FINANCE AND BUSINESS ECONOMICS

The goal of the finance M.B.A. curriculum is to provide students with the conceptual foundation and technical skills necessary to make sound financial decisions in a changing domestic and international business environment. In particular, the program aims to develop a thorough understanding of global financial markets and instruments, business valuation and shareholder value creation, implementation of financial strategy through various forms of corporate restructuring, risk management in a global context, and the nature of risk and reward in formulating long-term investment strategies. The curriculum emphasizes interaction with practitioners in a number of innovative course offerings.

M.B.A. students with special quantitative skills may consider specializing in the advanced applied corporate finance track. Students who qualify and are selected will take a special set of courses, chosen in consultation with their academic adviser. The finance and business economics area also offers M.B.A. students the option of a full concentration in finance and elective courses in business economics. Students are encouraged to work with their adviser and faculty members to plan their program relatively early in the course of their studies.

The M.S.F. degree is offered in three formats: on campus, online, and collaborative (delivered in cooperation with select University partners). For more information, visit the M.S.F. program page.

The M.S.Q.F. degree prepares students to meet the global financial service industry's need for graduates who have both a deep knowledge of finance and a command of the latest quantitative techniques for financial problem-solving. For more information, visit the M.S.Q.F. program page.

Programs

As the Gabelli School's largest academic area, finance and business economics offers several graduate paths:

- M.B.A. Concentration in Finance
- M.S. in Finance (on campus and online)
- M.S. in Quantitative Finance
- M.B.A. Secondary Concentration in Compliance and Risk Management
- M.B.A. Secondary Concentration in Sustainable Finance
- M.B.A. Concentration in FinTech (Interdisciplinary)
- M.B.A. Secondary Concentration in Blockchain (Interdisciplinary)

Courses

Below are the courses currently offered by the finance and business economics area.

Business Economics Courses

BEGB 6220. Econ Analysis & Bus Decisions. (3 Credits)
MBA CORE COURSE Presents economic theories to examine business pricing, production, marketing, and profits within different market structures and environments. Topics include: consumer choice and demand; the behavior of firms; market power and structure; the efficiency of competitive markets; externalities and social costs; information and behavior under uncertainty. The course also discusses social costs and benefits of business actions and related ethical and regulatory issues. (Formerly Managerial Economics)

BEGB 7240. Money Credit Interest Rates. (3 Credits)
Studies the role of money, credit and interest rates in the efficient and ethical functioning of domestic and global financial markets. This building-block course assumes a background in macroeconomics and finance, and it establishes a foundation for further study in all areas of finance. Topics include: flow of funds and interdependency within the financial system; the Federal Reserve System and its role in money creation; interest rates; the links between interest rates and the growth of money; and the effects of inflation and term structure. Prerequisites: BEGB 6220 and FNGB 6411. Also offered as FNGB 7441.
Attribute: ABEP.
Prerequisites: (FNGB 6411 or GBA Waiver Fin Environment with a score of 070).

BEGB 7243. Contemp Issues Global Fin. (3 Credits)
Explores current issues relevant to the global financial system, including international commercial and investment banking and international investments. Emphasizes the underlying conditions and fundamental trends in various sectors of international finance. Also offered as FNGB 7458.
Attribute: ABIB.
Prerequisites: FNGB 6411 or GBA Waiver Fin Environment with a score of 070.

BEGB 7244. Global Finance. (3 Credits)
The first half of the course focuses on the theories and practices of world trade, including comparative advantage, the changing trade competitiveness of nations, and protectionism. The second half focus shifts to developing countries: including foreign investment and technology, and investment and trade opportunities, policies and regulations. For SATURDAY / HYBRID sections of this course, there will normally be 4 class meetings, and the balance on-line / contact the professor for further detail. Prerequisite: BEGB 6220.
Attribute: ABIB.
Prerequisites: FNGB 6411 or GBA Waiver Fin Environment with a score of 070.

BEGB 7251. Intl Trade & Development. (1.5 or 3 Credits)
The first half of the course focuses on the theories and practices of world trade. Topics include comparative advantage, the changing trade competitiveness of nations and protectionism. During the second half, the focus shifts to developing countries: the process of economic development, including the contribution of foreign investment and technology as well as investment and trade opportunities, policies and regulations.
Attributes: ABGS, ABIB.
Prerequisites: BEGB 6220 or GBA Waiver Managerial Eco with a score of 070.

BEGB 7300. TMBA: Global Managerial Eco. (3 Credits)
TMBA: Global Managerial Eco.

BEGB 8999. Tutorial. (3 Credits)
Independent study.

Finance Courses

FNGB 640A. Finance Bootcamp. (0 Credits)
Self Study.

FNGB 6411. Intro Financial Sys & Methods. (3 Credits)
FT MBA CORE/ PMBA FLEX CORE COURSE. Introduces the financial system and basic methods of valuation. Students will learn how to interpret financial data reported in the press and will discuss topical subjects facing the financial industry and the economy. Course topics include: financial markets, instruments, and institutions; time value of money, net present value, and applications; valuation of stocks and bonds; elements of firm and enterprise value; risk and return. (Formerly Financial Environment)
Prerequisites: (ACGB 6111 (may be taken concurrently) or GBA Waiver Fundamentals Acct with a score of 070) and (BEGB 6220 (may be taken concurrently) or GBA Waiver Managerial Eco with a score of 070).
Mutually Exclusive: MMGB 6411.

FNGB 7415. Credit Management. (3 Credits)
This course focuses on the analytic approach (stemming from Basel II capital accords) and will help students make wise credit decisions and manage lending portfolios. Topics include the latest lending techniques based on cash flow, advanced forecasting methods (including simulation and stochastic optimization), pricing, portfolio management, default probability, valuation analysis risk rating and credit derivatives.
Prerequisites: FNGB 6411 or GBA Waiver Fin Environment with a score of 070.

FNGB 7421. Prins of Modern Finance. (3 Credits)
Provides a conceptual framework that allows both corporate finance and portfolio investment decisions to be viewed and understood in a unified context of risk and return. Examines concepts of valuation, risk and return, diversification, asset pricing and efficient markets.
Prerequisites: (FNGB 6411 or GBA Waiver Fin Environment with a score of 070).

FNGB 7422. Corporate Finance. (3 Credits)
Studies corporate finance and its specific decisions. Topics include evaluating capital expenditure proposals, forecasting financing requirements and selecting sources of financing. The course also discusses working capital management, dividend policy and contingency planning, and addresses the additional challenges of multinational firms. Students taking FNGB 7422 Corporate Finance will not receive credit for FNGB 7400 Business Finance.
Prerequisite: FNGB 7421.

FNGB 7423. Mergers, Acquisitions, and LBOs. (3 Credits)
Focuses on identifying and evaluating target companies and structuring deals. Also considers the economic and social impact of such changes in corporate ownership. Students analyze recent cases, evaluate strategic rationale, examine deal structuring and assess financial impact.
Prerequisite: FNGB 7421.

FNGB 7431. Options and Futures Markets. (3 Credits)
Examines the institutional aspects of options and futures markets and discusses the strategies of hedgers, arbitrageurs and speculators. Provides an introductory analytical foundation for pricing futures and option contracts.
Prerequisites: FNGB 6411 or GBA Waiver Fin Environment with a score of 070.

FNGB 7433. Fixed Income Analysis. (3 Credits)
Introduces techniques for valuing fixed income securities and their derivatives. Emphasizes pricing and risk-measurement for government, corporate and mortgage-backed instruments. Analyzes embedded options using the binomial model. Develops fixed-income trading and portfolio management techniques, including the use of repo, futures, options, swaps and credit derivatives. Examines theory and empirical evidence on the term structure of interest rates, including the derivation of spot and implied forward yield curves.
Prerequisite: FNGB 7421.

FNGB 7441. Money Credit Interest Rates. (3 Credits)
Studies the role of money, credit and interest rates in the efficient and ethical functioning of domestic and global financial markets. This building-block course assumes a background in macroeconomics and finance, and it establishes a foundation for further study in all areas of finance. Topics include: flow of funds and interdependency within the financial system; the Federal Reserve System and its role in money creation; interest rates; the links between interest rates and the growth of money; and the effects of inflation and term structure. Prerequisites: BEGB 6220 and FNGB 6411. Also offered as BEGB 7240.
Prerequisites: (FNGB 6411 or GBA Waiver Fin Environment with a score of 070).

FNGB 7455. Global Finance. (3 Credits)
Global Finance.
Attribute: ABIB.
Prerequisites: FNGB 6411 or GBA Waiver Fin Environment with a score of 070.

FNGB 7458. Contemp Issues Globl Fin. (3 Credits)
Explores current issues relevant to the global financial system, including international commercial and investment banking and international investments. Emphasizes the underlying conditions and fundamental trends in various sectors of international finance. Also offered as BEGB 7243.
Attribute: ABIB.
Prerequisites: FNGB 6411 or GBA Waiver Fin Environment with a score of 070.

FNGB 7460. Portfolio Management. (3 Credits)
Examines portfolio objectives and links them to appropriate investment strategies. Considers the asset-allocation decision, equity and fixed-income portfolio management, return enhancement/risk control techniques and performance evaluation. Commercial-level portfolio optimization software is applied to a range of institutional portfolio problems.
Prerequisite: FNGB 7421.

FNGB 7470. Real Estate Finance. (3 Credits)
Discusses the major factors affecting the valuation and financial structuring of real estate, including general tax and depreciation policies. Presents the roles of principal lending institutions, mortgage banks and investment banks in real estate lending, syndications and partnerships. Also surveys real estate-related securities and their markets.
Attribute: ABEP.
Prerequisites: FNGB 6411 or GBA Waiver Fin Environment with a score of 070.

FNGB 7475. Marketing of Financial Service. (3 Credits)
Provides a scientific understanding of tactics and strategies associated with the marketing of financial services. Emphasizes the role of industry deregulation, intensified competition, and the emergence of new technologies and products on the emerging marketing practices used by financial services institutions. Explore consumers' unique decision-making styles in financial matters, the effects of technology deployment, and the fiduciary constraints that guide marketing activities in the markets for commercial banking services, mutual funds, investment banking services, insurance and other forms of financial services.
Prerequisites: MKGB 6710 or GBA Waiver Marketing Mgmt with a score of 070.

FNGB 749A. Financial Modeling. (3 Credits)
This course helps students develop the type of excel –based financial models that businesses use every day to analyze a wide range of financial problems and make decisions. Students deliver written and oral presentations of their models and practice critical skills for a successful career in finance.
Attribute: ASDM.
Prerequisite: FNGB 7421.

FNGB 749C. Venture Capital Financing. (3 Credits)
We will examine the changes in the asset class over time – from the formation of American Research & Development in 1946 to the formation of some of the angel-type funds of the present. We also will examine the geographical differences between venture funds – West Coast and East Coast . We also will look at specialization -- the beginnings of IT-focused investing and the move into healthcare and finally into energy. Finally we will examine the phenomenon of global venture capital. How does that vary from the way venture capital is practiced in the US. The class will be taught in modules and we also will rely on practitioners and experts to visit with the class. Where possible, the students will be asked to visit venture capital fund presentations, expert briefings as well as personal briefings.
Attribute: ABEP.
Prerequisite: FNGB 7421.

FNGB 749E. Technical Analysis. (1.5 or 3 Credits)
This course is designed to inform students about how the markets and individual stocks behave (i.e., technical analysis), and how they differ from the economy and individual companies (i.e., fundamental analysis).
Prerequisites: FNGB 6411 or GBA Waiver Fin Environment with a score of 070.

FNGB 749J. Sustainability and Finance. (3 Credits)
In this course we explore how the evolving needs of society are changing the way financial theories, tools, and techniques are conceived and applied. GLOBAL SUSTAINABILITY COURSE .
Attributes: ABEP, ABGS.
Prerequisites: FNGB 6411 or GBA Waiver Fin Environment with a score of 070.

