Programs:
First year students
Course Type:
Compulsory (Statistics)
Prerequisite:
Instructors:
Wei ZHONG
Reference Book:
<ul style="list-style-type: none">➤ Introduction to the Theory of Statistics. By A.M.Mood, F.A. Graybill &D.C.Boes. Third Edition.➤ Probability and Statistics for Economists. By Yongmiao Hong.➤ Statistical Inference. By George Casella and Roger L. Berger. Second Edition
Course Description:
Sampling from the normal distributions; methods of finding estimators; properties of point estimators; sufficiency; unbiased estimation; tests of hypotheses; likelihood ratio test; regression.

8. Microeconomics

Targeted Programs:
First year students
Course Type:
Compulsory (Economics, Finance)
Prerequisite:
Instructors:
Xiaofang DONG, Xi YANG
Reference Book:
Pindyck and Rubinfeld, Microeconomics, 7th Edition, original English version published in China by Tsinghua University Press (清华大学出版社), 2010.
Course Description:
This is the second course to complete a sequence in basic microeconomic theory. We will extent standard demand and supply analysis to factor markets like labor and capital market, and use general equilibrium analysis to understand the welfare properties of a competitive market equilibrium. Markets, however, are not always competitive. We will study variations from perfectly competitive markets due to the existence of market power, incomplete information, externalities and public goods, and the policies that could help to improve economic efficiency. Students are introduced to important tools in game theory for analyzing strategic behavior, and other topics like the economic analysis of conflict and government.

9. Multivariate Statistical Analysis

Targeted Programs:
Second year students
Course Type:
Compulsory (Statistics)
Prerequisite:
Linear Algebra, introductory probability and statistics.
Instructors:
Yanan HE
Reference Book:
<i>Applied Multivariate Statistical Analysis</i> , sixth Edition, by Johnson, R.A. and Wichern, D.W., published by Pearson Education or Tsinghua University Press.
Course Description:
This is an introductory multivariate statistical analysis course. The aim of the course is to introduce a variety of statistical methods for describing and analyzing multivariate data, emphasizing the implementation and interpretations of these methods. At the end of the course, students should develop the knowledge for making proper interpretations, selecting appropriate techniques, and understanding their value.

10. Stochastic Processes

Targeted Programs:
Second and third year students
Course Type:
Elective (Economics, Finance, Statistics)
Prerequisite:
Calculus, Linear Algebra, Probability and Statistics.
Instructors:
Ming LIN
Reference Book:
➤ <i>Stochastic Processes</i> , Sheldon M. Ross, John Wiley & Sons, Inc., 1996. ➤ <i>Introduction to Stochastic Calculus with Applications</i> , Fima C Klebaner, Imperial College Press, 2005.
Course Description:
This is an introductory course in stochastic processes. Its purpose is to introduce students into a range of stochastic processes, including Poisson processes, Markov processes, random walks, Brownian motion, which can be used as modeling tools in finance. In addition, the students will also get some basic knowledge of stochastic calculus with emphasis on the applications to financial modeling and financial engineering.

11. Thesis Writing

Targeted Programs:
Second and third year students
Course Type:
Elective (Economics, Finance, Statistics)
Prerequisite:
Instructors:
Yanan HE
Reference Book:
There is no textbook for this class. However, sample articles or documents will be sent to the students via email. Students are expected to print out the files and bring them to class as it is instructed in the email. Several in-class exercises will be based on the sample articles or documents.
Course Description:
This course introduces students to the ethics, the elements, and the structure of undergraduate thesis writing in the economics discipline. It covers topics such as how to find a topic, where to find data, how to do citation, how to do literature review, how to do empirical research and how to write a thesis. Students are required to perform in-class exercises, write their thesis proposal, and present their proposal at the end of the class.

WISE-SOE International Master's Programs (Fall Semester)

1. Business Statistics

Targeted Programs:
First year students
Course Type:
Compulsory
Prerequisite:
Instructors:
Jingyuan LIU
Reference Book:
<ul style="list-style-type: none">➤ Newbold, Carlson, and Thorne. 2007. Statistics for Business and Economics (6th Edition). Pearson. Textbook website: http://www.pearsonhighered.com/newbold/➤ Wonnacott, T.H. and J. Wonnacott. 1990. Introductory Statistics for Business and Economics (5th edition). John Wiley and Sons: New York.➤ Anderson, D.R., D.J. Sweeney, T.A. Williams. 2011. Statistics for Business and Economics (11th edition). Cengage Learning.
Course Description:
<p>This course introduces you to the mathematical tools of probability and statistics. It serves as a foundation for concepts used in the sequel course econometrics. The course is made up of two parts. The first part of the course covers probability theory which is the foundation of statistics. The second part covers basic elements of statistics including estimation and hypothesis testing. After taking this course, I hope you will agree that probability and statistics can help you in making more effective decisions. I also hope you will be prepared to understand the basic but important concepts in the sequel course econometrics.</p>

2. Chinese Language Basic I

Targeted Programs:
First year students
Course Type:
Compulsory
Prerequisite:
Instructors:
Ruiling HE
Reference Book:
➤ 《成功之路》(ROAD TO SUCCESS) 入门篇(THRESHOLD)
➤ 《成功之路》(ROAD TO SUCCESS) 起步篇1 (Lower Elementary)
Course Description:
Students are expected to: ➤ have an understanding of Pinyin at the end of the semester. ➤ communicate with simple mandarin at the end of the semester. ➤ recognize and write about 120 characters at the end of the semester.

3. Financial Economics

Targeted Programs:
First and second year students
Course Type:
Compulsory
Prerequisite:
This is an introductory level course which does not require in-depth knowledge on economics or finance. Students are expected to be skillful in using high-school math to make relevant financial calculations.
Instructors:
Linlin NIU
Reference Book:
Zvi Bodie, Robert C. Merton and David L. Cleeton, Financial Economics, English version, 2nd edition, 2011-1, published by Renmin University Press, authorized by Pearson Education. ISBN 9787300131740.
Course Description:
This is an introductory course to financial economics, which lays foundations for more specialized course that have a narrower focus on subfields of finance. The course is suitable for students with diverse backgrounds to seek a solid understanding and overview of the entire field of finance.

