

## **FINANCE** **(WH) {FNCE}**

**100. (FNCE601) Corporate Finance. (C)** Prerequisite(s): ECON 10 [or ECON 001, ECON 002], MATH 104, ACCT 101 and STAT 101. Acct 101 and Stat 101 may be taken concurrently.

This course provides an introduction to the theory, the methods, and the concerns of corporate finance. The concepts developed in FNCE 100 form the foundation for all elective finance courses. The main topics include: 1) the time value of money and capital budgeting techniques; 2) uncertainty and the trade-off between risk and return; 3) security market efficiency; 4) optimal capital structure, and 5) dividend policy decisions.

**101. (FNCE602) Monetary Economics and the Global Economy. (C)** Prerequisite(s): ECON 010 [or ECON 001, ECON 002] and MATH 104. Students cannot receive credit for both FNCE 101 and ECON 102 [ECON 4] WHARTON STUDENTS ARE REQUIRED TO TAKE FNCE 101.

This is an intermediate-level course in macroeconomics and the global economy, including topics in monetary and international economics. The goal is to provide a unified framework for understanding macroeconomic events and policy, which govern the global economic environment of business. The course analyzes the determinants and behavior of employment, production, demand and profits; inflation, interest rates, asset prices, and wages; exchange rates and international flows of goods and assets; including the interaction of the real economy with monetary policy and the financial system. The analysis is applied to current events, both in the US and abroad.

**103. Business Economics. (A)** FRESHMAN JOSEPH WHARTON HONORS SCHOLAR STUDENTS ONLY, Non-Honors students need permission.

The course covers introductory microeconomics and macroeconomics with particular attention given to global and long-run growth issues. The microeconomic portion introduces the discipline and fundamental tools of economics. It proceeds to study the workings of a price system and theories of consumer and firm decision-making. It further analyzes particular market structures characterized by perfect and imperfect competition, reviews the strengths and weaknesses of a market economy, and considers the government's role in correcting market failures and promoting competition. The macroeconomic portion studies the domestic and international forces that govern the determination of the aggregate level of economic activity, and pays particular attention to the determinants of long-run economic growth and stabilization policies used to dampen business cycles. The course concludes with global issues including the determinants of trade, trade policy, capital mobility, international financial instability, and international economic integration and the extent of globalization.

**203. (FNCE726) Advanced Corporate Finance. (C)** Prerequisite(s): FNCE 100, FNCE 101, STAT 101, and STAT 102.

The objective of this course is to study the major decision-making areas of managerial finance and some selected topics in financial theory. The course reviews the theory and empirical evidence related to the investment and financing policies of the firm and attempts to develop decision-making ability in these areas. This course serves as a complement and supplement to FNCE 100. Some areas of financial management not covered in FNCE 100 are covered in FNCE 203. These may include leasing, mergers and acquisitions, corporate reorganizations, financial planning and working capital management, and some other selected topics. Other areas that are covered in FNCE 100 are covered more in depth and more rigorously in FNCE 203. These include investment decision making under uncertainty, cost of capital, capital structure, pricing of selected financial instruments and corporate liabilities, and dividend policy.

**205. (FNCE720) Investment Management. (C)** Prerequisite(s): FNCE 100-101 and STAT 101-102.

This course is designed to acquaint the student with the concepts of portfolio analysis in the general area of institutional investment management. The course discusses principles for managing financial assets. These principles apply, for example, to managing corporate pension funds, bank-administered trusts, and other institutional funds. Students will learn how to establish appropriate investment objectives, develop optimal portfolio strategies, estimate risk-return tradeoffs, and evaluate investment performance. Many of the latest quantitative approaches are discussed.

**206. (FNCE717) Financial Derivatives. (C)** Prerequisite(s): FNCE 100, STAT 101 - prerequisites cannot be taken concurrently. FNCE 101 and STAT 102 are recommended and can be taken concurrently.