FNGB 749M. Hedge Fund. (3 Credits)
This course will provide an overview of hedge funds and the hedge fund industry including structure, regulation, major strategies, operations and risk management, due diligence, performance and the role of hedge funds in asset allocation and the global financial system.
Prerequisites: FNGB 6411 or GBA Waiver Fin Environment with a score of 070.

FNGB 749R. Equity Analysis. (3 Credits)
This course explores techniques and skills required to evaluate the attractiveness of investment opportunities. Experts in the field will be invited to join the class and lead discussions on issues facing analysts, how analysis is used by money managers in making investment decisions, wealth management, and private equity analysis. The course is a combination of lectures, case studies, and team projects. Students will be expected to analyze an industry as well as engage in a discussion with guest speakers and class participants.
Prerequisites: FNGB 6411 or GBA Waiver Fin Environment with a score of 070.

FNGB 749U. Global Financial Markets. (3 Credits)
This course provides a comprehensive overview to the workings of the global financial markets, the functions and goals of the key financial institutions, and the role played by central banks and regulatory agencies. It will cover international money markets, international equity markets, the foreigh exchange market, forward markets for commodities and financial instruments, bond markets and derivative markets. Prerequisites: BEGB 6220 and FNGB 7421 .
Attribute: ABIB.
Prerequisites: FNGB 6411 or GBA Waiver Fin Environment with a score of 070.

FNGB 749X. CFA Competition and Workshop. (0 Credits)
While this course is for 0-credit, it has a heavy work load and provides valuable practical experience. Students will be arranged into teams. Each team will write a full sell-side coverage report, build out a presentation, and pitch it to Fordham Wall Street Alumni.
Prerequisite: FNGB 7421.

FNGB 74AD. Student Mgt Investment Fund II. (3 Credits)
In the second class, in the spring semester, students will learn the practice of asset allocation with focus on advantages and pitfalls of asset allocation theory. Coverage includes practiced methodologies in assessing and measuring risk, including applications of the BARRA risk models, strategies for entry and exit, and portfolio revision. A lot of care will be taken to expose the students to real-life aspects of portfolio management. This includes arranging lectures from portfolio managers, with different philosophies on portfolio selection and risk management. Prerequisite: FNGB 749R or Corequisite: FNGB 7460 .
Prerequisite: FNGB 6411.

FNGB 74AG. Finance in the Healthcare Ind. (3 Credits)
This course will present a historical development of the American healthcare system and will address the current challenges faced by both health insurers and providers, specific to managed care, reimbursement methods, and contracting. Students will learn to apply the standard tools of financial analysis and financial management in the complex and evolving setting in which the global healthcare system is currently situated. Students will also learn how to analyze the key financial indicators specific to hospitals and their direct application towards managed care contracting initiatives, debt restructure and bond rating status. Finally, the course will address the future of health insurance and managed care.
Attribute: ABHM.
Prerequisites: FNGB 6411 or GBA Waiver Fin Environment with a score of 070.

FNGB 74AH. Global Corp Governance. (3 Credits)
Examines how modern publicly traded corporations are governed in the global markets. It discusses the roles of the board of directors, corporate management, institutional investors, and other shareholders, and also discusses the effects of the recent legislation and financial market developments on corporate governance. Provides international comparisons of corporate governance structures and issues arising in contests for corporate control.
Attribute: ABIB.
Prerequisite: FNGB 7421 (may be taken concurrently).

FNGB 74AI. Global Equity Portfolio Management. (3 Credits)
Provides a comprehensive overview of equity portfolio management in theory and practice. Examines portfolio objectives and links them to appropriate investment strategies. It covers pricing of equities, the asset-allocation decision, return enhancement/risk control techniques, performance evaluation and recent changes in international fund management. Analyzes international investment strategy and the relative merits of various approaches.
Attribute: ABIB.
Prerequisite: FNGB 7421.

FNGB 74AJ. Global Risk Management. (3 Credits)
Covers market risk and volatility, calculation of vaR (value at Risk), Monte Carlo Simulation, credit risk and use of credit derivatives, operational risk, counterparty risk and other topics. Discusses risk regulations, including Basel II, recent developments in Basel III, and recent regulations on the banking industry in the U.S.
Attribute: ABIB.
Prerequisite: FNGB 7421.

FNGB 74AK. Raising Capital and Investing in Global Financial Markets. (3 Credits)
Provides a comprehensive overview of the going-public decision. Examines the strategies and process of corporate restructuring and investing activities, such as mergers and acquisitions, corporate diversification, spin-offs, carve outs, asset sell-offs, tracking stock, exchange offers, and debt restructuring.
Attribute: ABIB.
Prerequisite: FNGB 7421.

FNGB 74AL. Adv Corporate Finance. (3 Credits)
This course teaches the art of applying corporate finance theory and essential tools and techniques to strategic decision-making in critical real-life situations faced by organizations. The course enhances the students' understanding of corporate finance by providing a comprehensive examination of selected advanced topics, such as alternative valuation methods, real options in corporate finance, decision trees, international operations, mergers and acquisitions, risk arbitrage, debt capacity and leveraged buyouts, private equity, warrants and convertibles, and ethical issues. The learning experience is based on lectures and a series of business cases involving individual and group work, classroom discussions, and written assignments, as well as readings and problem-solving. The case studies are drawn from a variety of industries and countries, including emerging markets, and involve complex real challenges. The course is designed for students who are already familiar with valuation, cost of capital, capital structure theory and option pricing theory and who want to learn more advanced skills and techniques required for making important executive-level decisions. Note: Students should be proficient with computer spreadsheets and financial calculators.
Prerequisite: FNGB 7422.

FNGB 74AM. Emerging Markets. (1.5 or 3 Credits)
This course explores how the major "emerging market" (EM) states have evolved from "traditional" societies with "underdeveloped" economies into modern societies with more developed economies ever since the Berlin Wall came down. Because these EM states reformed and opened up their economies, they benefited from their vast human and commodities resources and rapidly increased their per capital income.
Attribute: ABIB.
Prerequisites: FNGB 6411 or GBA Waiver Fin Environment with a score of 070.

FNGB 74AN. Investment Banking. (3 Credits)
This course is intended to give students a practical introduction to investment banking and its role in helping corporations raise capital from the global capital markets. Topics include: venture capital, public offerings, private placements, going public, stock and bond financing, convertibles and other hybrid instruments, design of innovative securities, swaps and other derivative instruments, mergers and acquisitions and leveraged buyouts.
Attribute: ABEP.
Prerequisite: FNGB 7421 (may be taken concurrently).

FNGB 74AO. Alternative Investments. (3 Credits)
The course is an introduction to the rapidly evolving universe of alternative investments. Delivered in modules, the course covers a broad array of alternative strategy classes (Quantitative/Systematic, Fundamental Long/Short, Global Macro, Private Equity) ranging across all major asset classes (Equities, Fixed Income, Currencies, Commodities, Derivatives). The first half of the course constructs a broad framework for the evaluation of alternative strategies, focusing on the quantitative strategy class as a diverse and relatively easier-to-evaluate source of investment ideas for discourse and case study. The second half progresses through the remainder of the alternative strategy classes under the evaluation framework, ties together the role of alternatives within an asset allocation framework, studies subjective decision making in the context of alternatives and concludes with student presentations of their favorite investment thesis from the course. Throughout, there will also be discussion of career development both within and without the alternative investment space.
Prerequisite: FNGB 7421.

FNGB 74AP. Real Estate Capital Markets. (3 Credits)
This Real Estate Capital Markets course will cover both the primary and secondary debt and equity markets linked to real estate assets. While the underlying real estate assets in the primary markets will be covered, a greater portion of the class will be devoted to the secondary debt and equity markets, mainly dealing with mortgages, mortgage backed securities, and Real Estate Investment Trusts (REITs). A distinguishing aspect of this course is the focus on the intersection of the primary and secondary real estate capital markets, investor perspectives, and the impact of macroeconomic factors. Additionally, this course will include a robust mix of quantitative and qualitative factors in order to provide a holistic, less technical perspective on the real estate capital markets, and the real estate industry at large.
Prerequisites: FNGB 6411 or GBA Waiver Fin Environment with a score of 070.

FNGB 74AQ. Adv Global Portfolio Mgt. (3 Credits)
The course will review (1) basics of modeling of securities' returns and volatility in the context of portfolio management / "buy-side"; (2) theoretical basis and empirical evidence of risk-return trade off and investor preferences; (3) main approaches to portfolio construction and challenges with their practical application; (4) performance evaluation, and other relevant portfolio management topics.
Prerequisite: FNGB 7421.

FNGB 74AR. ST: Corporate Restructuring. (3 Credits)
The course discusses the strategies, valuation, and processes of corporate restructuring decisions such as mergers and acquisitions, corporate diversification, spin-offs, carve-outs, asset sell-offs, tracking stock, exchange offers, and/or debt restructuring. It also discusses various securities issuances, including initial public offerings.
Prerequisite: FNGB 6411.

FNGB 74AS. Financial Modeling. (3 Credits)
Develops (using Excel) the type of financial models that businesses use every day to analyze a wide range of financial problems and make decisions. Covers modeling of financial statements and models in many other important practical areas, such as time value of money, project evaluation, bonds, investment management and derivatives. Emphasizes on using most powerful and useful tools in Excel, such as logical functions, PivotTables, Data Table, Scenario Manager, Goal Seek to solve problems that closely resemble real-life situations.
Prerequisites: FNGB 6411 or GBA Waiver Fin Environment with a score of 070.

FNGB 74AT. Fintech Compliance- Asia to Us. (3 Credits)
An overview of the components of an effective global Corporate Compliance Program. Examination of the Part C Risk Assessment and the Seven Steps of a corporate compliance and ethics program. Review of compliance program design and best practices, including the roles of the corporate compliance office and in-house counsel, risk assessments, Foreign Corrupt Practices Act, global codes of conduct, corporate governance, monitoring and re-evaluation.
Attribute: ABFF.
Prerequisites: FNGB 6411 or GBA Waiver Fin Environment with a score of 070.

FNGB 74AU. Algorithm Trading. (3 Credits)
Electronic algorithms are being used by major institutions, investment banks, and hedge funds to trade stocks, bonds, currencies, and a plethora of financial derivatives. Algorithms are being used for all aspects of trading - from asset allocation and stock selection, to execution and implementation, and for risk management and regulatory and compliance reporting. In this course, students will learn the necessary skill sets, and underlying math, statistics, and programming skills to build, develop, manage, and implement profitable algorithms across all asset classes.
Attribute: ABFF.
Prerequisite: FNGB 7421.

FNGB 74AV. Seminar in Value Investing. (3 Credits)
This survey course is designed to introduce the fundamentals of the Graham and Dodd value approach to investment analysis. The course will be segmented into two parts: the basic structure of the analytical approach to value investing and its relationship to many of the elements of the MBA curriculum will be described through lectures, exercises, readings, in-class discussions and homework assignments; the last sessions of the course will be devoted to student presentations of their investment recommendations. Parts of the course will entail empirical data analysis.
Prerequisite: FNGB 7421.

FNGB 74AW. Applied Capital Markets and Financial Regulations. (3 Credits)
This course will explore how the market structure has fundamentally changed after the 2008 liquidity and credit crisis, and how this crisis has affected liquidity, balance sheets, risk taking, and returns across the entire financial services industry. The new reality is that regulation has changed the landscape of Wall Street and the dynamic of how the sell-side and buy-side will interact in the foreseeable future.
Prerequisites: FNGB 6411 or GBA Waiver Fin Environment with a score of 070.