4. International Trade

Targeted Programs:
Second year students
Course Type:
Compulsory
Prerequisite:
Microeconomics (intermediate)
Instructors:
Yan CHEN
Reference Book:
<ul style="list-style-type: none"> ➤ Paul R. Krugman, Maurice Obstfeld and Marc J. 2012. International Economics: Theory & Policy (9th), Addison-Wesley.. (International trade) ➤ Robert C. Feenstra.2004. Advanced International Trade: Theory and Evidence, Princeton University Press.
Course Description:
<p>This course examines the international trade theory and policy as well as the international movement of factors of production. The course studies four key issues of international trade: the pattern of international trade, the volume of international trade, international trade and income distribution , international trade and economic growth. In terms of international trade theory, the course covers classical trade theory and modern trade theory. The content includes the Ricardian model and comparative advantage, resources and the Heckscher-Ohlin model, specific factors and income distribution, the standard trade model in open economy , scale economies, imperfect competition and new trade theory, trade and endogenous growth, firms in the global economy and multinational enterprises and new-new trade theory. In terms of trade policies, the course covers the instruments of trade policy, the political economy of trade policy, trade policy in developing countries and controversies in trade policy.</p>

5. Macroeconomics

Targeted Programs:
First year students
Course Type:
Compulsory
Prerequisite:
Instructors:
Marcel BLUHM
Reference Book:
G. Mankiw (2012): Macroeconomics, 8. Edition, New York: Worth Publishers.
Course Description:
<p>This is a course in macroeconomics designed for the International Master Program. The main objective of the course is to provide participants with a thorough understanding of macroeconomic theory. The course covers classical economic theory, economic growth theory, and business cycle theory. This framework will provide the basis to analyze several macroeconomic policy questions during the course.</p>

6. Microeconomics

Targeted Programs:
First year students
Course Type:
Compulsory
Prerequisite:
This class is intended for 1st year international master students. Basic algebra, calculus and probability analysis are required. If necessary, special math training sections will be organized to prepare students for the class.
Instructors:
Xiaojia BAO
Reference Book:
Robert Pindyck and Daniel Rubinfeld, Microeconomics (7th Edition) ¹ , Qinghua University Press 2007
Course Description:
The main objective of this class is to train students with basic microeconomic theory and enable students to apply microeconomic theories to analyze economic phenomena and related policies. The course mainly covers demand, supply, market equilibrium, competitive market, non-competitive markets and game theory.

WISE-SOE International Master's Programs (Spring Semester)

1. Econometrics

Targeted Programs:
First year students
Course Type:
Compulsory
Prerequisite:
Students are presumed to be familiar with linear algebra and multivariate calculus.
Instructors:
Brett GRAHAM
Reference Book:
➤ Required : Stock, J.H. and Watson, M. W. , Introduction to Econometrics, 2nd Edition, Pearson Education, 2007. ➤ Optional: Wooldridge, J.M., Introductory Econometrics, 4th Edition, South-Western College Publishing, 2009.
Course Description:
Econometrics introduces students to multiple regression methods for analyzing data in economics and related disciplines. Extensions include regression with discrete random variables, instrumental variables regression, and regression with time series data. The objective of the course is for the student to learn how to conduct - and how to critique - empirical studies in economics and related fields.

2. Taxation in China

Targeted Programs:
First year students
Course Type:
Compulsory
Prerequisite:
Instructors:
Wensheng LIN
Reference Book:
➤ LIU Zuo, Investment in China: tax law and Practice, China City Press 2009. ➤ Joel Slemrod and Jon Bakija, Taxing ourselves, the MIT Press, 2008 Massachusetts Institute of Technology.
Course Description:
This course introduces students to the major taxes in China. The emphasis is on the VAT and income tax, which will be interpreted in detail. Also there could be some discussion on the turnover tax, excise duty and property tax, but may just be briefed. Student is strongly recommended to understand the tax policy behind those rules, i.e., to know how the tax regime of China works, why it works in such a way and how will be reformed in the near future.

Master and PhD Programs (Fall Semester)

1. Advanced Econometrics I

Targeted Programs:
First year students (Master , PhD)
Course Type:
Compulsory
Prerequisite:
Calculus, Linear Algebra.
Instructors:
Ming LIN
Reference Book:
➤ Required: Probability and Statistical Theory for Economists, Yongmiao, Hong. ➤ Optional: Statistical Inference, Casella, G. and Berger, R. L. Duxbury Press, 2002.
Course Description:
This course is offered to the first-year graduate students. This course introduces the probability and statistics theory, which provides necessary mathematical tools for modeling uncertainty and performing quantitative analysis in econometrics. At the end of the course, students are expected to get the knowledge of random variables, distributions, estimations, and hypothesis testing. They should understand the ideas and methods used in developing the probability and statistics theory, a get the skills of performing statistical analysis.

2. Advanced Macroeconomics I

Targeted Programs:
First year students (Master , PhD)
Course Type:
Compulsory
Prerequisite:
Instructors:
Yu ZHANG
Reference Book:
Advanced Macroeconomics, 3rd edition, by David Romer
Course Description:
<p>This course is designed for the first-year graduate students. And we study both the major <i>models</i> and the <i>dynamic optimization methods</i> in modern macroeconomics. Its goal is to make the students get prepared for the more advanced courses and research in macroeconomics and monetary economics. And the course will be taught in English.</p> <p>Since this is a one-semester course, we cannot cover all the <i>models</i> in modern Macroeconomics. Hence, we focus on models in the most important fields: growth theory and economic fluctuation. To be more specific, we will analyze the following models in detail: Solow Model, Ramsey-Koopmans-Cass (RCK) model, Overlapping-Generations Model, Real-Business-Cycle Model and New-Keynesian Model.</p> <p><i>Dynamic Optimization methods</i> are the necessary tools for modern macroeconomics. We will give an introduction on <i>calculus of variation</i> (for continuous-time optimization) and <i>dynamic programming</i> (for discrete-time optimization)</p>

