

MASTER OF SCIENCE IN FINANCE (MFIN)

MFIN 500 | INTRO TO PYTHON FOR FINANCE

Units: 1 Repeatability: No

Python has become the most popular programming language for data science and Fintech. This course equips a motivated student who has little or no prior programming experience with a working knowledge of the Python programming language and the Pandas package to conduct basic data analytics in finance. These skills are foundational for the subsequent seminar courses in the Master's in Finance program. Basic Python syntaxes, such as conditional statements, functions and loops, and most commonly used data types including lists, dictionaries, tuples, and data frames are introduced in this course. Students learn to apply their Python programming skills in many practices and projects during the course.

MFIN 501 | QUANTITATIVE METHODS

Units: 2

This course covers a variety of tools used in a number of different areas of finance. It starts with the time value of money concepts, where student learns how to interpret rates of return, calculate present and future values of single sums, annuities, growing annuities, perpetuities and growing annuities, all under various compounding regimes. Next, the course covers relevant probability and statistics concepts; from the definition of a random variable, through a treatment of conditional and unconditional probability, joint probability, conditional expectations, tree diagrams, computation of expected value and variance of a single random variable to application in portfolio mathematics. The course ends with a rigorous treatment of topics in sampling, estimation and hypothesis testing, with an emphasis on the identification of the problem, selection of a relevant test and interpretation of the results in a comprehensive hypothesis-testing problem.

MFIN 502 | ECONOMICS FOR FINANCE

Units: 2

The microeconomics part of this course focuses on the basic graphical and calculation toolkit of microeconomics, building the well-known supply and demand framework from more basic assumptions about consumer and firm behavior. The first unit covers supply and demand: how buyers and sellers interact to determine market price of a good, and how the market responds to shocks and restrictions. The second unit covers consumer choice at an intermediate level, developing consumer demand from the utility maximization/ budget constraint/ indifference curve framework, and including income/substitution effects, etc. The third unit builds up supply in a perfectly competitive economy from a multi-input production function through cost minimization and profit maximization. The final unit extends this analysis to alternative market structures (monopoly, oligopoly, etc.). In the macroeconomic part of this course, we study the operation of the American economy in an international setting, examining the interaction of households, business firms, government, and the rest of the world in resource, product, and financial markets. Topics include national income accounting and analysis, business fluctuations, inflation, unemployment, and monetary and fiscal policy.

MFIN 503 | FIXED INCOME

Units: 2

This course examines the fundamentals of fixed-income investments. It presents an overview of the market, describing the primary issuers, sectors and types of bonds; discusses the calculation and interpretation of various important terms, including prices, yields and spreads; and explains spot rates, forward rates, and alternative definitions of a yield curve. The course also introduces securitization and describes the characteristics of various types of asset-backed securities. An important component of this course is to analyze the risks associated with fixed-income securities, specifically interest rate and credit risks. It examines how investors measure risks and their effects on the value of fixed-income investments.

MFIN 504 | DERIVATIVES

Units: 2

This course studies derivative markets including call and put options, futures and forward contracts, swaps and credit derivatives. Topics include the economic role of derivatives, valuation of derivatives, derivative trading strategies and the management of risk with derivatives. The aim of the course is for students to gain proficiency in the use and valuation of a variety of derivative products.

MFIN 505 | ETHICS

Units: 1

This course covers topics in ethical decision-making from a perspective of a multitude of jobs in financial industry. It employs CFA® Code of Ethics and Standards of Professional Conduct, which strive to further the ethical standards beyond what current laws and regulations require. Standards include (1) Professionalism; (2) Integrity of Capital Markets; (3) Duties to Clients; (4) Duties to Employers; (5) Investment Analysis, Recommendations and Actions; (6) Conflict of Interests; and (7) Responsibilities as a CFA Institute Member of CFA Candidate.

MFIN 506 | PORTFOLIO MANAGEMENT

Units: 1

Portfolio management is the process of applying a portfolio approach to investments. The course covers the different types of investors and professionally managed portfolio products available to them. In addition, students will learn the steps in the portfolio management process as well as the process of developing a portfolio strategy, asset allocation, and performance measurement. The course provides an understanding of the most important financial theories related to portfolio management, including Markowitz's mean-variance analysis, multi-factor models, asset pricing theory, the Treynor-Black Model.

MFIN 507 | FINANCIAL REPORTING AND ANALYSIS

Units: 3

This course introduces the tools that a financial analyst may use in analyzing the financial performance of a company. It will focus on understanding the information provided in the principal financial statements (the income statement, balance sheet, cash flow statement, and statement of changes in owners' equity), as well as the notes to those statements, and management's discussion and analysis of results. Students will learn to compare the different accounting choices that may affect the financial reporting results. Students will also learn to evaluate financial reporting quality and apply the financial statement analysis to make debt and equity investments decisions. The analytical framework and practical tools of this course will help students to improve the ability to read and analyze financial statements, which should be useful for students with career interests in finance, marketing, strategy, consulting, accounting, operations, or entrepreneurship.

MFIN 508 | CORPORATE FINANCE

Units: 1

This course will cover corporate finance topics including capital budgeting (NPV/IRR), weighted average cost of capital, risk adjusted discount rates, measurement operating and financial leverage, and working capital management.