FNGB 74AX. International Fin Mgt. (3 Credits)
The goal of this course is to explain the concepts of corporate finance and their applications in an international setting. We will examine opportunities and problems that are faced specifically by multinational and foreign corporations and will compare corporate finance practices around the world. Topics covered in the course include foreign exchange rate mechanics, international parity theories, forecasting and hedging, international cost of capital, capital budgeting, capital structure, and valuation of foreign investments.
Prerequisite: FNGB 7421 (may be taken concurrently).

FNGB 74AY. Global Financial Markets. (3 Credits)
This course is intended as an introduction to Global Financial Markets. We will discuss the instruments traded in the markets, the institutions that support and frame the markets, the trading mechanisms and the regulatory structure. The course is intended to be descriptive and conceptual. The aim is to familiarize you with the breadth and scope of equity, debt, and derivative markets. We shall discuss the recent developments in the US and the development of financial markets globally.
Prerequisite: FNGB 7421 (may be taken concurrently).

FNGB 74AZ. Innov in Business & Energy. (3 Credits)
This course aims to frame and critique opportunities for business to create innovations in energy systems. It discusses how contemporary energy systems have evolved and how energy infrastructures vary across regions of the world. It also examines how business decision makers can think about choices of energy and energy systems by encouraging students to think broadly in terms of innovation possibilities.
Attribute: ABGS.

FNGB 74BA. Communicating Finance Theory. (0 Credits)
This lecture series will provide a summary of many financial topics. The class will also train students to communicate knowledge of this material to professionals at financial institutions.

FNGB 74BB. Applied Investment Principles. (3 Credits)
This course provides applications that follow Principles of Finance or Global Investment Principles. EXCEL models will be applied to CAPM modeling of Risk and Return, to Factor Models, and to Portfolio Attribution. Data may be drawing from Boomerang, Yahoo Finance, and other sources.
Prerequisite: FNGB 7421.

FNGB 74BC. Research in Value Invest. (3 Credits)
Prof. Johnson, a leading expert in the field of Value Investing, will lead a small, project based seminar that focuses on best practices in the field. Selective enrollment by approval of the instructor.
Prerequisites: FNGB 6411 or GBA Waiver Fin Environment with a score of 070.

FNGB 74BD. Impact Investing. (3 Credits)
This course will discuss investment strategies that have a societal orientation from both financial and socially responsible perspectives. The key questions are: how can we allocate money in a manner that is beneficial to all stakeholders and viable in a business sense, and, what are the appropriate metrics to evaluate such investments. Impact investments to be analyzed include government and ESG (environmental, social, governance) policies, micro finance, philanthropy, and green energy.
Attribute: ABGS.
Prerequisites: FNGB 6411 or GBA Waiver Fin Environment with a score of 070.

FNGB 74BE. Lectures in Applied Port Mgt. (3 Credits)
This advanced Portfolio Management course quickly reviews Modern Portfolio Theory (MPT) conceptual underpinnings and builds on MPT 1.0. It delves into contemporary liability driven asset allocation, MPT 2.0 and portfolio management industry practices, issues and concerns. Lectures, problem solving, and self-study along with extensive hands-on tools using Microsoft Excel based models will be used to provide a practitioner's perspective. We will review and demo contemporary asset allocation optimization and forecasting techniques, new asset class pricing and valuation, performance and risk attribution, tail risk measurement and management tools etc. using real time vendor based (third party) solutions. As prerequisites - the student should have class exposure to investment and portfolio analysis, Excel, stats, and basic regressions.
Prerequisite: FNGB 7421.

FNGB 74BF. Financial Innova & Institu. (3 Credits)
This course will introduce major financial institutions, such as commercial and investment banks, insurance companies, mutual funds, hedge funds, and credit rating agencies with a focus on their risk contributions to the modern financial system. We will examine their credit risk in depth, and how to model and analyze credit risk and products. We will also understand new financial sector regulations and systemic risk by focusing on Dodd-Frank, market based stress-testing, Comprehensive Capital Analysis and Reviews (CCAR), and other methods. This course will help prepare students for the job market at financial institutions and regulators.
Prerequisite: FNGB 6411.

FNGB 74BG. Auto Trading Systems - Intro. (3 Credits)
This course discusses key issues involved in the design of auto (algorithmic) trading systems and provides hands-on experience. The end product is a prototype auto trading system designed by students that successfully trades in the real market (stocks, futures, options) using live data feeds from exchanges. The course will also cover typical structures of trading systems, efficient processing of live information, minimizing trade slippages, handling large numbers of securities, asynchronous information processing, and GUI interfaces. Industry experts are invited to discuss new developments, and key programming techniques will also be reviewed. The course is suitable for MSF, MSQF, and other master's-level students with programming skills equivalent to one formal course. Students with less programming skill may take the course with instructor approval.
Attribute: ABFF.
Prerequisite: FNGB 7421.

FNGB 74BH. Investing in European Union. (3 Credits)
The EU is the largest market for US exports and foreign direct investment. The objective of the course is to familiarize students with the process of regional integration and monetary unification in Europe and the opportunities and challenges which this has created for foreign investors. Regulatory differences between the US and EU in competition laws and financial sector will related to the investment climate for foreign companies. The course will highlight that despite the deep economic and financial integration in the EU, significant country- and regional differences exist. This will be assessed through the analysis of several Harvard Business case studies covering different country- and industry experiences.
Prerequisite: FNGB 7421.

FNGB 74BJ. Financial Media. (3 Credits)
Financial Media examines the complex interactions between business, politics, and the press. The course is designed to help students achieve a better understanding of how business content is delivered and retrieved in the current media environment. The course focuses on the dynamics of reporting about companies and business industry leaders who are using the media to deliver critical messages to several stakeholder groups, including investors and consumers. The course provides numerous examples of business or political leader interactions with the media and debates their communication strategy as well as their outcomes.
Prerequisite: FNGB 6411.

FNGB 74BK. Fintech -An Introduction. (3 Credits)
FinTech is a new and emerging field of technology that is disrupting the way that many companies are conducting business. FinTech has already "forever" changed many sectors including mobile payments, social media, money transfers, loans, fundraising, travel, trading and asset management. It has completely revolutionized the way companies are developing products, conducting research, establishing directed sales and marketing plans, and utilizing start-up technology. Businesses are using FinTech to expand their products and services at a fraction of its previous cost. Entrepreneurs are utilizing FinTech as a central foundation for research, funding, and product development. Customers are already utilizing FinTech as part of their daily lives - mobile apps, social media, banking, online shopping, entertainment and gaming. This course will introduce students to the breadth of FinTech, and touch upon the technical underpinnings.
Attributes: ABBC, ABEP.
Prerequisite: FNGB 7421 (may be taken concurrently).

FNGB 74BL. Stress Tests and Cap Adequacy. (3 Credits)
The financial crisis of 2007 -08 taught us all a lesson: that preparedness is everything. How resilient and prepared will we be, and how fast will we be able to recover? This is the key focus of this course: how to plan for moments of distress so that firms such as yours have capital of a sufficient quality to survive potential storms. We will demonstrate how to create a robust capital plan and test it for moments of hypothetical stress. We will investigate exactly how a bank holding company and an insurance company should conduct their capital plan, highlighting the significant differences between the two industries. By the end of the course, you will be able to create a capital plan for your business on your own.

FNGB 74BM. Empirical Value Investing. (3 Credits)
This course examines historical data to consider empirical aspects of Value Investing. Excel or other programming will be important to the course. Theoretical and institutional issues will also be discussed.
Prerequisite: FNGB 7421.

FNGB 74BN. Investor Relations. (3 Credits)
corporate Investor Relations program formulates and communicates the financial performance and strategic direction of diversified corporations to the global investment community. Investor Relations professionals are well versed in accounting, compliance, finance, governance, marketing and communications. They collaborate with senior management and the Board of Directors to convey and interpret corporate matters to the public. This course will teach students the skills and competencies required to become a corporate Investor Relations professional. The course utilizes a course textbook, case studies, investor relations guest speakers and participation in investor relations events.
Prerequisite: FNGB 6411.

FNGB 74BP. Wharton-Impact Investment Workshop. (3 Credits)
Students will attend workshops on ESG (Environmental, Social, and Corporate Governance) and Impact Investing. They will will compete in teams of three to five against other nationwide schools to construct a 100% Impact Portfolio. Since this is a two-semester competition, only students who participated in Fall may register in Spring.
Attribute: ABGS.
Prerequisite: FNGB 7421 (may be taken concurrently).

FNGB 74BQ. Contemp Develop in Corp Fin. (3 Credits)
This course will cover a number of important topics of current interest to the corporate finance industry, such as : executive compensation and governance; utilizing and responding to fintech; importance of the growth of intangible assets; importance of large corporate cash holdings invested in risky assets, such as hedge funds and private equity.
Prerequisite: FNGB 7422.

FNGB 74BR. Behavioral Finance. (3 Credits)
Over the past several decades, the field of finance has developed a successful paradigm based on the notions that investors and managers are generally rational and that the prices of securities are generally efficient. In recent years, however, anecdotal evidence as well as theoretical and empirical research has shown this paradigm to be insufficient to describe various features of actual financial markets. In this course we will use psychology and more realistic settings to guide and develop alternative theories of financial markets. We will examine how the insights of behavioral finance complement the traditional paradigm and shed light on investors' trading patterns, the behavior of asset prices, corporate finance, and various financial market practices through lectures, case studies, and our own discussions.
Prerequisite: FNGB 7421.

FNGB 74BS. Student Managed Investment Fund: ESG-Impact. (3 Credits)
In this joint graduate and undergraduate course, students will apply their investment and portfolio skills in the analysis and selection of a real set of securities and opportunities. Selection will focus on ESG investments and/or those that stress societal impact.
Prerequisite: FNGB 7421.

FNGB 74BT. Fintech Lending & Payments. (3 Credits)
This course will consider modern on-line methods of lending and borrowing that may be outside of the traditional banking environment. The main players in the space will be analyzed, as well as their websites. Students will learn their business models, methods of credit analysis, and measures of return to investors.
Attribute: ABFF.
Prerequisite: FNGB 7421.

FNGB 74BU. Global Financial Markets and the Macro-Economy. (3 Credits)
The overarching goal of this course is to give students an understanding of the forces affecting real income growth, inflation, and asset prices in the world economy. The specific topics the course will address include: the operation of monetary and fiscal policy; how those policies affect financial markets and the broader economy; the determinants of countries' long-term rates of growth; the factors behind the recent financial crises in the US and EU; the features of currency crises, business cycles, and financial crises historically; and the relationships linking global interest rates, exchange rates, and inflation rates. The course will combine economic theory and empirical evidence to provide a toolbox of skills that students can use to analyze these and similar issues going forward.
Prerequisite: BEGB 6220.

FNGB 74BV. Practical Exploration of M&A. (1.5 Credits)
This class will provide an introduction to the essential elements of large-cap merger and acquisition (M&A) transactions from the perspective of real, recent examples taught by a senior investment banker.
Prerequisite: FNGB 6411.

FNGB 74BW. Advanced Corporate Valuation. (1.5 to 3 Credits)
The objective of the course is to learn firm, debt, and equity valuation methods from both a conceptual and practical framework. It combines both accounting and finance into practical valuation frameworks. Adequate accounting and finance backgrounds are required. Working knowledge of Microsoft Excel is important.
Prerequisites: FNGB 6411 and FNGB 7421 (may be taken concurrently).

