

## **COURSE DESCRIPTIONS**

### **Finance Courses**

#### **B52 FIN 652 Introduction to Asset Pricing**

This is the first 6-week introduction course to the standard asset pricing theory's aspects of financial economics. The intended audience is first- and second-year PhD students in Finance and related fields (Economics, Accounting, etc). The book "Asset Pricing" (Revised Edition) by John Cochrane is the basic reference of this class. However, there are several text books relevant to this class, all are optional. Taking lecture notes, reading few selected papers and doing assignments will cover core materials intended for this class. All papers in the reading sections can be downloaded (free) via Wash U network.

#### **B52 FIN 655 Introduction to Corporate Finance**

The course objective is to introduce doctoral students to corporate finance theory. The goal of the class is to enhance your skills in developing and understanding corporate finance models, providing the foundations for theoretical research as well as theoretically grounded empirical research in the field.

#### **B52 FIN 653 Advanced Asset Pricing**

The level is aimed to be advanced, at the level of contemporary working paper and recently published papers. The class has two main components. For each topic, instructor will cover in details some basic/foundational but recent papers to provide basic understandings of why models are set up that way for the topic, and solution techniques standard to that topics. Then students summarize (in form of a presentation, with some technical details) the key results of other advanced papers on the same topic.

#### **B52 FIN 654 Empirical Methods in Asset Pricing**

This course provides some of the common methodologies for testing various asset pricing models, and some of the recent research on empirical asset pricing.

#### **B52 FIN 615A/B Research in Finance I/II**

The finance group has a very active seminar series that bring about 25 scholars to Olin each year (including job market candidates). The "Research in Finance" course meets once a week for 45 minutes prior to the seminar. The students are asked to read the seminar paper in advance and be ready to discuss different aspects of the paper. Additionally, one student is designated each week as the presenter of the paper. This student presents the questions, methodology, and results in the paper. The presenting student also discusses the main problems that he or she sees in the paper as well as ideas for further research. Following or during the presentation, the class will discuss these different aspects of the paper. Students write and submit a critical report on the paper under consideration, including ideas for further research. The report is graded by the instructor.

#### **B52 FIN 651 Topics in Finance**

Visiting faculty will teach specialized courses in finance based on the courses they teach in their home university. The faculty will be selected based on their research interest and the extent to which their course offering complements finance department PhD courses. The course will be 1.5 credit hours and will have 18 contact hours. The class sessions may be offered in a condensed manner.

#### **B52 FIN 642 Advanced Continuous Time Theory**

Covers advanced dynamic asset pricing and portfolio selection in continuous time. Students are required to read some of the classical papers as well as the most recent developments in the field. Lectures emphasize the concepts and technical tools needed to understand these articles and to initiate frontier research in this field.

#### B52 FIN 643 Information Economics & Corporate Finance Theory

This is a rigorous seminar in individual and corporate economic behavior under conditions of asymmetric information, with application to corporate finance, financial intermediation and accounting. Its purpose is to cover many of the landmark modern developments in information economics as well as some "applications-oriented" papers. The principal objectives are to (i) inform students about the major advances made in the areas mentioned above and (ii) equip them with the analytical tools needed to do theoretical research in the area, including applications in financial economics.

#### B52 FIN 648 Independent Study in Finance

Internship must be arranged by the student and approved by the advising faculty member. An outline of objectives must be submitted to the PhD Office prior to enrollment. May be taken a maximum of five (5) times for credit. Credit, variable; fifteen (15) credits combined total.

#### B52 FIN 649 Directed Readings in Finance

A program of readings developed by and with the approval of one or more members of the Finance faculty. Prerequisite, approval of the Director of the PhD program. Credit, variable. May be taken up to two (2) times for credit; six (6) credits combined total.

#### B52 FIN 650 Topics in Emerging Markets Finance

This course will discuss the area of emerging markets finance (EMF). The course will highlight the area's importance for finance research, discuss existing empirical evidence, and highlight some important open questions for future research. This course is designed for PhD students who are looking for research topics and the empirical tools necessary to implement them. Apart from an introduction to the area, six main topics will be covered: finance and growth, determinants of financial development, globalization, business groups, stealing and corruption, and raising capital.