3. Advanced Microeconomics I

Targeted Programs:
First year students (Master , PhD)
Course Type:
Compulsory
Prerequisite:
Instructors:
Jacopo Magnani
Reference Book:
Microeconomic Theory by Mas-Collel, Whinston and Green (Oxford University Press, 1995, denoted MWG below).
Course Description:
<p>The first semester of the master and Ph.D. microeconomics sequence, this course covers the classical topics of individual choice by consumers and firms, choice under uncertainty as well as general equilibrium theory.</p> <p>The course will cover the following topics:</p> <ol style="list-style-type: none">1. Preferences and Demand MWG: Ch. 1-42. Technology and Supply MWG: Ch. 53. Choice under Uncertainty MWG: Ch. 64. General Equilibrium MWG: Ch. 15,16,17,19,20

4. Advanced Topics in Cross-Strait Financial Market I (Seminar Series Course)

Targeted Programs:
Second year students (Master, PhD)
Course Type:
Elective
Prerequisite:
Instructors:
Louis T. KUNG
Reference Book:
TBA
Course Description:
TBA

5. Advanced Topics on Finance

Targeted Programs:
Second year students (Master , PhD)
Course Type:
Elective
Prerequisite:
Instructors:
Guojin CHEN
Reference Book:
<ul style="list-style-type: none">➤ John Cochrane, Asset Pricing, Princeton University Press, revised ed.,2005➤ John Campbell , Andrew Lo and Craig MacKinlay, The Econometrics of Financial Markets, Princeton University Press,1997.
Course Description:
In this course I will review the classical asset pricing theory in discrete time, cover the empirical puzzles, then I will discuss the recent theories that have been developed to try to solve the puzzles. The purposes of this course are to introduce some advanced topics in finance to students as well as to give students some basic training in reading and writing.

6. Advanced Topics on Macroeconomics I: Monetary Economics and International Finance

Targeted Programs:
Second year students (Master , PhD)
Course Type:
Elective
Prerequisite:
Instructors:
Yufei YUAN
Reference Book:
<ul style="list-style-type: none">➤ Kehoe, Timothy J. (1989). "Intertemporal General Equilibrium Models," in Frank H. Hahn, ed., The Economics of Missing Markets, Information, and Games, New York: Oxford University Press, pp. 363-393.➤ Heer, Burkhard and Alfred Maubner (2005) "Dynamic General Equilibrium Modelling- Computational Methods and Applications, " Berlin: Springer.➤ Maurice Obstfeld and Kenneth S.Rogoff (1996). "Foundations of International Macroeconomics," MIT Press Books, The MIT Press, edition 1, volume 1➤ B. M. Friedman and F. H. Hahn (ed.) (1990)."Handbook of Monetary Economics," Handbook of Monetary Economics, Elsevier, edition 1, volume 1, number 1.➤ Michael Woodford (2003).\Interest and Prices: Foundations of a Theory of Monetary Policy," Association of American Publishers.
Course Description:
This course will attempt to cover a wide range of related topics central to modern macroeconomics. The material covered will include purely technical developments used in modern macro analysis, and of course, empirically motivated papers. I will also attempt to cover the fundamental knowledge of computational skills students need to be familiar with. The other purpose of this class is to train the students in presentations, paper readings and writings. Hence each section includes both the lectures of the instructor and the presentations of the students.

7. Applied Nonparametric Econometrics (Short Term Intensive Course, Extended to Spring)

Targeted Programs:
Second year students (Master , PhD)
Course Type:
Elective
Prerequisite:
Instructors:
Zongwu CAI
Reference Book:
<ul style="list-style-type: none">➤ Conover, W.J. (1971). Practical Nonparametric Statistics, 2nd Edition. John Wiley & Sons, New York.➤ Fan, J. and I. Gijbels (1996). Local Polynomial Modeling and Its Applications. Chapman and Hall, London.➤ Fan, J. and Q. Yao (2003). Nonlinear Time Series: Nonparametric and Parametric Methods. Springer-Verlag, New York.➤ Li, Q. and J. Racine (2007). Nonparametric Econometrics: Theory and Practice. Princeton University Press, Princeton.➤ Serfling, R.J. (1980). Approximation Theorems in Mathematical Statistics. John Wiley & Sons, New York.
Course Description:
<p>This is the graduate level of advanced econometrics with ideas, theories and applications. Here, our focuses are on both the rigorous THEORIES and SKILLS of analyzing real data using nonparametric methods, in particular on implementation using R, a powerful and popular statistical software. The so-called nonparametric econometrics is referred to using econometric/statistical techniques that do not require a researcher to specify a functional form for an object being estimated. Rather than assuming that the functional form of an object is known up to a few unknown parameters, we shall substitute less restrictive assumptions such as existence and smoothness for the assumption that the parametric form of, say, a density function is known and equal to, say, the univariate normal distribution. Of course, if there is some prior knowledge about the functional form of the object of interest up to a few unknown parameters (say, the mean and variance), then it would be better to use parametric techniques. However, in real applications, these forms are rarely if ever known, and the unforgiving consequences of parametric misspecification are well known and are not repeated here.</p> <p>Lectures will provide details on ideas, methodologies, theories and applications. In particular, the theoretical results will be derived in a rigorous way and the computer code for applications will be provided as well as all results will derived under both iid setting and time series contexts. Applications include using nonparametric methods to recover the drift and diffusion functions in Black-Scholes model, to forecast the inflation rate, interest rate and exchange rates, to estimate the frontier production function, and to test if a jump diffusion model is appropriate for a specific financial asset, and so on so forth. There is no a single</p>

8. Asset Pricing I: Discrete-time Models and Empirics

Targeted Programs:
Second year students (Master, PhD)
Course Type:
Elective
Prerequisite:
basic microeconomic theory, calculus and matrix algebra
Instructors:
Peilin HSIEH
Reference Book:
<ul style="list-style-type: none">➤ Cochrane, 2004 Asset Pricing, Revised Edition, Princeton University Press.➤ O'Hara, 1995 Market Microstructure Theory, Blackwell Publishers, Cambridge Mass.➤ Huang and Litzenberger, 1988 Foundations for Financial Economics, North-Holland (Elsevier Science Publishing, New York).➤ Ingersoll, 1987 Theory of Financial Decision Making, Rowan and Littlefield(Totowa, NJ).➤ Robert Jarrow, 2002 Modeling Fixed Income Securities and Interest Rate Options (2nd Edition).➤ John Hull, 2014 Options, Futures, and Other Derivatives (9th Edition)
Course Description:
<p>This course, which is the first in the sequence of doctoral seminars offered in finance, is designed to introduce students to the major models of asset pricing and to Rational Expectations models. All of the material is developed from first principles, so there are no formal prerequisites for taking this seminar. It is assumed, however, that students are familiar with basic microeconomic theory and have a working knowledge of both calculus and matrix algebra. The general approach will be:</p> <ul style="list-style-type: none">➤ to examine the economic intuition behind each model➤ provide a mathematically rigorous derivation of the model➤ discuss the model's important features, and➤ outline the testable implications of the model.