FNGB 74BX. Financial Markets and Major Players. (3 Credits)
This course will provide an overview of a broad range of financial markets from practitioner standpoints. It will discuss how secondary market prices—ranging from equity and fixed income to commodities and complex derivatives—are established in listed exchanges, OTC markets, and dealer platforms. We will examine the roles of both market-makers ("sell-side") and price takers ("buy-side"), with the latter further divided into two major groups: institutional or retail. We will survey sell-side businesses, including market-makers versus agents in listed markets and OTC markets, institutional block trading, securities lending, and prime-brokerage. On the retail clientele side, we will discuss the wholesale market-making business. On the risk management end of the sell-side business, we will cover market risk, credit risk, and counterparty credit risk. At the end of the course, students should have a thorough understanding of how various businesses fit together. Hopefully, the course will help students better understand the area in which they might pursue their career paths in financial markets.
Prerequisite: FNGB 6411.

FNGB 74BY. Econtech: Econ and Data Mining. (3 Credits)
Overall financial markets and individual company performance are largely driven by the growth rate of the economy, which in turn is affected by monetary, fiscal, and currency policies. Our understanding and forecasting ability are based on analyzing and mining available data. This course will examine data and data mining to better understand a range of policy and output variables, and how they interact under different regimes.
Prerequisite: FNGB 7421.

FNGB 74BZ. Portfolio Management/Responsible Investing. (3 Credits)
This course will introduce students to the management of investment portfolios with an awareness of environmental, social, and governance (ESG) risks and objectives. We'll start with an introduction to ESG and everything that means today. We'll then examine a variety of approaches to ESG-aware portfolio management, including security screening and exclusion, ESG integration, best-in-class investing, thematic investing, portfolio tilting, active ownership, and impact investing. We'll focus primarily on public equity, but other asset classes will be introduced over the term. The emphasis will be on developing a practical and applied understanding of the subject. Data widely used by ESG-aware investors will be reviewed and analyzed, including company-level third-party ESG data, ratings, and climate-related measures. Students will complete computational exercises involving that content, and will be assumed to be proficient with Excel or similar spreadsheet software, but no other coding ability will be required. The course is intended to provide the ESG investing background necessary for students seeking to participate in the ESG Student Managed Investment Fund sequence, but other students meeting the course requirements are also welcome to enroll.
Attribute: ABGS.
Prerequisite: FNGB 7421.

FNGB 74CA. ESG Finance: Issues & Challenges. (3 Credits)
This graduate course is designed in a seminar format and will delve into topics ranging from the successful implementation of sustainability goals by corporations to evaluation of ESG-tilted portfolios by an investor. Students and participants are expected to have a basic understanding of the issues surrounding sustainability. The course is open to graduate students from the Gabelli School and the economics department. A limited number of undergraduate students from the Gabelli School may take the course with the instructor's permission.
Prerequisite: FNGB 6411.

FNGB 74CB. Financing New Media Ventures. (3 Credits)
This course is designed for students to learn how to launch new business lines in large media corporations or new startups directly to market. Learn the critical thinking processes of venture fund managers and corporate innovation leaders in charge of dispensing capital to finance new media ventures. Students will also master effective channels of communication with key stakeholders and champions while utilizing venture capital metrics to quantify and evaluate strategic market opportunities.
Attribute: ABEP.
Prerequisites: FNGB 6411 or GBA Waiver Fin Environment with a score of 070.

FNGB 74CC. Sustainable Investing and ESG Analysis. (3 Credits)
This course has been designed to develop sustainability competencies for those aspiring to create an impact in their personal and professional lives. Students are exposed to new techniques and tools enabling them to develop sustainable investing strategies and positive outcomes. Through this course, students will learn how to identify, analyze, and integrate ESG factors across a range of asset classes while learning best practices of sustainable and impact investing. This course culminates with a case study in which you will develop your own sustainable investment strategy.
Prerequisite: FNGB 6411.

FNGB 74CD. US/UK Sustainability Communication and Reporting. (3 Credits)
This course will enable students to develop a deeper understanding of the risks and opportunities of being a sustainable business and the similarities and differences of sustainable communications between companies in the U.S. and in the U.K. Students will have the opportunity to travel to the U.K. and hear directly from leaders of industry about the challenges they face when trying to identify, evaluate, and report the issues that will allow them to operate as a sustainable business. Students will research companies in the U.K. and the U.S. to compare and contrast how different companies are handling similar situations with a focus on how they are using the U.N. Sustainable Development Goals to evaluate risk exposure and to communicate to their stakeholders.
Prerequisites: FNGB 6411 or GBA Waiver Fin Environment with a score of 070.

FNGB 74CE. Introduction to ESG and Finance. (1.5 to 3 Credits)
In this course, students will learn about the history of ESG and impact investing, as well as the evolution of key social, environmental, and economic challenges. They will examine the use of ESG Value Reporting Foundation (Sustainability Accounting Standards Board) standards in the United States, Europe, and China, and they will review regulatory factors in relation to the ability of an institution to drive value for its multiple stakeholders. Students will also evaluate social tensions relating to climate change and the exponential growth of investor interest in transformative climate tech solutions. We will look at how policies and market environments, including in each student's native country, support ESG development. The course will leverage Fordham's relationship with the United Nations PRME (Principles of Responsible Management Education) program, and students will examine in detail the UN's 17 Sustainable Development Goals and the Business Roundtable pledge.
Prerequisite: FNGB 6411.

FNGB 74CF. Introduction to Climate Finance. (3 Credits)
In this course, students explore the science of climate change and its related economic and environmental impacts. They study changing global policies and examine financial tools and techniques to fight climate change in its context. Specific areas covered include the use of capital markets to create market-based emission trading systems, project finance to build renewable energy projects, venture capital to fund innovative low emission technologies, etc. The course will feature a large number of readings and a few cases to introduce students to climate finance.
Attribute: ABGS.
Prerequisites: FNGB 6411 or GBA Waiver Fin Environment with a score of 070.

FNGB 74CG. Student Managed Invest Fund/Responsible Investing. (3 Credits)
This course will focus on ESG-aware analysis of equity securities, culminating in the identification of specific stocks that will be recommended for purchase by the University's endowment, where funds have been specifically allocated for this purpose. Only stocks selected and pitched by students will be considered, with those vetted by the class as a whole under the instructor's supervision. The course will start with a brief overview of modern equity security analysis, especially the use of alpha and risk factors to codify equity characteristics. We'll then build upon the techniques described in the Portfolio Management/Responsible Investing course to satisfy an ESG investment mandate while seeking investment outperformance based on ESG insights. The bulk of the term will then be devoted to investment ideas pitched by students and intensively vetted in class. All students will be collectively held responsible for the quality of the resulting recommendations.
Attribute: ABGS.
Corequisite: FNGB 74BZ.

FNGB 74CH. Managing Business Climate Change Risk Exposure. (3 Credits)
This course will introduce you to the effects that climate change is having on business organizations across the globe and how businesses are responding to these risks. We will explore the short-term impact on businesses of extreme weather events and the long-term impact of chronic changes in weather patterns due to global warming. The course will explain the full range of potentially severe physical risks and transition risks of climate change facing businesses today and how these risks are changing due to global warming. You will learn the strategies that businesses utilize to manage these risks, including risk avoidance, risk mitigation, and risk transfer. We will study how businesses use such important climate risk transfer mechanisms as buying insurance, including general business, flood, and business interruption insurance, and issuing catastrophe bonds. You will also learn how businesses can use derivatives, such as specialized weather derivatives and certain traditional derivatives like forwards, futures, and swaps, to hedge their climate change risk exposure. The course will explain how climate change can also give rise to opportunities for businesses to develop innovative products, services, and strategies to help other businesses. You will learn how successful businesses that recognize these opportunities can turn climate change into an advantage for their stakeholders and society.
Prerequisite: FNGB 74CF.

FNGB 74CJ. Financial Regression and Application. (3 Credits)
This course will cover basic regression analysis for finance students. The software will be based on Excel and basic Python. It will be useful to have had some exposure to Python, or other programming skills. If not, extra effort on your part should be expected—or take a Python class at the same time. You will learn how to import data and conduct analysis such as computing Beta, estimating simple multifactor models, assessing the relation between standard accounting data and stock returns, etc.
Prerequisite: FNGB 7421.

FNGB 74CK. Global Commodities Markets & Trading. (3 Credits)
The aim of this course is to introduce students to the structure of the global commodity markets and the fundamental concepts of physical and financial commodity trading, hedging, and arbitrage. The course will cover the cash, derivative, and bank-lending markets related to energies, precious metals, and agricultural commodities. It will explore the value chain of each commodity from the upstream point of production to the downstream point of distribution and consumption. The course will cover cash, derivative, and financial market pricing, as well as risk management tools and techniques employed in the "spot", commodity, "listed" and "over-the-counter" markets utilizing live financial derivative markets and real world case studies. A knowledge of the basic operation of the futures, forwards, and listed options markets would be helpful for all students enrolled in this course.
Attribute: GFAL.

FNGB 74CL. Intro to Fintech in Portfolio Management. (3 Credits)
This course aims to provide students with basic knowledge and skills in fintech via a comprehensive introduction to the field. Students should be able to conduct fintech problem-solving professionally and present their results to peers after taking this class. The major skills to be covered include models in fintech, financial data acquisition, data mining and visualization, machine learning in finance, and high frequency trading analytics. Topics covered include portfolio analysis, portfolio formation, and portfolio optimization using machine learning.
Prerequisite: FNGB 7421.

FNGB 74CM. Sustainability Reporting and Finance. (3 Credits)
Financial decisions worldwide are increasingly influenced by the unique risks of the 21st century. All activities demand focus on sustainability issues—from the looming impacts of climate change and risks associated with health and safety to credit and investment gaps that limit business opportunities and hamper economic progress in many parts of the world. As the challenges of scarcity of resources, the search for profits through efficiency, and impact of climate change continue to mount, environmental, social, and governance (ESG) data become essential for prudent decision-making. Along with several multinational investment banks, Dow Jones has a sustainability index indicating that the search for profitability through efficiency has transcended trends and become the new corporate norm. Students in this course study finance, corporate disclosures, and sustainability reporting practices as integrated subjects, beginning with an introduction to financial and reporting principles and moving through financial analysis and industry-focused disclosures. Additionally, the course covers diverse aspects of sustainable reporting and offers tools for effective risk assessment.
Prerequisite: FNGB 6411.

FNGB 74CN. Real Estate Capital Market Analysis. (1.5 to 3 Credits)
This course examines selected topics and issues related to real estate capital markets. Special emphasis will be placed on mortgage backed securities (MBSs) and real estate investment trusts (REITs). This class will be conducted using a lecture format. The topics include the primary mortgage market and secondary markets, the objectives and processes for designing, implementing, and servicing mortgage and asset backed securities, the tools used by the capital market for pricing and analyzing risks of MBSs, and the regulatory environment and trend of the securitization market.
Prerequisite: FNGB 7421.

FNGB 74CP. Data Analytics for Finance. (3 Credits)
This course teaches students how to apply the tools and techniques of data science to big financial data and, combined with finance theory and concepts, enhance the quality of empirical analysis, problem-solving, and decision-making in finance. Students will engage in diverse projects related to the field of finance, using big data drawn from proprietary financial databases, such as S&P Compustat, CRSP, Execucomp, ISS Directors, RepRisk, Thomson/Refinitiv, and others, as well as the Web. The projects will be executed using the Python programming language and its system of libraries, such as Pandas, Numpy, Matplotlib, Statsmodels, Numba, SciPy, etc. A wide range of interesting problems from various areas in finance will be investigated, such as capital structure, cost of capital, payout policy, simple multifactor models, portfolio construction, financial ratio analysis, firm liquidity, executive compensation, boards and institutional investors, diversity in corporate governance, ESG and firm market and financial performance, and others. The course will equip the students with the necessary knowledge and skills to extract useful information from the ever-increasing volume of data and use it for improved understanding of financial concepts and better decision-making.
Prerequisite: FNGB 7421.