MFIN 509 | ALTERNATIVE INVESTMENTS**Units: 1 Repeatability: No**

Investors are increasingly using alternative investments to seek diversification benefits and/or higher returns. This course describes the common types of alternative investments, their valuation, their unique risks and opportunities, their relation to traditional investments, and their role in portfolio construction and management. More in-depth coverage will focus on private equity, hedge funds, and real estate. Private equity, including venture capital, and hedge funds are examined from the perspectives of their structure, investment strategies, performance measures, and exit opportunities. Real estate, both direct investment and investment through publicly traded securities (such as real estate investment trusts), is examined from an institutional investor's perspective to assess how it affects the risk and return of a multi-asset portfolio.

MFIN 510 | INTERNATIONAL FINANCE**Units: 1**

This course introduces students to the global currency markets, the international monetary system, and trade and capital flows. Topics include usage of currency instruments, exchange rate regimes, theory and politics of international trade, balance of payments, and currency forecasting.

MFIN 511 | ADVANCED FINANCIAL REPORTING AND ANALYSIS**Units: 3 Repeatability: No**

This course builds on the knowledge in the International Financial Reporting and Analysis I and examines more complicated financial transactions and their impacts on financial statements. Such transactions may include inter-corporate investment, mergers and acquisitions, post-employment pension obligations, and foreign currency translation exposure in multinational corporations. Students will learn the effects that different accounting methods in these transactions that can have on financial statements and ratios. Students will also compare the different accounting standards (GAAP vs. IFRS) and evaluate the impact on the financial reporting results. This course will also explain the identification of red flags and warning signs related to earnings management.

MFIN 512 | EQUITY VALUATION AND MODELING**Units: 3**

This course is a detailed, hands-on examination of financial modeling techniques applied to optimal decision-making in the areas of corporate finance and investment banking. Topics include the construction of comprehensive valuation models (including capital structure and dividend policy modifications), using precedent transactions and comparable companies in valuation, strategic industry examination and application of valuation in the context of mergers and acquisitions. The course makes an extensive use of the Microsoft Excel®.

MFIN 513 | ADVANCED PORTFOLIO MANAGEMENT**Units: 2 Repeatability: No**

The advanced portfolio concepts concentrate on hands-on management practices of constructing equity, bond, passive, active, exchange-rate and alternative investments portfolios. Other topics include asset allocation strategies, institutional asset management, management of portfolio of global fixed assets, equity portfolio management and risk management through currency hedging.

MFIN 514 | FINANCIAL ECONOMETRICS**Units: 1 Repeatability: No**

This course extends basic results from introductory statistics to cover the specific tools used in empirical finance. The first section of the course covers tools used in corporate finance and studies of the cross-section of asset returns (multiple regression, deviations from OLS assumptions, and basic panel methods). The second section focuses on tools used in the study of asset returns over time, tests of the efficient market hypothesis, and derivatives pricing (time series decomposition, ARIMA modeling, GARCH volatility modeling).

MFIN 515 | ADVANCED CORPORATE FINANCE**Units: 2 Repeatability: No**

The course will cover capital structure decision-making, sensitivity analysis and real options in capital budgeting, dividends and share repurchase policies, mergers and acquisitions and corporate governance.

MFIN 516 | ADVANCED SEMINAR AND RESEARCH METHODS IN CORPORATE FINANCE**Units: 1 Repeatability: No**

This course has the objective of introducing master students to theoretical and empirical research in corporate finance. The first part of the course will examine the fundamentals of corporate finance such as the theory of firm's choice of capital structure, payout policy, corporate governance, executive compensation, and mergers & acquisitions. Various topics such as moral hazard, the agency problem, adverse selection, and signaling will be discussed in the context of the corporate finance topics. Students will be exposed to the classical corporate finance literature, as well as recent empirical research from the leading journals (e.g., Journal of Finance, Journal of Financial Economics, and Review of Financial Studies). The second part of the course will give students exposure to conducting empirical research by introducing common research methods (cross-sectional regressions, panel regressions, matching estimators, etc.), databases (WRDS, Compustat, CRSP), and common tools (SAS, Stata).

MFIN 517 | ADVANCED FIXED INCOME AND STRUCTURED FINANCE**Units: 2 Repeatability: No**

This course studies fixed income markets and their associated derivatives. Topics include the valuation of fixed income investments, the analysis of credit risk, and the process of securitization and analysis of asset-back securities. The course aims for students to understand both the broad structure of fixed income markets, including term structure and interest rate dynamics, and the specific terms and pricing of the various products in those markets.

MFIN 518 | ADVANCED SEMINAR IN ASSET PRICING**Units: 1 Repeatability: No**

This course surveys contemporary research on the cross-section of stock returns. It covers the theory and evidence behind several prominent stock market anomalies including momentum, value, and investments. Students use financial databases and econometric methods to test these anomalies.

MFIN 519 | FINANCIAL MARKETS AND INSTITUTIONS**Units: 1**

This course introduces students to various financial markets (money, bond, equity, mortgage, and foreign-exchange markets) and institutions (banks, mutual funds, hedge funds, insurance companies, investment banks and venture capital/private equity firms). Emphasis is on what skills and expectations are associated with a job in each of these markets, what kind of decisions may one make while still a student to prepare themselves best for the desired path.