9. Labor Economics

Targeted Programs:
Second year students (Master , PhD)
Course Type:
Elective
Prerequisite:
Instructors:
Kailing SHEN
Reference Book:
<ul style="list-style-type: none"> ➤ Benjamin, Gunderson and Riddell, Labour Market Economics ➤ Borjas, Labor Economics ➤ Handbook of Labor Economics, Vol 3A, Orley C. Ashenfelter and David Card, Chapter 23, Empirical Strategies in Labor Economics, by Joshua D. Angrist and Alan B. Krueger (http://www.irs.princeton.edu/pubs/pdfs/401.pdf) ➤ Microeconometrics: Methods and Applications, by Cameron and Trivedi 微观计量经济学方法与应用, 科林-卡梅隆, 普拉温-特里维迪, 机械工业出版社 ➤ Mostly harmless econometrics: an empiricist's companion, Joshua D. Angrist and Jörn-Steffen, Pischke Princeton and Oxford: Princeton University Press
Course Description:
<p>This course is an advanced course on labor economics. The content will be based on both micro and macro economic theory as well as the econometrics you have studied in the first year, but will not teach theoretical econometrics. Instead, we will learn how to get insights about labor market, workers and firms' behaviors, conditional on the available data. The tailoring of empirical approach to the availability and features of data will be the emphasis of this course. In other words, this course will bring students to the frontier of applied microeconomics. Simultaneously, students are expected to learn more about the frontier of labor economics research.</p>

10. Mathematical Economics

Targeted Programs:
First year students (Master , PhD)
Course Type:
Compulsory
Prerequisite:
Instructors:
Yu REN
Reference Book:
<i>Mathematics for Economists</i> , First Edition, by Carl P. Simon and Lawrence Blume ISBN 0-393-95733-0
Course Description:
<p>This course is designed to introduce to a wide range of mathematical techniques used in graduate level economics courses. Topics include the tools used to analyze equilibrium models, comparative-static models, optimization and dynamic models. Although there is a review for basic calculus and linear algebra, these skills are required to take this course.</p>

11. Micro-Econometrics (Short Term Intensive Course, Extended to Spring)

Targeted Programs:
Second year students (Master , PhD)
Course Type:
Elective
Prerequisite:
Instructors:
Cheng HSIAO
Reference Book:
Required Text: ➤ C. Hsiao (2003), Analysis of Panel Data, 2nd edition. Cambridge, University Press. ➤ A.C. Cameron and P.K. Trivedi (2005), Microeconometrics, Cambridge University Press. Recommended Texts: ➤ T. Amemiya (1985), Advanced Econometrics, Harvard University Press. ➤ Q. Li and J.S. Racine (2007), Nonparametric Econometrics, Princeton: Princeton University Press.
Course Description:
1. Qualitative Choice Models — Linear Probability; Probit; Logit; Multinomial Probit; Conditional Logit; Nested Logit; Ordered and Sequential Outcomes; MLE; Single Index Model; Semiparametric Estimation; Maximum Score; Smoothed Maximum Score; Specification Tests; etc. 2. Sample Selection Models — truncated and censored data; MLE; Heckman two-stage estimator; symmetrically trimmed least squares estimator; semi-parametric estimation; specification analysis; simultaneous equation models; coherency condition; etc. 3. Nonparametric and Semiparametric Methods — Kernel Density Estimation, Conditional Density Estimation, Regression, Single Index Models, Partial Linear Models, Consistent Model Specification Tests. 4. Program Evaluation — Selection on observables and unobservables; Propensity Score Matching; Difference-in-difference estimator; regression discontinuity; local instrumental variable estimator; etc. 5. Duration Analysis and Count Data—Proportional Hazard, Duration Regression Model, Left Censoring, Markov Chain Models, Count Data Models - Poisson and Negative Binomial Models, Simulated Maximum Likelihood. 6. Panel Data Analysis (a) Introduction — Advantages and Challenges (b) Static Variable Intercept Models — Least Squares Dummy Variable Estimation, Error Components Models, Fixed versus Random Effects Specification Analysis. (c) Dynamic Models with Variable Intercepts — Random Effects Models, Fixed Effects Model, Maximum Likelihood and Transformed Maximum Likelihood Estimators, Generalized Method of Moments Estimators (GMM). 7. Cross-Sectionally Dependent Panel Data — Spatial Approach, Factor Approach, Cross-Sectionally Mean Augmented Approach, Tests of Cross-Sectional Independence, Program Evaluation, etc.

12. Professional Writing and Oral English (MA)

Targeted Programs:
Second year students
Course Type:
Compulsory (Master), Elective (PhD)
Prerequisite:
Instructors:
Roslyn BOWERS
Reference Book:
Course Description:
<p>This course seeks to help the student develop the command of the English language by helping to effectively develop both academic writing skills and improve upon oral communication.</p> <p>Contrary to some assumptions, writing does not come naturally. Therefore, this course seeks to provide some understandable and practical strategies to help increase one's writing productivity. The student will develop the ability to write effectively in a range of contexts and for a variety of different audiences and purposes by using appropriate styles and approaches.</p> <p>In the oral communication segment, the student shall develop the ability to explain and present his/her ideas in clear English to a range of audiences. You, the student should be capable of developing the ability to tailor a delivery to any given audience, by using the appropriate styles and approaches and developing an understanding of the importance of non-verbal cues in oral communication.</p>

13. Security Investment: Value Investing Practice

Targeted Programs:
Second year students (Master, PhD)
Course Type:
Elective
Prerequisite:
Previous experience with financial accounting and corporate finance will be very helpful. That being said, we welcome students with different backgrounds since you never know what company or industry you will be analyzing. If you are a little rusty on accounting or finance, brush them up in the summer. The better prepared you are, the more you will learn in this course.
Instructors:
Rui HU
Reference Book:
<ul style="list-style-type: none">➤ The Intelligent Investor by Ben Graham➤ You Can Be a Stock Market Genius by Joel Greenblatt
Course Description:
This course is a practical course, you can almost think of it as internship, only difference being this happens in classroom instead of office. Students will be divided into work groups of 3-4 people. Together, we will function as a hedge fund investing in the US equity markets. The instructor will serve the role of portfolio manager; students will serve the roles of analysts. We will try to discover investment opportunities, analyze current situations, and make real time decisions. Students will be given various tasks: screen for opportunities, research specific industries, analyze company financial statements and so on. This is as real as it gets.