FNGB 74CQ. Fundamental Stock Analysis. (3 Credits)
This course is designed to simulate the experiences a student can obtain as an equity analyst in the asset management industry. As such, while a broad survey of the market and asset classes is covered, the course provides an in-depth understanding of equity stock selection and trains students in selecting stocks using a disciplined investment process that systematically screens an investment universe for attractive quality stocks that are undervalued (Graham & Dodd). Students are expected to focus on the examination and evaluation of individual companies on a standalone and comparable basis, and to understand a company's competitive positioning via Porter's five forces. Students will look at the fundamentals of the company, recognizing a sound business, trading at a reasonable price, as a potential investing opportunity. Students will also learn to appreciate that buying businesses that they don't completely understand adds uncertainty, and they should, therefore, demand a higher risk premium (margin of safety). The course also stresses the importance of creating relationships with people in investor relations at the targeted companies. A team of industry experts, fundamental analysts, portfolio managers, risk managers, and other investment professionals will work closely with students to ensure that the students are exposed to various tools and methods that are currently being employed in the industry.
Prerequisite: FNGB 7421.

FNGB 74CR. Investment Analysis with Data Visualization and GenAI. (3 Credits)
This course is an advanced investment analysis course with three overlapping parts. The first part focuses on utilizing well-regarded investment websites available on the internet to speed up economic data analysis, portfolio evaluation, and stock selection. The second part involves using GenAI to rapidly ask questions and gain various perspectives, uncovering blind spots and opening new areas of opportunity. Effective prompt engineering and checking against GenAI's hallucinations is crucial. In the final three weeks, students will work in groups of four on a pro bono consulting project for an industry practitioner, applying what they have learned in the course.

FNGB 74CS. Fund Strategies and Performance. (3 Credits)
This course examines how money is managed by organizations such as university endowments, pension funds, mutual funds, hedge funds, and private equity funds. It provides an advanced treatment of asset allocation and equity portfolio strategies, and a performance evaluation of U.S. mutual funds and hedge funds. The course provides a deeper understanding of the measurement of risk and its relationship to return, as well as of multi-factor models. Implementation issues, including statistical estimation, back-testing, portfolio construction, and performance evaluation, are covered. Some programming skill (likely Python/SAS) will be important, and partly taught.

FNGB 74CT. Advanced Value Investing. (3 Credits)
Students will study a variety of advanced topics that build on the principles outlined in Introduction to Value Investing and Behavioral Finance. The class will study real-world situations in the current market environment, employ multiple valuation frameworks, and improve students' ability to make informed decisions. Among other topics, the class will study business strategy, Mario Gabelli's Private Market Value with a Catalyst, capital allocation principles, distressed investing, and merger arbitrage.

FNGB 74CU. Investment Applications. (3 Credits)
The objective of this course is to introduce the student to investment principles in the U.S. and in the global capital market. We will understand existing assets and investment vehicles, the functioning of capital market, the theoretical principles that underline asset pricing, and its applications in the valuations of fixed income and equity securities.

FNGB 74CV. Technical Analysis. (3 Credits)
A study of the Elliot Wave theory, a technical analysis approach used in financial markets, particularly in the analysis of stock market price movements. It was developed by Ralph Nelson Elliott in the 1930s and is based on the idea that market prices move in predictable patterns and cycles. The theory is widely used by traders and investors to forecast future price movements. Students will study the theory alongside money management techniques in real time.

FNGB 74CW. Machine Learning for Finance. (3 Credits)
Machine learning (ML) methods of data analysis and prediction are transforming the financial landscape. This course provides a broad overview, knowledge, and practical skills of ML, focusing on applications in finance. The course will introduce various ML methods including supervised and unsupervised learning, as well as deep and reinforcement learning. Students will understand the general landscape of available ML algorithms and learn to implement the most appropriate solutions of a given problem. The course will use Python programming and open source Python packages, and it requires knowledge of statistics. Class sessions will provide the basics of Python.

FNGB 74CX. Investment Analysis with Data Visualization and GenAI. (3 Credits)
This course is an advanced investment analysis course with three overlapping parts. The first part focuses on utilizing well-regarded investment websites available on the internet to speed up economic data analysis, portfolio evaluation, and stock selection. The second part involves using GenAI to rapidly ask questions and gain various perspectives, uncovering blind spots and opening new areas of opportunity. Effective prompt engineering and checking against GenAI's hallucinations is crucial. In the final three weeks, students will work in groups of four on a pro bono consulting project for an industry practitioner, applying what they have learned in the course.
Prerequisites: FNGB 6411 or GBA Waiver Fin Environment with a score of 70.

FNGB 74CY. Introduction to Wealth Management. (1.5 Credits)
This class is intended to demystify the wealth management process. Class lectures will be open-ended discussions with the goal of providing a better understanding of personal wealth and the business of wealth management by combining some aspects of financial planning and overall portfolio management.

FNGB 74CZ. Introduction to Venture Capital. (3 Credits)
This course offers a comprehensive introduction to the world of venture capital, a critical component of the global financial system that drives innovation, rewards founders and drive economic growth. If you are a financial professional, investor or an aspiring entrepreneur, this course will give you a deep understanding of how venture capital firms operate, how deals are sourced, evaluated and how deals are structured. You will also learn about the history of venture capital and the key opportunities and challenges venture capitalists are facing today.
Attribute: ABEP.

FNGB 74DA. Artificial Intelligence in Cybersecurity. (3 Credits)
This course teaches students how to use artificial intelligence (AI) as a cybersecurity tool to reduce breach risks and improve security postures efficiently and effectively. AI is used throughout the business world through predictive analytics, self-driving cars, chatbots, assistant-enabled homes, and military organizations. It is also used in cybersecurity. AI is a critical technology in information security, able to quickly analyze millions of events and identify many different types of threats, from malware exploiting zero-day vulnerabilities to risky behavior that might lead to a phishing attack or download of malicious code. Topics will include the evolution of cyber threats, understanding AI in cybersecurity, AI vs. data analytics, types of AI-based attacks, adversarial machine learning, deep fake attacks, AI-powered malwares, and future challenges and trends. Cybersecurity experts will also speak on their experiences using AI as a successful tool against threats.

FNGB 74DB. Hedge Funds. (3 Credits)
This introductory course is designed to provide students with an overview of the alternative investment business and in particular hedge fund investment management. The course will survey the rationale for investing in hedge funds from an academic and a practitioner's perspective. The course will explore the benefits of including alternative investments and hedge funds in tradional portfolios and asset allocation models from both an individual's and institutional investor's perspective. Students will learn about building blocks of alternative investments such as leverage, short selling, and derivatives. They will also learn to perform detailed rate of return and risk assessment on a wide range of the most popular hedge fund strategies and styles, including long/short equity, global macro, quantitative trading, credit arbitrage, convertible arbitrage, risk arbitrage, and distressed investing.

FNGB 74DC. Advanced Topics in the Ethics of Finance. (3 Credits)
This course is about the interplay between ethics and finance, challenging students to critically examine the moral dimensions of financial practices, instruments, and institutions. The class will explore fundamental questions about the foundations of financial systems, from the purpose of markets to the moral implications of economic decision-making. Students will develop sophisticated analytical skills by exploring ethical challenges in investment banking, corporate governance, risk management, and financial innovation. Topics include shareholder control, corporate governance, fiduciary obligations, financialization, and firm valuation (e.g., ESG data), bankruptcy ethics, the distributive justice of home ownership, and the ethics of international finance. The class will help students understand how ethical reasoning can transform our understanding of finance beyond simple notions of profit and loss.

FNGB 74DD. Blockchain, Cryptocurrency, and Algorithmic Trading. (3 Credits)
This comprehensive course explores the dynamic world of blockchain technology, cryptocurrency markets, and algorithmic trading strategies. It provides a deep dive into decentralized finance (DeFi), digital assets, market structure, and the role of automated trading in financial markets. Students will work with real market data and build their own predictive models by the end of this course.

FNGB 7811. Finance - Internship. (1 to 3 Credits)

FNGB 8009. M&A and Leverage Acquisition. (1.5 Credits)
The course covers corporate debt solutions and provides an overview of credit risk principles. It will focus on corporate acquisitions and LBOs, and analyze different sources of funding, from senior to subordinated. Students will hear from many guest speakers, learn main capital structure issues, and be exposed to the current market environment.
Prerequisite: GFGB 6006.

FNGB 8405. Iss. Fin: Delevgd Fin. (1.5 Credits)
This course discusses the use of debt in Leverage Buyouts, recapitalization, restructuring and refinancing, including Debtor-in-Possession (DIP) financing. Students develop practical insights by utilizing case studies from several public highly leveraged firms; practical insights are critically reviewed.
Prerequisite: FNGB 7421.

FNGB 8408. Acquisition & Leveraged Fin. (1.5 Credits)
The course covers corporate debt solutions and provides an overview of credit risk principles. It will focus on corporate acquisitions and LBOs, and analyze different sources of funding, from senior to subordinated. Students will hear from many guest speakers, learn main capital structure issues, and be exposed to the current market environment.
Prerequisite: FNGB 7422.

FNGB 8414. Modern Financial Analysis. (1.5 Credits)
Learn how the financial services industry applies valuation techniques in a deal context! In this mini-course, you will demystify the theory behind the analytics and ultimately appreciate the “art” and “science” of valuation analytics. What is a company worth? What is someone willing to pay? The answers depend on: who the seller is; who the potential buyer(s) is; the context of the transaction and the current market conditions....
Attribute: ABEP.
Prerequisite: FNGB 7421 (may be taken concurrently).

FNGB 8415. Fin'lmkts: Cncpts/Methods/Trd. (1.5 Credits)
This course provides a real-life, hands-on experience of financial market activity and its impact on the broader economy. Throughout the course, students will participate in a trading game (which is explained in more details below) to assess and manage real world factors such as counterparty risk, liquidity, leverage, etc. They will also learn the impact of various policy issues on the markets and thus the economy (ex: impact of limiting foreclosures), some of the mathematics behind the markets, and the broad spillover effects of various investor / issuer decisions. Class sessions will be divided into two parts, lectures and trading. No prior market experience is required, but students are expected to have a passion to learn about financial market activity and stay aware of current market and political conditions. Trading Game: Students participate in 5 sessions of the trading game. Essentially, this game operates in a closed economy with various market participants (sell side, buy side, central bank, etc.) that trade a wide variety of assets, including stocks, bonds, loans, indices, commodities, CDS, currencies, and options, and do so in the context of the current, real world market environment (ex: record Treasury issuance). Each class will have an active trading session, and all market participants are expected to keep and update their trade books to track their P and L.
Prerequisite: FNGB 7421.

FNGB 849C. Fin'lmkts: Cncpts/Methods/Trd. (1.5 Credits)
This course provides a real-life, hands-on experience of financial market activity and its impact on the broader economy. Throughout the course, students will participate in a trading game to asses and manage real world factors such as counter party risk, liquidity, leverage, etc.
Prerequisite: FNGB 7421.

FNGB 849G. Mergers and Acquisitions. (1.5 Credits)
Mergers and acquisitions constitute some of the most important growth, diversification, and globalization strategies for firms. Finance, specifically corporate finance, plays an important role in M&A because the completion of a deal requires careful attention to valuation, risk management, and the designing of an appropriate payment package. That design is an important part of a deal for reasons ranging from accounting and tax to synergies and stock price. In this course, students will examine these features through a number of cases and readings. We will also briefly discuss issues of corporate governance, securities law, and corporate law whenever the context requires us to do so.
Prerequisite: FNGB 7421.

FNGB 849H. Advanced Financial Modeling. (1.5 Credits)
Advanced financial modeling.
Prerequisite: FNGB 7421.

FNGB 849I. Blockchain. (1.5 Credits)
The course will explore the role currency plays in the economy, the emerging technologies pioneering new forms of digital money, and the impact these technologies will have on currency, the economy and the broader category of capital.
Attributes: ABBC, ABEP, ABFF.
Prerequisite: FNGB 849J (may be taken concurrently).