The purpose of this course is to provide the student with the necessary skills to value and to employ options, futures, and related financial contracts. In order to provide a useful treatment of these topics in an environment that is changing rather rapidly, it is necessary to stress the fundamentals and to explore the topics at a technical level. The topics that will be covered include the valuation of futures contracts on stock indices, on commodities and Treasury instruments; the valuation of options; empirical evidence; strategies with respect to these assets; dynamic asset allocation strategies, of which portfolio insurance is an example; swaps; and the use (and misuse) of derivatives in the context of corporate

applications. One-third of the course will be devoted to futures, a third to options, and a third to their applications. Many of the applications will be sprinkled along with the coverage of futures and options.

**207. (FNCE728) Corporate Valuation. (C)** Prerequisite(s): FNCE 100, FNCE 101, and STAT 101-102 (Financial accounting, ACCT 201, recommended).

The focus of this course is on the valuation of companies. Topics discussed include discounted cash flow techniques and valuation using alternative valuation techniques such as price multiples. Emphasis is on developing the required information for valuation from financial statements and other information sources.

**208. (FNCE731) International Corporate Finance. (A)** Prerequisite(s): FNCE 100, FNCE 101.

Analyzes financial problems corporations face that result from operating in an international environment. Major topics covered are corporate strategy and the decision to invest abroad, forecasting exchange rates, international portfolio diversification, managing exchange risk, taxation issues, cost of capital and financial structure in the multinational firm, and sources of financing.

**209. (REAL209) Real Estate Investment: Analysis and Financing. (C)** Prerequisite(s): FNCE 100.

This course provides a broad introduction to real estate with a focus on financing issues. Basic project evaluation, financing strategies, and capital markets issues related to real estate are covered. No prior knowledge of the industry is required, but students are expected to rapidly acquire a working knowledge of real estate markets.

**215. (FNCE724, REAL724, REAL945) Urban Real Estate Economics. (C)** Prerequisite(s): FNCE 100-101.

Applies microeconomic theory to the real estate demand and supply and location decisions of households and firms and to related policy areas, including urban renewal, zoning, property taxation, and racial segregation.

**219. (FNCE719) International Financial Markets. (C)** Prerequisite(s): FNCE 100, FNCE 101, STAT 101.

This course focuses on international financial markets and exchange rates. Topics include pricing in the foreign currency and Eurocurrency markets, use of forward exchange for hedging, short-term returns and market efficiency in the international money markets, foreign currency options, international capital asset pricing, pricing of foreign currency bonds, currency swaps, Eurocurrency syndicated loans, foreign currency financing and exposure management.

**220. (FNCE732) International Banking. (A)** Prerequisite(s): FNCE 100, FNCE 101.

This course focuses on international financial institutions and international banking activities. We will examine how current and historical events are reshaping the industry. We will focus on the basic analytics of managing a bank's exposure to liquidity, credit, market and country risk. In addition, we will consider how to evaluate and compare the risk exposures and performance of individual banks. Throughout the semester we will discuss public policy issues such as international debt crises and regulation.

**230. (BPUB230, ECON237, REAL230) Urban Fiscal Policy. (A)** Prerequisite(s): FNCE 101.

A detailed examination of the financing of local governments, suburbs, and center cities within the metropolitan economy.

**235. (FNCE725) Fixed Income Securities. (C)** Prerequisite(s): FNCE 100, FNCE 101.

FNCE 235 is a rigorous study of fixed income securities, including default-free bonds, floating rate notes, and corporate bonds. Closely related financial instruments such as forwards and futures on fixed income securities, bond options, and interest rate swaps are also examined. In addition to analyzing specific types of fixed income securities, there will be an examination of the tools used in bond portfolio management.

**238. (FNCE738) Funding Investments. (C)** Prerequisite(s): FNCE 100, FNCE 101.

This course examines the available corporate securities that firms can use to finance investment. The course will focus on: (1) the design of these securities (Why do bonds have embedded options? What is the role of preferred stock?); (2) the issuing process for these securities (What do investment banks do? Is the underwriting process important for the cost of capital?); (3) the pricing of these securities (How are credit risk in bonds and loans priced?) The securities covered include corporate and junk bonds, bank loans, common and preferred equity, commercial paper, securitization, as well as some recent innovations. Other topics include: the role of embedded options in corporate bonds; the role of bank and loan covenants; the function of bond rating agencies; exchange offers; prepackaged bankruptcies; bankruptcy in Chapter 11; workouts; debtor-in-possession financing; and pricing credit risk. The course is designed to be complementary to Advanced Corporate Finance and Fixed Income Securities.