14. Time Series Analysis I

Targeted Programs:
Second year students (Master, PhD)
Course Type:
Elective
Prerequisite:
Instructors:
Haiqiang CHEN
Reference Book:
Time Series Analysis, James D. Hamilton, 1994.
Course Description:
This is an introductory course to time series analysis. Methods are hierarchically introduced .starting with basic concepts and terminologies, progressing to different data analysis, and ending with different modeling and inference procedures. The course material will cover stationary/nonstationary, linear/nonlinear time series analysis. After this course, students are expected to learn the knowledge and skills needed to do both theoretical and empirical research in fields operating with time series data sets.

Master and PhD Programs (Spring Semester)

1. Advanced Corporate Finance

Targeted Programs:
Second year students
Course Type:
Elective
Prerequisite:
Instructors:
Jiaquan YAO
Reference Book:
<ul style="list-style-type: none">➤ What's Hot in Finance? (2008-12), Kelley School of Business, Indiana University➤ Part 1, 4 and 5 in Financial Markets and Corporate Strategy by Grinblatt and Titman, 2nd edition➤ Corporate Governance by Kim and Nofsinger, 2nd edition➤ An Introduction to Investment Banks, Hedge Funds and Private Equity by Stowell➤ Case Studies in Finance by Bruner, Eades and Schill, 7th edition
Course Description:
Topics covered: <ol style="list-style-type: none">1. Financial markets (GT, chapters 1-3)2. Capital structure (GT, chapters 14-17)3. Corporate governance (KN, chapters 1-7, 9-10)4. Incentives, information, and financial decisions (GT, chapters 18-19)5. Mergers & acquisitions (KN chapter 8 and GT chapter 20) Case studies: <ol style="list-style-type: none">1. Freeport-McMoRan: Financing an Acquisition (Stowell page 419)2. The Best Deal Gillette Could GET?: Procter and Gamble's Acquisition of Gillette (Stowell page 435)3. JetBlue Airways: IPO Valuation (BES page 617)4. Investment Banking in 2008 (A): Rise and Fall of the Bear (Stowell page 383)5. Gainesboro Machine Tools Corporation: Dividend payout decision (BES page 393)6. Horizon Lines, Inc.: Bankruptcy/restructuring (BES page 497)

2. Advanced Econometrics II

Targeted Programs:
First year students (Master, PhD)
Course Type:
Compulsory
Prerequisite:
Instructors:
Ying FANG
Reference Book:
Required: <i>Lecture Notes on Advanced Econometrics</i> by Yongmiao Hong(2006) Recommended: ➤ <i>Estimation and Inference in Econometrics</i> by Davidson and MacKinnon (1993) ➤ <i>Econometric Analysis</i> by W. Greene(1997); <i>Econometrics</i> by F. Hayashi (2000) ➤ <i>Econometric Analysis of Cross Section and Panel Data</i> by J. Wooldridge(2001).
Course Description:
This course is the continuation of Probability and Statistic Theory offered last semester. The course begins with an introduction of the classical linear regression (CLR) models, and then relaxes assumptions gradually. Besides CLR models, this course covers linear regression models with I.I.D. observations, linear regression models with dependent observations, linear regression models with HAC disturbances, instrumental variables regression, GMM and MLE. This course also touches several frontier topics such as model and variable selection method, resampling methods and nonparametric econometrics. This course aims to provide solid econometric foundation for both theorists and empirical economists.

3. Advanced Financial Economics

Targeted Programs:
First year students (Master, PhD)
Course Type:
Compulsory
Prerequisite:
Prior knowledge of microeconomics and slightly advanced "mathematics for economists" are required.
Instructors:
Li-Chuan TSAI
Reference Book:
<ul style="list-style-type: none">➤ Theory of Asset Pricing by George Pennacchi.➤ Stochastic Calculus for Finance I and II by Steven Shreve.
Course Description:
<p>This course is designed to acquaint you with a sequence of carefully elaborated topics in finance. Important themes include asset pricing based on equilibrium principles and arbitrage considerations, optimal portfolio selection, risk measurement, and some introductions to behavioral biases and asymmetric information. This course also treats the continuous-time theory of stochastic calculus within the context of finance applications. We will start with the discrete-time binomial model as a vehicle for several fundamental concepts, and later develop analogous ideas in the continuous-time setting. Essentially, it is suitable for students who are seriously interested in financial economics, want to be aware of the frontier ideas that have marked the recent evolution of the discipline; and have an appetite for the formal analysis of these issues.</p>

4. Advanced Macroeconomics II

Targeted Programs:
First year students (Master, PhD)
Course Type:
Compulsory
Prerequisite:
Instructors:
Linlin NIU
Reference Book:
<ul style="list-style-type: none">➤ D. N. Dejong and C. Dave, Structural Macroeconometrics. Princeton University Press, 2007. Chapter 3 and 6.➤ Jordi Gali, Monetary Policy, Inflation, and the Business Cycle: An Introduction to the New Keynesian Framework. Princeton University Press, 2008. Chapter 1 - 5.➤ James D. Hamilton, Time Series Analysis, Princeton University Press, 1994. Chapter 6.
Course Description:
<p>This course aims to introduce students to the recent development in the macroeconomic research, within the framework of dynamic stochastic general equilibrium (DSGE) models in general, and New Keynesian DSGE models in particular. With these tools at hand, we will discuss monetary policy, inflation and business cycle (Gali, 2008) and some recent advancement on quantitative easing. At the end, we will introduce some basic empirical techniques on data preparation and diagnosis specific to macroeconomic research. The course, with a brief introduction to MATLAB, will be structured into three parts.</p> <ol style="list-style-type: none">1. Numerical methods, RBC models and applications2. New Keynesian DSGE models and monetary policy3. Empirical methods that bring models to the data