FNGB 849J. Digital Currencies. (1.5 Credits)
Digital Currencies-New Revolution. The course will leverage what was taught in Digital Currency to explore specific examples of new technologies being used to develop new forms of currency and digital money, and redefine the broader category of capital. The course will use real products/service to explore these topics.
Attributes: ABBC, ABEP, ABFF.
Prerequisite: FNGB 6411.

FNGB 849K. Valuation and Modeling for Accounting. (1.5 Credits)
This course expands on valuation techniques discussed in Modern Financial Analysis and Vaulation Techniques. Students will have the opportunity to learn the modeling techniques used by todays Wall Street practitioners associated with Discounted Cash Flow Analysis, Merger Analysis, Purchase Price Allocations and Synergy DCFs.
Prerequisite: FNGB 8414 (may be taken concurrently).

FNGB 849L. Empirical Value Investing - A. (1.5 Credits)
This course examines historical data to consider empirical aspects of Value Investing. Excel or other programming will be important to the course. Theoretical and institutional issues will also be discussed. The "A-section" will examine several topics / methods. It is a pre-req for the "B-section," which will investigate the same issues more fully.
Prerequisite: FNGB 7421.

FNGB 849M. Empirical Value Investing - B. (1.5 Credits)
This course examines historical data to consider empirical aspects of Value Investing. Excel or other programming will be important to the course. Theoretical and institutional issues will also be discussed. The "A-section" is a pre-req for the "B-section," which will investigate the same issues more fully.
Prerequisite: FNGB 849L (may be taken concurrently).

FNGB 849N. Fintech and AI: Disruption in Finan Services. (1.5 to 3 Credits)
The course is designed and built to ensure that students gain the knowledge and insight they need to understand the latest developments in Fintech and the disruptive impact they have on the global financial services industry. Students will develop a deeper understanding of the business and economic aspects of financial services-based technologies, gain insight into financial ecosystems, understand Fintech regulatory frameworks, and be able to critically evaluate the disruptive potential of Fintech innovations.
Attributes: ABEP, ABFF.
Prerequisites: FNGB 6411 or GBA Waiver Fin Environment with a score of 70.

FNGB 849Q. Identifying Corporate Culture to Uncover Positive Alpha Investment. (1.5 Credits)
This course will provide a solid introduction to financial linguistic analysis that allows investors to measure the relevance and importance of intangibles like corporate culture and leadership as important contributors to future share value and Alpha. The aim of this first-ever financial linguistics course is to introduce students to the Candor Analytics process. Students will learn how this analytic process has consistently identified high-performing and underperforming stocks over the past decade.
Prerequisite: FNGB 6411.

FNGB 849R. Booms, Bubbles, Busts, and Crashes: A Capital Markets History. (1.5 Credits)
This course will prepare students to understand and anticipate regulatory and institutional changes in financial markets. Fintech and other technological changes are disrupting the financial markets in an unprecedented way—and will probably usher in new regulations. A good understanding of the market's institutional evolution, including the evolution of money, is essential to prepare for a successful career in the financial services industry.
Prerequisites: FNGB 6411 or GBA Waiver Fin Environment with a score of 070.

FNGB 84AA. Financial Markets and Responsibility- A. (1.5 Credits)
This course is intended as an introduction to Financial Markets and Responsibility. In the first half, we will discuss the instruments traded in the markets, the institutions that support and frame the markets, the trading mechanisms, and the regulatory structure. The course is intended to be descriptive and conceptual. The aim is to familiarize you with the breadth and scope of equity, debt, and currency markets. We shall discuss the recent developments in the U.S. and the development of financial markets globally.
Prerequisite: FNGB 6411.

FNGB 84AB. Financial Markets and Responsibility-B. (1.5 Credits)
The course will provide an introduction to the environmental, social, governance (ESG) aspects of business, as well as diversity, equity, and inclusion (DEI) issues. A central theme will be the social responsibility of corporations. We will discuss how social considerations impact business and financial markets, and how business practices and disruptions affect employees and society. The focus will be on the financial implications, e.g., shareholder versys stakeholder primacy. Cases and some data analysis may be included in class discussions.
Prerequisite: FNGB 6411.

FNGB 8999. Independent Study. (3 Credits)

Finance M.S. Courses

GFGB 6000. CFA Prep. (0 Credits)
Student prep for the CFA exam; second year students and alumni along with faculty help students study and prepare for the CFA exam.

GFGB 6002. Foundations of Finance. (1 to 3 Credits)
This course is an introduction to the financial system and the basic techniques in valuation of financial and physical assets. The course is primarily meant for someone who has not had a formal introduction to financial markets, institutions, and instruments. The course will cover the topics of financial statement analysis, time value of money, valuation of stocks and bonds, capital budgeting, cost of capital, and the efficient market hypothesis.

GFGB 6003. Foundations of Economics. (1 to 3 Credits)
In this course, students examine microeconomic theory and concepts that strive to explain economic decisions of businesses in the marketplace. The dominant issues addressed are the factors of supply and demand and the relationship of production costs, output, and market structures to pricing. Designed to provide the economic foundation for management decisions.

GFGB 6005. Financial Modeling. (3 Credits)
This course helps students develop, using Excel, the type of financial models that businesses use every day to analyze a wide range of financial problems and make decisions. This course covers modeling of financial statements and models in many other important practical areas, such as time value of money, project evaluation, bonds, investment management, and derivatives. It emphasizes using the most powerful and useful tools in Excel, such as logical functions, PivotTables, Data Table, Scenario Manager, and Goal Seek to solve problems that closely resemble real life situations.
Attributes: GFIO, GFOE.

GFGB 6006. Corporate Finance Applications. (3 Credits)
This course will explain the concepts of corporate finance and their applications in an international setting. We will examine opportunities and problems that are faced specifically by multinational and foreign corporations and will compare corporate finance practices around the world. Topics covered in the course include foreign exchange rate mechanics, international parity theories, forecasting and hedging, international cost of capital, capital budgeting, capital structure, and valuation of foreign investments.

GFGB 6007. Investment Applications. (3 Credits)
The objective of this course is to introduce the student to investment principles in the U.S. and in the global capital market. We will understand existing assets and investment vehicles, the functioning of capital market, the theoretical principles that underline asset pricing, and its applications in the valuations of fixed income and equity securities.

GFGB 6008. Financial Econometrics. (3 Credits)
This course covers estimation of parametric and non-parametric techniques commonly used in finance, applying high-frequency financial databases. We will discuss properties of financial data; linear time-series data analysis; and the basic theory of statistical inference with linear models, general linear models, conditional Heteroskedasticity models, nonlinear models, and Bayesian inference and estimation.

GFGB 6010. Financial Markets and Responsibility. (3 Credits)
This course is intended as an introduction to Financial Markets and Responsibility. In the first half, we will discuss the instruments traded in the markets, the institutions that support and frame the markets, the trading mechanisms, and the regulatory structure. The course is intended to be descriptive and conceptual. The aim is to familiarize you with the breadth and scope of equity, debt, and currency markets. We shall discuss the recent developments in the U.S. and the development of financial markets globally. The second half will provide an introduction to the environmental, social, governance (ESG) aspects of business, as well as diversity, equity, and inclusion (DEI) issues. A central theme will be the social responsibility of corporations. We will discuss how social considerations impact business and financial markets, and how business practices and disruptions affect employees and society. The focus will be on the financial implications, e.g., shareholder versus stakeholder primacy. Cases and some data analysis may be included in class discussions.

GFGB 6011. Foundations of Accounting. (1 to 3 Credits)
This course provides a basic understanding of the preparation and analysis of corporate financial statements; introduces generally accepted accounting principles (GAAP) and the standard-setting process; and discusses current issues in the reporting process, such as the benefits and problems of the Sarbanes-Oxley Act.

GFGB 6012. Foundations of Statistics. (1 to 3 Credits)
This course introduces the basic statistical concepts essential for business research and decision-making. These include descriptive statistics, probability distributions, statistical inference, and simple and multiple regressions.

GFGB 6013. Communicating Finance Theory. (0 Credits)
This lecture series will provide a summary of many financial topics. The class will also train students to communicate knowledge of this material to professionals at financial institutions.

GFGB 6014. MSF—Industry Applications. (0 Credits)
This course is required for all new students in the Master of Science in Global Finance (MSF) program. The program director will lead lectures and bring in many industry professionals to expose MSF students to a range of financial applications and opportunities. Grading will be Pass/Fail.

GFGB 6015. MSF Roundtable. (0 Credits)
This course is required for all new students in the Master of Science in Finance program. The program director will lead small group seminars of 15 to 20 students. Topics will be focused on student interests and needs. Each student will select two sessions to attend during the term, one in the first half and in the second half. Grading will be Pass/Fail.

GFGB 6016. Introduction to Financial Data and Analytics. (3 Credits)
This course introduces students to the different financial data sources used in practice and in research. Students will learn how to access and download data from Bloomberg, financial data websites, and research databases. Students will also be introduced to data manipulation tools and basic statistical tools in Python and will engage in short projects that use the data and implement the tools developed in class. The focus is to provide a knowledge of financial data, Python data-frame techniques, and data visualization and inferences using Python.

GFGB 6017. Fundamentals of Finance. (3 Credits)
This course is an introduction to the financial system and the basic techniques in valuation of financial and physical assets. The course is primarily meant for someone who has not had a formal introduction to financial markets, institutions, and instruments. The course will cover the topics of financial statement analysis, time value of money, valuation of stocks and bonds, capital budgeting, cost of capital, and the efficient market hypothesis.

GFGB 601A. Financial Markets and Responsibility A. (1.5 Credits)
This course is intended as an introduction to Financial Markets and Responsibility. In the first half, we will discuss the instruments traded in the markets, the institutions that support and frame the markets, the trading mechanisms, and the regulatory structure. The course is intended to be descriptive and conceptual. The aim is to familiarize you with the breadth and scope of equity, debt, and currency markets. We shall discuss the recent developments in the U.S. and the development of financial markets globally.

GFGB 601B. Financial Markets and Responsibility-B. (1.5 Credits)
The course will provide an introduction to the environmental, social, governance (ESG) aspects of business, as well as diversity, equity, and inclusion (DEI) issues. A central theme will be the social responsibility of corporations. We will discuss how social considerations impact business and financial markets, and how business practices and disruptions affect employees and society. The focus will be on the financial implications, e.g., shareholder versus stakeholder primacy. Cases and some data analysis may be included in class discussions.

GFGB 601F. Finance Primer. (1 Credit)
Finance Primer.

GFGB 7001. Global Financial Markets. (3 Credits)
This course provides a comprehensive overview of global financial markets, the functions and goals of key financial institutions, and the roles of central banks and regulatory agencies. Students will learn about international money markets, international equity markets, the foreign exchange market, forward markets for commodities and financial instruments, bond markets, and derivative markets. Only students in the MSF program may enroll.
Prerequisites: GFGB 6001 and GFGB 6003.

GFGB 7002. Contemp Issues Global Finance. (3 Credits)
Explores current issues relevant to the global financial system, including international commercial and investment banking and international investments. It emphasizes the underlying conditions and fundamental trends in various sectors of international finance.
Attributes: GFCF, GFFA.

GFGB 7004. Global Equity Portfolio Mgt. (3 Credits)
Provides a comprehensive overview of equity portfolio management in theory and practice. Examines portfolio objectives and links them to appropriate investment strategies. It covers pricing of equities, the asset-allocation decision, return enhancement/risk control techniques, performance evaluation and recent changes in international fund management. Analyzes international investment strategy and the relative merits of various approaches.
Attributes: GFOE, GFPM, GFPO.
Prerequisite: GFGB 6007.