**239. Behavioral Finance. (C)** Prerequisite(s): FNCE 100, FNCE 101. Recommended: FNCE 203.

There is an abundance of evidence suggesting that the standard economic paradigm - rational agents in an efficient market - does not adequately describe behavior in financial markets. In this course, we will survey the evidence and use psychology to guide alternative theories of financial markets. Along the way, we will address the standard argument that smart, profit-seeking agents can correct any distortions caused by irrational investors. Further, we will examine more closely the preferences and trading decisions of individual investors. We will argue that their systematic biases can aggregate into observed market inefficiencies. The second half of the course extends the analysis to corporate decision making. We then explore the evidence for both views in the context of capital structure, investment, dividend, and merger decisions.

**250. (FNCE750) Venture Capital and the Finance of Innovation. (C)** Prerequisite(s): FNCE 100, FNCE 101.

This course covers the finance of technological innovation, with a focus on the valuation tools useful in the venture capital industry. These tools include the "venture capital method," comparables analysis, discounted cash flow analysis, Monte Carlo simulation, contingent-claims analysis, decision trees, and real options. The primary audience for this course is finance majors interested in careers in venture capital or in R&D-intensive companies in health care or information technology.

**251. (FNCE751) The Finance of Buyouts and Acquisitions.** Prerequisite(s): FNCE 100, FNCE 101.

The focus of this course is on buying (or acquiring controlling stakes in) firms. The main topics to be covered are mergers and friendly acquisitions, hostile takeovers and buyouts. Using case studies, the course surveys the drivers of success in the transactions. While issues regarding motive and strategy will be discussed, financial theory would be the main lens used to view these control acquiring transactions. The objective is two fold: (1) Develop a concept and translate that idea into a proposal through deal design; and (2) analyze to form opinions about proposed deals. The course should be of interest to students interested in pursuing careers as private equity investors, advisors in investment banking and corporate managers that deal with these issues. This course will be demanding and assumes familiarity with valuation analysis.

**399. Supervised Study in Finance.** Prerequisite(s): Senior standing, 3.4 grade point average, and permission of a Finance Department standing faculty member.

Integrates the work of the various courses and familiarizes the student with the tools and techniques of research.

**411. (FNCE011) Monetary Economics. (C)** Faculty.

**911. Financial Economics. (A)** Prerequisite(s): ECON 681 or ECON 701, Matrix Algebra, and Calculus.

The objective of this course is to undertake a rigorous study of the theoretical foundations of modern financial economics. The course will cover the central themes of modern finance including individual investment decisions under uncertainty, stochastic dominance, mean variance theory, capital market equilibrium and asset valuation, arbitrage pricing theory, option pricing, and incomplete markets, and the potential application of these themes. Upon completion of this course, students should acquire a clear understanding of the major theoretical results concerning individuals' consumption and portfolio decisions under uncertainty and their implications for the valuation of securities.

**912. Financial Institutions. (B)** Prerequisite(s): ECON 898, STAT 510 or FNCE 911.

This course provides students with an overview of the basic contributions in the modern theory of corporate finance and financial institutions. The course is methodology oriented in that students are required to master necessary technical tools for each topic. The topics covered may include capital structure, distribution policy, financial intermediation, incomplete financial contracting, initial and seasoned public offerings, market for corporate control, product market corporate finance interactions, corporate reorganization and bankruptcy, financing in imperfect markets, security design under adverse selection and moral hazard, and some selected topics.

**921. Introduction to Empirical Methods in Finance. (B)** Prerequisite(s): FNCE 911 (can be taken concurrently), STAT 510 and 511 or equivalent.