5. Advanced Microeconomics II

Targeted Programs:
First year students (Master, PhD)
Course Type:
Compulsory
Prerequisite:
The prerequisite for this course is Advanced Microeconomics I. Students are presumed to be familiar with multivariate calculus, probability theory and basic optimization theory.
Instructors:
Brett GRAHAM
Reference Book:
Required : <ul style="list-style-type: none">➤ Osborne, Martin J. and Rubinstein, Ariel, A Course in Game Theory, MIT Press, 1994.➤ Gibbons, Robert, Game Theory For Applied Economists, Princeton University Press, 1992 Optional : <ul style="list-style-type: none">➤ Mas-Colell, Andreu, Whinston, Michael D. and Green, Jerry. R, Microeconomic Theory, Oxford University Press, 1995.➤ Osborne, Martin J., An Introduction to Game Theory, Oxford University Press, 2003➤ Fudenberg, Drew and Tirole, Jean, Game Theory, MIT Press, 1991.
Course Description:
<p>This is a core course designed to teach students the current tools of microeconomic analysis, and is a natural continuation of Advanced Microeconomics I. While the focus of learning in Advanced Microeconomics I was the classical theory of choice and perfectly competitive markets, the core concept of Advanced Microeconomics II is Nash equilibrium. This concept and its subsequent refinements will be applied to the analysis of strategic interaction, problems involving information and incentives and the functioning of imperfectly competitive markets.</p> <p>At the end of the course students should be able to understand and critique the literature in a wide number of fields that heavily use the concepts, including labor economics, industrial organization, public finance, development, and even macroeconomics. What students learn here will form much of their basic repertoire as a professional economist in the future!</p>

6. Advanced Topics in Cross-Strait Financial Markets II (Seminar Series Course)

Targeted Programs:
Second year students
Course Type:
Elective
Prerequisite:
Instructors:
Louis T. Kung
Reference Book:
TBA
Course Description:
TBA

7. Advanced Topics on Macroeconomics II: Open Macro and Search Model Applications

Targeted Programs:
Second year students (Master, PhD)
Course Type:
Elective
Prerequisite:
Instructors:
Dingming LIU & Mouhua LIAO
Reference Book:
<p>Part I:</p> <ul style="list-style-type: none"> ➤ Foundations of International Macroeconomics, by Maurice Obstfeld and Kenneth Rogoff, Cambridge, MA, MIT Press, 1996. ➤ The Handbook of International Economics, ed. by Gene Grossman and Kenneth Rogoff, North Holland -Elsevier Press, 1996 ➤ Recursive Macroeconomic Theory, by Lars Ljungqvist and Thomas J. Sargent, Cambridge, MA MIT Press, 2000. ➤ Open Economy Macroeconomics, lecture notes by Martin Uribe. Available at http://www.columbia.edu/~mu2166/lecture_notes.html <p>Part II:</p> <ul style="list-style-type: none"> ➤ Wright, Randall (2008) "Search-and-Matching Models of Monetary Exchange," The New Palgrave Dictionary of Economics, Second Edition ➤ Williamson, Stephen & Wright, Randall, 2010. "New Monetarist Economics: Models," Handbook of Monetary Economics, in: Benjamin M. Friedman & Michael Woodford (ed.), Handbook of Monetary Economics, edition 1, volume 3, chapter 2, pages 25-96 Elsevier. ➤ Rocheteau, Guillaume. and Randall Wright, 2005, " Money in Competitive Equilibrium, in Search Equilibrium, and in Competitive Search Equilibrium," Econometrica 73, 175-202. ➤ Pissarides, Equilibrium Unemployment Theory, 2nd edition, MIT Press, 2000. ➤ Mortensen and Pissarides, New Developments in Models of Search in the Labor Market, Ch.39 in Ashenfelter and Card, Handbook of Labor Economics, volume 3B, Elsevier, 1999. ➤ Mortensen and Pissarides, Job Reallocation, Employment Fluctuations and Unemployment, Ch18 in Taylor and Woodford, Handbook of Macroeconomics, volume 1B, Elsevier, 1999. ➤ Rogerson, Shimer, and Wright, "Search-Theoretic Models of the Labor Market: A Survey", Journal of Economic Literature, December 2005
Course Description:
<p>Part I:</p> <p>This is a class in open economy macroeconomics. Its purpose is to expose students to recent developments in the study of international business cycle transmission, the joint determinants of international trade and macroeconomic dynamics, and international financial adjustment. Topics covered in the course include small open economy models, two-country general equilibrium models, international business cycles, puzzles in international economics, global imbalance and sovereign default.</p> <p>Part II:</p> <p>This course will introduce applications of search models to graduate students. Two kinds of applications will be addressed: in the monetary theory and in the macro aspects of labor market. This has been an area of very active research over the past few years. For the monetary theory, we will use Trejos-Wright (1995, JPE) model to understand the role (existence) of money in the economy and then introduce Lagos-Wright (2005, JPE) model and its application. For the macroeconomics of labor markets, we will explore the relationship between job search and the business cycle, as well as that between job search and wage inequality. Time permitting we will also cover unemployment insurance and middlemen.</p>

8. Applied Microeconometrics

Targeted Programs:
Second year students
Course Type:
Elective
Prerequisite:
Instructors:
Ying FANG
Reference Book:
<ul style="list-style-type: none">➤ Angrist and Pischke, 2009, Mostly Harmless Econometrics: An Empiricist's Companion, New Jersey: Princeton University Press.➤ Cameron and Trivedi, 2005, Microeconometrics: Methods and Applications, New York: Cambridge University Press.➤ Hsiao, 2003, Analysis of Panel Data, New York: Cambridge University Press.➤ Koenker, 2005, Quantile Regression, New York: Cambridge University Press.
Course Description:
This course is designed for graduate students who are interested in applying sophisticated econometric methods to cross-sectional and panel data. This course is oriented to empirical studies. In the end of the course, students are expected to be equipped with not only the understanding of frontier microeconomic methods but also the ability to carry out empirical studies. The features of the course include weak and near exogenously instrumental variables, static and dynamic panel data models, quantile models, treatment effects, regression discontinuity design, among others.

