

GLOBAL FINANCE COURSE DESCRIPTIONS

GFIN 5001: International Financial Markets: Strategies and Theory

The strategy portion of the course uses the transformed India and China as illustrations to explore aggregate balance sheets, household balance sheets, government balance sheets, equity and debt of firms, foreign vs. domestic assets, major asset classes, bonds, stocks, derivatives, swaps, credit, real estate, commodities and foreign exchange markets and their uses, and hedging activities securitization.

International financial theories are used to evaluate the arbitrage theory of pricing, theories for complete and incomplete markets, CAPM-type academic models, and static and dynamic portfolio theory, the arbitrage-free pricing models of Arrow-Debreu securities and extensions. Major arbitrage conditions are reviewed, in addition to tools such as dynamic programming and the Girsanov theorem are applied to major assets.

GFIN 5002: Quantitative Techniques in Finance

This course covers basics of real analysis completeness, sequences, convergent sequences and limits, containing several examples of Martingale representation theorem and an applied perspective. Particular focus is given to the basics of stochastic calculus as well as Ito's lemma and its applications. Stochastic differential equations are discussed. Also covered are methods of estimation: least squares, maximum likelihood, bayesian analysis; methods of moments (simple methods of moments, generalized method of moments, examples); methods of maximum likelihood estimation (derivation, consistency of MLE, normality of MLE); and examples of MLE (moving average models, limited dependent variables).

The second part of the course deals with numerical methods such as Monte Carlo and discretization of differential equations and ends with a discussion of Markov Chain Monte Carlo.

GFIN 5003: Risk Management

A financial institution faces market and credit risk every day: Changes in foreign exchange rates, interest rates, stocks, and commodity prices make organizations vulnerable to financial loss. As a result, uncertainty surrounds an organization's future and the fair market values of its assets and liabilities. This course offers insight on managing uncertainties and the successful use of hedging strategies and derivative instruments, demonstrating how to aggregate information from across an organization, combine different instrument types into one portfolio, perform scenario and stress tests, calculate at-risk measures, and deliver a customized report. Also presented is an overview of the most recent techniques used in credit-risk management, aimed at new models in this fast-developing area. Examples taken from well-known cases underline the importance of an adequate credit-risk management system. An essential part of this course is the discussion of leading risk management and book maintenance software.

GFIN 5004: Accounting for Financial Markets

This course covers the basics of financial accounting, as well as the measurement and reporting of the financial effects of various shocks on financial institutions. Topics include accrual accounting concepts, transaction analysis, recording, and processing, and preparation, understanding, and analysis of financial statements. These include income

statements, balance sheets, and cash-flow statements. Accounting treatment of depreciation of assets, accounting for investments, and accounting for liabilities and present value concepts are also covered.

GFIN 5101: Trading Course I

GFIN 5102: Trading Course II

Lab courses focused on the applications of foreign exchange and bond markets. The courses provide training in trading mechanics while applying conventions of market practice. Students conduct simulations of actual trading through case studies and portfolio management assignments to familiarize themselves with back-office practices.

GFIN 5301: Professional Financial Internship

The internship provides an opportunity to receive credit for professional training and practice related to global finance. Students are expected to engage in such training for at least five weeks at a bank, financial institution, security house, regulatory agency, or multinational institution. At the end of the internship students are required to meet with an advisor and submit a written report.

GFIN 5302: Capstone Course

During the final (summer) semester, students take part in two weeks of intensive summation of the program where course content, trading-room simulation and knowledge gained from an internship culminate in critical discussions of financial data sets, simulations, and evaluation exercises.

GFIN 5201: Workshop in Computational Methods

This course provides a unified review of the major software applications available to financial institutions. Through the demonstration of several examples, the workshop aims to familiarize students with trading, risk-management software platforms, and their structure.

GFIN 5202: Back Office: Software Platforms and Technology

This course includes pre-emptive control, strategies to improve your performance and productivity, introduction to systematic control and management process, organization and reporting lines, procedures, project management, the back office as a revenue earner, managing staff, management information, processing, crisis management, defining risk, disaster recovery, and reviewing new products.

GFIN 5203: US Accounting Standards and Practices: Accounting and Derivatives

Standards change rapidly and it has become increasingly difficult to appropriately account for derivative products. This course focuses on the changing accounting standards for derivatives in the U.S. economy. Students are instructed in the current rules with respect to derivative accounting and applications of these rules in practice. Disclosure practices of major banks are also discussed.