#### Other Courses

##### MEC 625 Industrial Organization I

Starting from the 1970s, an increasing number of economic theorists have become interested in Industrial Organization. Non-cooperative game theory became the standard tool to analyze strategic conflicts and it lent itself naturally to the analysis of industrial organization topics (while until then the tools of general equilibrium analysis were not ideal to tackle the same issues). The course aims to give you a concise but solid background of the classical results in IO theory, and to then highlight some very recent contributions to the same literature. We will give particular attention to the topics that are complementary to empirical analysis.

Since IO theory has become increasingly formal in the last years, familiarity with the theoretical game tools covered in the first year Micro sequence is essential. The best reference for theoretical game tools is the book *A Course in Game Theory* by M. Osborne and A. Rubinstein (1994) (*Game Theory* by D. Fudenberg and J. Tirole is also good). To avoid wasting time going over the most basic materials, you should at least have read the relevant parts of the Tirole book before class.

### MEC 626 Industrial Organization II

The course focuses on research methods in empirical industrial organization. Every week we will cover 1-2 recent empirical papers centered on a particular area of Industrial Organization. We will discuss in detail the research question, relevant theories, sources of identification, data, estimation techniques, and economic significance. There is no textbook.

### B53 MGT 605 Research Internship

Three (3) credits are required for the PhD. Under the direction of a faculty member, students will work (and be graded) on their own research project. This requirement will be completed when students are at candidacy and preparing a dissertation proposal. Internship must be arranged by the student and approved by the advising faculty member. An outline of objectives must be submitted to the PhD Office prior to enrollment. An additional nine (9) credits may be taken; maximum of twelve (12) credits allowed.

### B53 MGT 610 Dissertation

Maximum of twelve (12) credits allowed, six (6) per semester. Prerequisite: submission of Title, Scope, and Procedure Form and successful Proposal of dissertation.

### B53 MGT 620 Empirical Methods in Business

The objectives of this course are to train Ph.D. students in different business disciplines to understand: how to use data to address research questions, how to build econometric models that can be applied to data, and how to estimate the econometric models using some statistical packages. This course emphasizes on empirical data handling and estimation issues. Prerequisites: students are expected to have basic statistical knowledge such as random variables and distributions, tests of statistical hypothesis, basic linear regression and maximum likelihood estimation.

### Core Foundation Courses

#### L11 Econ 503 Microeconomics I

The first of a two-semester graduate sequence in microeconomic theory. The courses cover the determination of relative prices and quantities exchanged of final products and factors of production. The first semester considers production and costs, supply of output and demand for inputs, demands for final products, market organization, time and capital. Fall.

#### L11 Econ 504 Microeconomics II

The second of a two-semester graduate sequence in microeconomic theory. The second semester considers the further development of individual consumer behavior, aggregated demand, general equilibrium analysis, Leontief models, consumer's surplus analysis, social choice, and expected utility analysis. Spring.

#### L11 Econ 511 Quantitative Methods in Economics I

Study of those topics of mathematics of special usefulness in economic research. Selection and ordering of topics will vary with level of student preparation but will usually include the following: Vectors, matrices, lines mappings; their manipulation and elementary properties; elementary topology, and elements of multidimensional calculus. Fall.

### L11 Econ 516 Applied Econometrics

Introduction to econometrics as it is applied in microeconomics and macroeconomics (modular). Topics related to the analysis of microeconomic data include maximum likelihood estimation and hypothesis testing; cross-section and panel data linear models and robust inference; models for discrete choice; truncation, censoring and sample selection models; and models for event counts and duration data. Topics related to the analysis of macroeconomic data include basic linear and nonlinear time series models; practical issues with likelihood-based inference; forecasting; structural identification based on timing restrictions and heteroskedasticity; and computational methods for hypothesis testing and model comparison. Prerequisite: Econ 512. Fall.

*Course descriptions represent courses offered recently. Not all courses are offered every semester, and it is important to check with Olin Business School prior to scheduling classes to determine course availability for any given semester. Olin Business School reserves the right to make changes in the course offerings or descriptions.*