9. Applied Nonparametric Econometrics (Short Term Intensive Course, Extended from Fall)

Targeted Programs:
Second year students (Master , PhD)
Course Type:
Elective
Prerequisite:
Instructors:
Zongwu CAI
Reference Book:
<ul style="list-style-type: none">➤ Conover, W.J. (1971). Practical Nonparametric Statistics, 2nd Edition. John Wiley & Sons, New York.➤ Fan, J. and I. Gijbels (1996). Local Polynomial Modeling and Its Applications. Chapman and Hall, London.➤ Fan, J. and Q. Yao (2003). Nonlinear Time Series: Nonparametric and Parametric Methods. Springer-Verlag, New York.➤ Li, Q. and J. Racine (2007). Nonparametric Econometrics: Theory and Practice. Princeton University Press, Princeton.➤ Serfling, R.J. (1980). Approximation Theorems in Mathematical Statistics. John Wiley & Sons, New York.
Course Description:
<p>This is the graduate level of advanced econometrics with ideas, theories and applications. Here, our focuses are on both the rigorous THEORIES and SKILLS of analyzing real data using nonparametric methods, in particular on implementation using R, a powerful and popular statistical software. The so-called nonparametric econometrics is referred to using econometric/statistical techniques that do not require a researcher to specify a functional form for an object being estimated. Rather than assuming that the functional form of an object is known up to a few unknown parameters, we shall substitute less restrictive assumptions such as existence and smoothness for the assumption that the parametric form of, say, a density function is known and equal to, say, the univariate normal distribution. Of course, if there is some prior knowledge about the functional form of the object of interest up to a few unknown parameters (say, the mean and variance), then it would be better to use parametric techniques. However, in real applications, these forms are rarely if ever known, and the unforgiving consequences of parametric misspecification are well known and are not repeated here.</p> <p>Lectures will provide details on ideas, methodologies, theories and applications. In particular, the theoretical results will be derived in a rigorous way and the computer code for applications will be provided as well as all results will derived under both iid setting and time series contexts. Applications include using nonparametric methods to recover the drift and diffusion functions in Black-Scholes model, to forecast the inflation rate, interest rate and exchange rates, to estimate the frontier production function, and to test if a jump diffusion model is appropriate for a specific financial asset, and so on so forth. There is no a single</p>

10. Asset Pricing II: Continuous-time Models and Risk Management

Targeted Programs:
Second year students (Master, PhD)
Course Type:
Elective
Prerequisite:
Instructors:
Hongbiao ZHAO
Reference Book:
Recommended key textbooks: <ul style="list-style-type: none">➤ Risk Management and Financial Institutions, Third Edition (John Hull, 2012) website: http://www-2.rotman.utoronto.ca/~hull/riskman/➤ Stochastic Calculus for Finance: Volume II: Continuous-time Models (Steven Shreve, 2004) Recommended references: <ul style="list-style-type: none">➤ Options, Futures, and Other Derivatives, 6th Edition (John Hull, 2006)➤ Quantitative Risk Management: Concepts, Techniques and Tools (Alexander McNeil, Rüdiger Frey, Paul Embrechts, 2005)➤ Monte Carlo Methods in Financial Engineering (Paul Glasserman, 2003)➤ Interest Rate Models – Theory and Practice: with Smile, Inflation and Credit, 2nd Edition (Damiano Brigo, Fabio Mercurio, 2007)➤ Credit Derivatives Pricing Models: Models, Pricing and Implementation (Philipp Schonbucher, 2003)
Course Description:
This course is designed to introduce modern quantitative methodologies for asset pricing in finance (and insurance) with emphasis on continuous-time models and associated risk management in practice. The main asset classes covered are option, rate and credit. The associated numerical implementations are demonstrated via MatLab.

11. Derivatives Analysis: Algorithm Trading with Theory and Practices (Short Term Intensive Course)

Targeted Programs:
Second year students (Master, PhD)
Course Type:
Elective
Prerequisite:
You must have completed prior coursework in basic finance, accounting and/or economics.
Instructors:
Mark HOLDER
Reference Book:
<ul style="list-style-type: none">➤ Fundamentals of Futures Trading, by Kline➤ The Futures: The Ris of the Speculator and Origins of the World's Biggest Markets by Lambert
Course Description:
This course is designed to provide you with a thorough understanding of how trading in derivatives markets actually functions. You will learn why firms trade, how they determine hedging strategies, and how pricing in markets occurs. You will also gain an understanding of trading behavior and how the market functions via microstructure analysis.

12. Financial Econometrics

Targeted Programs:
Second year students (Master, PhD)
Course Type:
Elective
Prerequisite:
Instructors:
Tingguo ZHENG
Reference Book:
<ul style="list-style-type: none">➤ “Analysis of Financial Time Series (2ed)” by Ruey S. Tsay, 2010.➤ “Nonlinear Time Series Models in Empirical Finance” by Philip Hans Franses, and Dick van Dijk, 1999.➤ “Handbook of Financial Time Series” by Torben G. Andersen, et al., 2009.
Course Description:
<p>This course aims to provide students with a firm understanding of the econometric methods used in empirical finance research. Both theoretical finance models and econometric methods are introduced, and the emphasis is on the interplay between the two. The course covers discrete time as well as continuous time models. The course covers discrete time as well as continuous time models. Topics covered:</p> <ul style="list-style-type: none">➤ Financial Market Data and Statistical Properties➤ Linear Time Series Analysis➤ Volatility and Econometric Models➤ Nonlinear Models and Their Applications➤ Continuous-Time Models➤ Multivariate Time Series Analysis➤ State Space Models with financial applications➤ Factor Models➤ Multivariate Volatility Models <p>Goals: Students at the end of course should be able to do the following:</p> <ul style="list-style-type: none">➤ To learn statistical properties of the financial time series➤ To model return and volatility using time series models➤ To design and estimate multivariate models and their applications➤ Write and present a research report