GFIN 5204: International Accounting Standards and Practices: IAS and Derivatives Markets

This course examines international accounting standards through an exploration of changing international accounting standards for derivatives. Students are instructed in current rules with respect to international derivative accounting and applications of these

rules in practice, as well as translating these standards into company accounts. The disclosure practices of international financial institutions are also discussed.

GFIN 5205: Regulations in the U.S.: Institutions, Practices and the General Principles

The U.S. regulatory system is perhaps the most advanced in the world. Regulatory institutions and the regulatory legislation and practices used in U.S. financial markets are the main topic. The course also concentrates on the most important components of these regulations, comparing them with international practices. Basel II rules are used as examples.

GFIN 5206: Regulatory Activities in Europe and Emerging Markets

This course discusses FX (foreign exchange), equity, and swap market regulations in Europe and in emerging markets. The objective is to summarize the important aspects of these regulations and their common components, then tie regulation practice with issues of risk management, market stability and market growth.

GFIN 5207: Structured Products: LIBOR Products and Equity-Linked Instruments

This course demonstrates martingale methods in a simple setting—a three-period, two-state world, as well as risk-neutral and forward measures and their relevance in pricing different derivatives. Definitions of “structure of interest rates,” “yield curve,” and “discount curves” and how practitioners obtain the yield curve are provided. LIBOR rates, future prices, convexity adjustments, and swap curves are covered.

Also discussed are definitions and modeling for forward interest rate processes, including models of forward LIBOR rates, measure change technology applied to forward rate dynamics, and models of forward swap rates. Finally, the application of pricing fixed-income instruments using forward process, how to calculate credit spreads and risk premia, CMS swaps, and the use of forward LIBOR processes by treasury officials are all considered.

GFIN 5208: Macroeconomics, Emerging Markets, and Financial Crises

This course surveys basic economic concepts to show how they apply to contemporary economic problems. Topics may include how markets work and/or fail; the creation and the circulation of money; how interest rates are determined; the stock market; government deficits and their impact on the economy; Social Security; the influx of tax, spending, and lending policies on business cycles, unemployment, and inflation; the division of labor; capital accumulation; and technical change. This course also studies the interaction of financial markets and economic activity, demonstrating how economic activity affects financial markets and how financial market volatility and instability feed back to economic activity. Emphasis is on theory and empirical work of credit markets, bond prices and yield curves, stock prices, CAPM, and portfolio theory. Other topics include the impact of the volatility of asset prices on economic activity, the economics of risk, and financial fragility and crises.

GECO 6269: Financial Economics

This course studies the interaction of financial markets and economic activity. The financial markets to be considered encompass the money and bond market, credit market, stock market, and foreign exchange market. “Economic activity” is described as the activity of households, firms, banks, governments, and countries. The course shows how

economic activity affects financial markets and how financial market volatility and instability feed back to economic activity. Emphasis is given to theory and empirical work on credit and derivative markets, bond prices and yield curves, stock price dynamics, CAPM and static and dynamic portfolio theory, and consumption- and production-based asset-pricing models. Further topics include the impact of the volatility of asset prices on economic activity, the economics of risk, and financial fragility and crises. A coursebook has been published by the instructor.

GECO 6141: Principles of Financial Engineering

This course is centered on applied case studies. The course has no quantitative content, although simple arithmetic is used. Major topics include reviewing players, markets and instruments; how to create assets synthetically—methods of transforming one asset into another; uses of synthetic assets; creating new structured products and utilizing hedging practices through financial engineering tools while engineering options and swaptions.

GECO 6253: International Finance

This course is devoted to studying international monetary economics and finance both theoretically and empirically. We begin with a historical overview of the gold standard, the Bretton Woods system, and current international monetary regimes and currency systems. We then examine theoretically and empirically the balance-of-trade and balance-of-payment accounts and their adjustments. Exchange rate systems and exchange rate determination and adjustments are also studied, with particular attention to empirical studies on exchange rate dynamics and their impact on macroeconomics. Special emphasis is given to the study of international monetary and financial arrangements, the financial sector, and financial instability and monetary and fiscal policy issues. Topics include issues of exchange rate volatility and its impact on the real and financial sector, foreign debt, capital flows, currency runs, and international portfolio choice; World Bank and IMF policies and issues concerning financial market liberalization; international financial regulations; and international financial architecture.