This course is an introduction to empirical methods commonly employed in finance. It provides the background for FNCE 934, Empirical Research in Finance. The course is organized around empirical papers with an emphasis on econometric methods. A heavy reliance will be placed on analysis of financial data.

**922. Continuous-Time Financial Economics. (A)** Prerequisite(s): FNCE 911, ECON 701, ECON 703. (Graduate level knowledge of analysis and statistics is highly recommended but not required).

This course covers some advanced material on the theory of financial markets developed over the last two decades. The emphasis is on dynamic asset pricing and consumption choices in a continuous time setting. The articles discussed include many classical papers in the field as well as some of the most recent developments. The lectures will emphasize the concepts and technical tools needed to understand the articles.

**923. Financial Economics Under Imperfect Information. (M)** Prerequisite(s): FNCE 922.

General equilibrium and rational expectations. Foundations of the theory of information. Learning from prices in rational expectations equilibrium models. Moral hazard, adverse selection and signalling. Bidding theories.

**924. Intertemporal Macroeconomics and Finance. (B)** Prerequisite(s): FNCE 911.

This is a doctoral level course on macroeconomics, with special emphasis on intertemporal choice under uncertainty and topics related to finance. Topics include: optimal consumption and saving, the stochastic growth model, q-theory of investment, (incomplete) risk sharing and asset pricing. The course will cover and apply techniques, including dynamic programming, to solve dynamic optimization problems under uncertainty. Numerical solution methods are also discussed.

**925. Topics In Asset Pricing. (C)**

This course will analyze several aspects of liquidity. Mostly, it will concentrate on liquidity as an asset's property of being traded quickly and at low cost, but the notion of availability of cash will also be studied. Particular attention will be devoted to exogenous transaction costs, asymmetric information and search frictions as determinants of asset liquidity and, consequently, price. We will also look at liquidity risk, institutional features arising as response to liquidity problems, and financing constraints. The course will concentrate on theoretical models, but the empirical literature will be referred to throughout.

**932. Corporate Finance. (A)** Prerequisite(s): FNCE 911, FNCE 921, or permission of instructor.

Advanced theory and empirical investigations: financial decisions of the firm, dividends, capital structure, mergers and takeovers.

**933. International Finance. (M)** Prerequisite(s): FNCE 911 (FNCE 922 recommended).

This course provides an understanding of current academic research in the areas of international finance and international macroeconomics. Students will learn the tools for conducting research in this field.

**934. Empirical Research in Finance. (A)** Prerequisite(s): FNCE 911 and FNCE 921.

Rigorous treatment of current empirical research in finance. Applications of multivariate and nonlinear methods. Intertemporal and multifactor pricing models. Conditional distributions. Temporal dependence in asset returns.

**937. Applied Quantitative Methods in Finance. (A)** Prerequisite(s): FNCE 911.

Finance 937 uses numerical tools to address a variety of issues in finance. The course has two main objectives. First, it seeks to provide the students with useful quantitative tools to understand and produce frontier research in finance. Second, it applies these tools to advanced topics in both corporate finance and asset pricing. A special emphasis is placed on new and recent research.

**939. Behavioral Finance. (C)** Prerequisite(s): FNCE 911.

There is an abundance of evidence suggesting that the standard economic paradigm-rational agents in an efficient market-does not adequately describe behavior in financial markets. In this course, we will survey the evidence and use psychology to guide alternative theories of financial markets with an eye towards identifying frontiers and opportunities for new research. Along the way, we will address the standard argument that arbitrage will eliminate any distortions caused by irrational investors. Further, we will examine more closely the preferences and trading decisions of individual investors. We will argue that their systematic biases can aggregate into observed market inefficiencies. The second half of the course extends the analysis to corporate decision making. We present the two themes of behavioral corporate finance: rational managers exploiting financial market inefficiencies and managerial decision-making biases. We then explore the evidence for both view in the context of capital structure, investment, dividend, and merger decisions. We emphasize the importance of differentiating the behavioral approach from information models and other more traditional methodology.