13. Fixed Income Analysis

Targeted Programs:
Second year students
Course Type:
Elective
Prerequisite:
Probability theory, stochastic process, basic understanding of the fixed income markets, derivatives
Instructors:
Qian HAN
Reference Book:
<ul style="list-style-type: none">➤ Modeling Fixed-Income Securities and Interest Rate Options, second edition, Robert A. Jarrow➤ Interest rate models: theory and practice, Damiano Brigo and Fabio Mercurio
Course Description:
<p>You expect to learn:</p> <ul style="list-style-type: none">➤ Spot rate models<ul style="list-style-type: none">Vasicek (general equilibrium model)CIR(general equilibrium model)HW I, II (general equilibrium model)BDT(no arbitrage model, use the entire yield curve to model the spot rate movement)➤ Instantaneous forward rate models(modeling the entire yield curve, not just the spot rate)<ul style="list-style-type: none">HJM(no arbitrage model)➤ LIBOR market models (modeling a set of forward rates)<ul style="list-style-type: none">BGM(no arbitrage model) <p>You also get a chance to know lots of interest rate derivatives products</p> <ul style="list-style-type: none">➤ Swaps/futures/options/swaptions➤ Callable/convertible/caps/floors/quantos/exotics <p>Course Contents</p> <ul style="list-style-type: none">➤ HJM model<ul style="list-style-type: none">- Theory<ul style="list-style-type: none"><input type="checkbox"/> Yield curve arbitrage<input type="checkbox"/> Derivatives pricing- Applications<ul style="list-style-type: none">➤ Spot rate models<ul style="list-style-type: none"><input type="checkbox"/> V/CIR/HW model<input type="checkbox"/> BDT model➤ Market models<ul style="list-style-type: none"><input type="checkbox"/> BGM model

14. Micro-Econometrics (Short Term Intensive Course, Extended from Fall)

Targeted Programs:
Second year students (Master , PhD)
Course Type:
Elective
Prerequisite:
Instructors:
Cheng HSIAO
Reference Book:
<ul style="list-style-type: none">➤ A.C. Cameron and P.K. Trivedi (2005), Microeconometrics, Cambridge University Press.➤ G.S. Maddala (1983), Limited Dependent and Qualitative Variables in Econometrics, Cambridge University Press.➤ T. Amemiya (1985), Advanced Econometrics, Harvard University Press.
Course Description:
<p>1. Qualitative Choice Models — Linear Probability; Probit; Logit; Multinomial Probit; Conditional Logit; Nested Logit; Ordered and Sequential Outcomes; MLE; Single Index Model; Semiparametric Estimation; Maximum Score; Smoothed Maximum Score; Specification Tests; etc.</p> <p>2. Sample Selection Models — truncated and censored data; MLE; Heckman two-stage estimator; symmetrically trimmed Least Squares estimator; semi-parametric estimation; specification analysis; simultaneous equation models; coherency condition; etc.</p> <p>3. Program Evaluation — Selection on observables and unobservables; Propensity Score Matching; Difference-in-difference estimator; regression discontinuity; local instrumental variable estimator; etc.</p>

15. Professional English Writing (PhD)

Course Type:
Compulsory (PhD)
Targeted Programs:
Second year students
Prerequisite:
Instructors:
Roslyn Bowers
Reference Book:
Course Description:
<p>This course seeks to help the student develop the command of the English language by helping to effectively develop both academic writing skills and improve upon oral communication.</p> <p>Contrary to some assumptions, writing does not come naturally. Therefore, this course seeks to provide some understandable and practical strategies to help increase one's writing productivity. The student will develop the ability to write effectively in a range of contexts and for a variety of different audiences and purposes by using appropriate styles and approaches.</p> <p>In the oral communication segment, the student shall develop the ability to explain and present his/her ideas in clear English to a range of audiences. They should be capable of developing the ability to tailor a delivery to any given audience, by using the appropriate styles and approaches and developing an understanding of the importance of non-verbal cues in oral communication.</p>

16. The Chinese Economy: Transitions and Growth

Targeted Programs:
Second year students (Master , PhD)
Course Type:
Elective
Prerequisite:
Instructors:
Lei MENG
Reference Book:
Naughton, Barry. 2007. <i>The Chinese Economy: Transitions and Growth</i> . Cambridge, Mass.: The MIT Press.
Course Description:
This elective course examines China's institutional transitions and economic development in recent decades. Based on key concepts and topics in economic transition, economics of growth and development economics, we will cover six major areas in this semester: Command and Market Systems, Economic Transition, Economic Growth, Inequality, Mobility, and Population and Economic Development.

17. Thesis Writing and Master Opening Report

Targeted Programs:
Second year students
Course Type:
Compulsory(Master), Elective (PhD)
Prerequisite:
Instructors:
Lei MENG
Reference Book:
<ul style="list-style-type: none">➢ 傅十和、朱迪· M.佩雷拉合著. 2012. 如何撰写并发表英文经济学论文. 上海: 格致出版社.➢ Cochrane, John H. 2005. "Writing Tips for Ph.D. Students." Working Papers.➢ Dudenhefer, Paul. 2009 "A Guide to Writing in Economics." EcoTeach Center and Department of Economics, Duke University➢ Neugeboren, Robert and Mireille Jacobson. 2005. "Writing Economics." The Harvard Writing Projects.
Course Description:
This course introduces students to the ethics, the elements, and the structure of graduate thesis writing in the economics discipline. The first part of the course serves to help students define a research question and the second part, write the thesis. Specifically, we will discuss in the first part the formulation of a research question, the writing of a literature review, the search for suitable resources and data, and academic standards of citation. In the second part, we will focus on the structure of a thesis and discuss the writing of its components.

18. Topics in Financial Innovations

Targeted Programs:
Second year students
Course Type:
Elective
Prerequisite:
Basic analytical skills in Accounting, Economics, and Finance
Instructors:
Jevons LEE
Reference Book:
Required Readings: <ul style="list-style-type: none">➤ Chi-Wen Jevons Lee, Readings on Financial Innovation➤ Peter L. Bernstein, Capital Ideas, John Wiley, (Bernstein A)➤ Peter L. Bernstein, Capital Ideas Evolving, John Wiley, (Bernstein B)➤ R. G. Hagstrom, The Warren Buffett's Way: Investment Strategies of the World Greatest Investor, John Wiley, Paper Pack on Course Web Recommended Readings <ul style="list-style-type: none">➤ William Beaver, Financial Reporting: An Accounting Revolution, Prentice Hall,
Course Description:
This course applies Economics, Finance Theory, and Quantitative Methods to study the fundamental issues of Financial Innovation with application to Leasing.