GFGB 7005. Global Corp Governance. (3 Credits)
This course examines how modern publicly traded corporations are governed in the global markets. It discusses the roles of the board of directors, corporate management, institutional investors, and other shareholders, and the effects of recent legislation and financial market developments on corporate governance. The course provides international comparisons of corporate governance structures and issues arising in contests for corporate control. Only students in the MSF program may enroll.
Attributes: GFCF, GFIB.
Prerequisites: GFGB 601A and GFGB 601B.

GFGB 7006. Global Risk Management. (3 Credits)
Covers market risk and volatility, calculation of vaR (value at Risk), Monte Carlo Simulation, credit risk and use of credit derivatives, operational risk, counterparty risk and other topics. Discusses risk regulations, including Basel II, recent developments in Basel III, and recent regulations on the banking industry in the U.S.
Attributes: GFCD, GFCF, GFFA, GFIB, GFPM.
Prerequisites: GFGB 6006 and GFGB 6007.

GFGB 7007. Raising Capital and Investing in Global Financial Markets. (3 Credits)
This course provides a comprehensive overview of the decision to go public. Students examine the strategies and process of corporate restructuring and investing activities, such as mergers and acquisitions, corporate diversification, spin-offs, carve-outs, asset sell-offs, tracking stock, exchange offers, and debt restructuring.
Attributes: GFCF, GFIB.
Prerequisite: GFGB 6006.

GFGB 7009. Money Credit Interest Rates. (3 Credits)
Studies the role of money, credit and interest rates in the efficient and ethical functioning of domestic and global financial markets. This building-block course assumes a background in macroeconomics and finance, and it establishes a foundation for further study in all areas of finance. Topics include: flow of funds and interdependency within the financial system; the Federal Reserve System and its role in money creation; interest rates; the links between interest rates and the growth of money; and the effects of inflation and term structure.
Attributes: GFCD, GFCF.

GFGB 700B. Sustainability Reporting and Finance. (3 Credits)
Financial decisions worldwide are increasingly influenced by the unique risks of the 21st century. All activities demand focus on sustainability issues—from the looming impacts of climate change, to risks associated with health and safety, to credit and investment gaps that limit business opportunities and hamper economic progress in many parts of the world. As the challenges of scarcity of resources, the search for profits through efficiency, and impact of climate change continue to mount, environmental, social, and governance (ESG) data become essential for prudent decision-making. Along with several multinational investment banks, the Dow Jones has a sustainability index indicating that the search for profitability through efficiency has transcended trends and has now become the new corporate norm. Students in this course study finance, corporate disclosures, and sustainability reporting practices as integrated subjects beginning with an introduction to financial and reporting principles and moving through financial analysis and industry-focused disclosures. Additionally, the course covers diverse aspects of sustainable reporting and offers tools for effective risk assessment.
Attributes: GFES, GFIO, GFOE.
Prerequisites: GFGB 601A and GFGB 601B.

GFGB 700D. Programming with Python. (3 Credits)
Do you want to be able to solve business problems through programming and coding? This course introduces key programming concepts, techniques, and tools. Students will learn programming and coding using the widely used Python programming language. This section of Programming with Python will include additional finance applications.
Attributes: GFFA, GFFT.

GFGB 700E. Advanced Consulting Seminar. (3 Credits)
Students in this seminar will work directly with, and be mentored by, an industry practitioner as well as a Fordham faculty member. The work will normally involve solving problems related to current issues of industry relevance. Projects will be spread over a large part of the semester. Grading criteria will be based on thoroughness, realism, analysis, and imagination.

GFGB 700F. Portfolio Management/Responsible Investing. (3 Credits)
This course will introduce students to the management of investment portfolios with an awareness of environmental, social, and governance (ESG) risks and objectives. We'll start with an introduction to ESG and everything that means today. We'll then examine a variety of approaches to ESG-aware portfolio management, including security screening and exclusion, ESG integration, best-in-class investing, thematic investing, portfolio tilting, active ownership, and impact investing. We'll focus primarily on public equity, but other asset classes will be introduced over the term. The emphasis will be on developing a practical and applied understanding of the subject. Data widely used by ESG-aware investors will be reviewed and analyzed, including company-level third-party ESG data, ratings, and climate-related measures. Students will complete computational exercises involving that content, and will be assumed to be proficient with Excel or similar spreadsheet software, but no other coding ability will be required. The course is intended to provide the ESG investing background necessary for students seeking to participate in the ESG Student Managed Investment Fund sequence, but other students meeting the course requirements are also welcome to enroll.
Attributes: GFES, GFFA, GFPM.
Prerequisite: GFGB 6007.

GFGB 700G. ESG Finance: Issues & Challenges. (3 Credits)
This graduate course is designed in a seminar format and will delve into topics ranging from the successful implementation of sustainability goals by corporations to evaluation of ESG-tilted portfolios by an investor. Students and participants are expected to have a basic understanding of the issues surrounding sustainability. The course is open to graduate students from the Gabelli School and the economics department. A limited number of undergraduate students from the Gabelli School may take the course with the instructor's permission.
Attribute: GFES.
Prerequisites: GFGB 601A and GFGB 601B.

GFGB 700H. Cloud Computing and Finance Uses. (1.5 Credits)
This course introduces the core concepts of cloud computing, including networking, storage, database, access control, security, compliance, and pricing. Cases will be drawn from the finance Industry. The course does not require prior programming or cloud computing experience. Students will create their own account on a cloud platform and gain some hands-on experience by provisioning a cloud service and working with it.
Attributes: GFFA, GFFT.
Prerequisites: GFGB 6006 and GFGB 6007.

GFGB 700J. Identifying Corporate Culture to Uncover Positive Alpha Investment. (1.5 Credits)
This course will provide a solid introduction to financial linguistic analysis that allows investors to measure the relevance and importance of intangibles like corporate culture and leadership as important contributors to future share value and Alpha. The aim of this first-ever financial linguistics course is to introduce students to the Candor Analytics process. Students will learn how this analytic process has consistently identified high-performing and underperforming stocks over the past decade.
Prerequisites: GFGB 6006 and GFGB 6007.

GFGB 700K. Mergers, Acquisitions, and LBOs. (3 Credits)
In this course, students will focus on identifying and evaluating target companies and structuring deals. They also will consider the economic and social impact of such changes in corporate ownership, and they will analyze recent cases, evaluate strategic rationale, examine deal structuring, and assess financial impact.
Attributes: GFCF, GFIB.
Prerequisite: GFGB 6006.

GFGB 700L. Sustainable Investing and ESG Analysis. (3 Credits)
This course has been designed to develop sustainability competencies for those aspiring to create an impact in their personal and professional lives. Students are exposed to new techniques and tools enabling them to develop sustainable investing strategies and positive outcomes. Through this course, students will learn how to identify, analyze, and integrate ESG factors across a range of asset classes while learning best practices of sustainable and impact investing. This course culminates with a case study in which students develop their own sustainable investment strategy.
Attribute: GFES.
Prerequisite: GFGB 6007.

GFGB 700M. Introduction to ESG and Finance. (1.5 to 3 Credits)
In this course, students will learn about the history of ESG and impact investing, as well as the evolution of key social, environmental, and economic challenges. They will examine the use of ESG Value Reporting Foundation (Sustainability Accounting Standards Board) standards in the United States, Europe, and China, and they will review regulatory factors in relation to the ability of an institution to drive value for its multiple stakeholders. Students will also evaluate social tensions relating to climate change and the exponential growth of investor interest in transformative climate tech solutions. We will look at how policies and market environments, including in each student's native country, support ESG development. The course will leverage Fordham's relationship with the United Nations PRME (Principles of Responsible Management Education) program, and students will examine in detail the UN's 17 Sustainable Development Goals and the Business Roundtable pledge.
Attribute: GFES.

GFGB 700N. Introduction to Climate Finance. (3 Credits)
In this course, students explore the science of climate change and its related economic and environmental impacts. They study changing global policies and examine financial tools and techniques to fight climate change in its context. Specific areas covered include the use of capital markets to create market-based emission trading systems, project finance to build renewable energy projects, venture capital to fund innovative low emission technologies, etc. The course will feature a large number of readings and a few cases to introduce students to climate finance.
Attribute: GFES.
Prerequisite: GFGB 6006.

GFGB 700P. Advanced Machine Learning. (3 Credits)
The primary focus of the course is on developing computational models to identify/forecast economic regimes, factor-based smart beta, strategic risk budgeting, and trading decisions. The topics covered in this course will help students gain theoretical knowledge and practical skills to work with global financial firms across different asset classes. Students are required to be proficient in Python programming and have knowledge of basic data mining algorithms and techniques.
Attributes: GFFA, GFFT.
Prerequisites: GFGB 7050 and GFGB 7039.

GFGB 700Q. Managing Business Climate Change Risk Exposure. (3 Credits)
This course will introduce you to the effects that climate change is having on business organizations across the globe and how businesses are responding to these risks. We will explore the short-term impact on businesses of extreme weather events and the long-term impact of chronic changes in weather patterns due to global warming. The course will explain the full range of potentially severe physical risks and transition risks of climate change facing businesses today and how these risks are changing due to global warming. You will learn the strategies that businesses utilize to manage these risks, including risk avoidance, risk mitigation, and risk transfer. We will study how businesses use such important climate risk transfer mechanisms as buying insurance, including general business, flood, and business interruption insurance, and issuing catastrophe bonds. You will also learn how businesses can use derivatives, such as specialized weather derivatives and certain traditional derivatives like forwards, futures, and swaps, to hedge their climate change risk exposure. The course will explain how climate change can also give rise to opportunities for businesses to develop innovative products, services, and strategies to help other businesses. You will learn how successful businesses that recognize these opportunities can turn climate change into an advantage for their stakeholders and society.
Attribute: GFES.
Prerequisite: GFGB 700N.

GFGB 700R. Financial Regression and Application. (3 Credits)
This course will cover basic regression analysis for finance students. The software will be based on Excel and basic Python. It will be useful to have had some exposure to Python or other programming skills. If not, extra effort on your part should be expected—or take a Python class at the same time. You will learn how to import data and conduct analysis such as computing Beta, estimating simple multifactor models, assessing the relation between standard accounting data and stock returns, etc.
Prerequisite: GFGB 7039.

GFGB 700S. Equity Factor Investment Strategy. (2 to 3 Credits)
This quantitative course is designed to teach students how to backtest a quantitative strategy using the programming language Python. Equity factor investing is a systematic approach to evaluating companies. Companies are assessed on how attractive they are based on one or more factors and then ranked against other firms. Higher-ranked companies may indicate a greater opportunity for alpha. Students will learn about risk exposures and alpha generation. Students will be exposed to long-only and long-short quantitative strategies.
Attributes: GFFA, GFPM.
Prerequisites: GFGB 6006 and GFGB 6007.

GFGB 700T. Intro to Fintech in Portfolio Management. (3 Credits)
This course aims to provide students with basic knowledge and skills in fintech via a comprehensive introduction to the field. Students should be able to conduct fintech problem-solving professionally and present their results to peers after taking this class. The major skills to be covered include models in fintech, financial data acquisition, data mining and visualization, machine learning in finance, and high frequency trading analytics. Topics covered include portfolio analysis, portfolio formation, and portfolio optimization using machine learning.
Attributes: GFFA, GFFT, GFPM.
Prerequisites: GFGB 6006 and GFGB 6007.

GFGB 700U. Real Estate Capital Market Analysis. (1.5 to 3 Credits)
This course examines selected topics and issues related to real estate capital markets. Special emphasis will be placed on mortgage backed securities (MBSs) and real estate investment trusts (REITs). This class will be conducted using a lecture format. The topics include the primary mortgage market and secondary markets, the objectives and processes for designing, implementing, and servicing mortgage and asset backed securities, the tools used by the capital market for pricing and analyzing risks of MBSs, and the regulatory environment and trend of the securitization market.
Attributes: GFAL, GFCD.
Prerequisite: GFGB 6006.

GFGB 700V. Data Analytics for Finance. (3 Credits)
This course teaches students how to apply the tools and techniques of data science to big financial data and, combined with finance theory and concepts, enhance the quality of empirical analysis, problem-solving, and decision-making in finance. Students will engage in diverse projects related to the field of finance, using big data drawn from proprietary financial databases, such as S&P Compustat, CRSP, Execucomp, ISS Directors, RepRisk, Thomson/Refinitiv, and others, as well as the Web. The projects will be executed using the Python programming language and its system of libraries, such as Pandas, Numpy, Matplotlib, Statsmodels, Numba, SciPy, etc. A wide range of interesting problems from various areas in finance will be investigated, such as capital structure, cost of capital, payout policy, simple multifactor models, portfolio construction, financial ratio analysis, firm liquidity, executive compensation, boards and institutional investors, diversity in corporate governance, ESG, and firm market and financial performance, and others. The course will equip the students with the necessary knowledge and skills to extract useful information from the ever-increasing volume of data and use it for improved understanding of financial concepts and better decision-making.

GFGB 700W. Fundamental Stock Analysis. (3 Credits)
This course is designed to simulate the experiences a student can obtain as an equity analyst in the asset management industry. As such, while a broad survey of the market and asset classes is covered, the course provides an in-depth understanding of equity stock selection and trains students in selecting stocks using a disciplined investment process that systematically screens an investment universe for attractive quality stocks that are undervalued (Graham & Dodd). Students are expected to focus on the examination and evaluation of individual companies on a standalone and comparable basis, and to understand a company's competitive positioning via Porter's five forces. Students will look at the fundamentals of the company, recognizing a sound business, trading at a reasonable price, as a potential investing opportunity. Students will also learn to appreciate that buying businesses that they don't completely understand adds uncertainty, and they should, therefore, demand a higher risk premium (margin of safety). The course stresses the importance of creating relationships with people in investor relations at targeted companies. A team of industry experts, fundamental analysts, portfolio managers, risk managers, and other investment professionals will work closely with students to ensure that the students are exposed to various tools and methods that are currently being employed in the industry.
Prerequisite: GFGB 6007.

GFGB 700X. Investment Analysis with Data Visualization and GenAI. (3 Credits)
This course is an advanced investment analysis course with three overlapping parts. The first part focuses on utilizing well-regarded investment websites available on the internet to speed up economic data analysis, portfolio evaluation, and stock selection. The second part involves using GenAI to rapidly ask questions and gain various perspectives, uncovering blind spots and opening new areas of opportunity. Effective prompt engineering and checking against GenAI's hallucinations is crucial. In the final three weeks, students will work in groups of four on a pro bono consulting project for an industry practitioner, applying what they have learned in the course.

GFGB 700Y. Advanced Value Investing. (3 Credits)
Students will study a variety of advanced topics which build on the principles outlined in Introduction to Value Investing and Behavioral Finance. The class will study real-world situations in the current market environment, employ multiple valuation frameworks, and improve students' ability to make informed decisions. Among other topics, the class will study business strategy, Mario Gabelli's Private Market Value with a Catalyst, capital allocation principles, distressed investing, and merger arbitrage.

GFGB 700Z. Technical Analysis. (3 Credits)
A study of the Elliot Wave theory, a technical analysis approach used in financial markets, particularly in the analysis of stock market price movements. It was developed by Ralph Nelson Elliott in the 1930s and is based on the idea that market prices move in predictable patterns and cycles. The theory is widely used by traders and investors to forecast future price movements. Students will study the theory alongside money management techniques in real time.

GFGB 7010. Investment Banking. (3 Credits)
This course is intended to give students a practical introduction to investment banking and its role in helping corporations raise capital from the global capital markets. Topics include: venture capital, public offerings, private placements, going public, stock and bond financing, convertibles and other hybrid instruments, design of innovative securities, swaps and other derivative instruments, mergers and acquisitions and leveraged buyouts.
Attributes: GFCF, GFIB, GFIO, GFOE.
Prerequisite: GFGB 6006.

GFGB 7011. Hedge Fund. (3 Credits)
The course provides in-depth analysis of hedge fund strategies including absolute-return; controlled risk arbitrage; equity market neutral, long short, and statistical arbitrage; derivatives including options and credit derivatives; fixed income, currency and global macro arbitrage; distressed debt and emerging markets. It examines the role of various participants including regulators, banks, brokerage firms, market makers and investors, both private and institutional.
Attribute: GFAL.
Prerequisite: GFGB 6007.

GFGB 7013. Fixed Income Securities. (3 Credits)
Introduces fixed-income securities, basic fixed-income concepts, the different sectors of the fixed-income market and basic bond mathematics. Studies quantitative fixed-income analysis and its use in valuing bonds and quantifying risk-return characteristics. Involves extensive training in the mathematical formulation of bond valuation problems and in the use of the existing models and software to solve these problems.
Attributes: GFCD, GFIB, GFPM.
Prerequisite: GFGB 6007.

GFGB 7014. Futures and Options. (3 Credits)
Examines the institutional aspects of options and futures markets and discusses the strategies of hedgers, arbitrageurs and speculators. Provides an introductory analytical foundation for pricing futures and option contracts.
Attributes: GFAL, GFIB, GFPM.
Prerequisite: GFGB 6007.

GFGB 7015. Credit Management. (3 Credits)
This course focuses on the analytic approach (stemming from Basel II capital accords) and will help students make wise credit decisions and manage lending portfolios. Topics include the latest lending techniques based on cash flow, advanced forecasting methods (including simulation and stochastic optimization), pricing, portfolio management, default probability, valuation analysis risk rating and credit derivatives.
Attributes: GFCD, GFCF.
Prerequisite: GFGB 6007.

GFGB 7016. Real Estate Capital Markets. (3 Credits)
This Real Estate Capital Markets course will cover both the primary and secondary debt and equity markets linked to real estate assets. While the underlying real estate assets in the primary markets will be covered, a greater portion of the class will be devoted to the secondary debt and equity markets, mainly dealing with mortgages, mortgage backed securities, and Real Estate Investment Trusts (REITs). A distinguishing aspect of this course is the focus on the intersection of the primary and secondary real estate capital markets, investor perspectives, and the impact of macroeconomic factors. Additionally, this course will include a robust mix of quantitative and qualitative factors in order to provide a holistic, less technical perspective on the real estate capital markets, and the real estate industry at large.
Attributes: GFAL, GFIB.
Prerequisite: GFGB 6007.

GFGB 7017. Real Estate Finance. (3 Credits)
Discusses the major factors affecting the valuation and financial structuring of real estate, including general tax and depreciation policies. Presents the roles of principal lending institutions, mortgage banks and investment banks in real estate lending, syndications and partnerships. Also surveys real estate-related securities and their markets.
Attribute: GFAL.
Prerequisite: GFGB 6007.

GFGB 7018. Adv Global Portfolio Mgt. (3 Credits)
The course will review (1) basics of modeling of securities' returns and volatility in the context of portfolio management / "buy-side"; (2) theoretical basis and empirical evidence of risk-return tradeoff and investor preferences; (3) main approaches to portfolio construction and challenges with their practical application; (4) performance evaluation, and other relevant portfolio management topics.
Attributes: GFOE, GFPM, GFPO.
Prerequisite: GFGB 6007.

GFGB 7020. Value Investing Student Mgt Fund. (3 Credits)
This course aims to familiarize the student with the principles and techniques of value investing, the investment philosophy pioneered by Graham and Dodd during their years at Columbia Business School. This will be done through a combination of formal lectures, in-class valuation discussions (see below) and three presentations by leading investors.
Attribute: GFPM.
Prerequisite: GFGB 6007.

GFGB 7021. Emerging Markets. (3 Credits)
This course will focus on government policies; their motivation, transmission and limitations. Students will learn how a country's investment possibilities and potential GDP is driven by its labor force and productivity. In turn, the level of productivity can be affected by a confluence of monetary, fiscal, currency and regulatory policies developing at the "emerging growth" phase when political goals and legal structures are still in transition, financial and government institutions are not yet fully formed and consumer spending behavior and market availability are evolving.
Attributes: GFAL, GFCF, GFIB, GFIO, GFOE.
Prerequisite: GFGB 6006.

GFGB 7022. Venture Capital Finacing. (3 Credits)
We will examine the changes in the asset class over time - from the formation of American Research and Development in 1946 to the formation of some of the angel-type funds of the present. We also will examine the geographical differences between venture funds - West Coast and East Coast . We also will look at specialization -- the beginnings of IT-focused investing and the move into healthcare and finally into energy. Finally we will examine the phenomenon of global venture capital. How does that vary from the way venture capital is practiced in the US. The class will be taught in modules and we also will rely on practitioners and experts to visit with the class. Where possible, the students will be asked to visit venture capital fund presentations, expert briefings as well as personal briefings.
Attributes: ABEP, GFAL, GFCF.
Prerequisite: GFGB 6006.

GFGB 7024. Fintech Compliance-Asia to US. (3 Credits)
An overview of the components of an effective global Corporate Compliance Program. Examination of the Part C Risk Assessment and the Seven Steps of a corporate compliance and ethics program. Review of compliance program design and best practices, including the roles of the corporate compliance office and in-house counsel, risk assessments, Foreign Corrupt Practices Act, global codes of conduct, corporate governance, monitoring and re-evaluation.
Prerequisite: GFGB 6006.

GFGB 7025. Adv Corporate Finance. (3 Credits)
This course teaches the art of applying corporate finance theory and essential tools and techniques to strategic decision-making in critical real-life situations faced by organizations. The course enhances the students' understanding of corporate finance by providing a comprehensive examination of selected advanced topics, such as alternative valuation methods, real options in corporate finance, decision trees, international operations, mergers and acquisitions, risk arbitrage, debt capacity and leveraged buyouts, private equity, warrants and convertibles, and ethical issues.
Attributes: GFCF, GFIB, GFIO, GFOE.
Prerequisite: GFGB 6006.

GFGB 7026. Alternative Investments. (3 Credits)
The course is an introduction to the rapidly evolving universe of alternative investments. Delivered in modules, the course covers a broad array of alternative strategy classes (Quantitative/Systematic, Fundamental Long/Short, Global Macro, Private Equity) ranging across all major asset classes (Equities, Fixed Income, Currencies, Commodities, Derivatives).
Attribute: GFAL.
Prerequisites: GFGB 6006 and GFGB 6007.

GFGB 7027. Algorithm Trading. (3 Credits)
Electronic algorithms are being used by major institutions, investment banks, and hedge funds to trade stocks, bonds, currencies, and a plethora of financial derivatives. Algorithms are being used for all aspects of trading - from asset allocation and stock selection, to execution and implementation, and for risk management and regulatory and compliance reporting. In this course, students will learn the necessary skill sets, and underlying math, statistics, and programming skills to build, develop, manage, and implement profitable algorithms across all asset classes.
Attributes: GFFA, GFFT.
Prerequisite: GFGB 6007.

GFGB 7028. Technical Analysis. (3 Credits)
This course is designed to inform students about how the markets and individual stocks behave (i.e., technical analysis), and how they differ from the economy and individual companies (i.e., fundamental analysis).
Prerequisite: GFGB 6007.

GFGB 7029. Equity Analysis. (3 Credits)
This course explores techniques and skills required to evaluate the attractiveness of investment opportunities. Experts in the field will be invited to join the class and lead discussions on issues facing analysts, how analysis is used by money managers in making investment decisions, wealth management, and private equity analysis. The course is a combination of lectures, case studies, and team projects. Students will be expected to analyze an industry as well as engage in a discussion with guest speakers and class participants.
Attribute: GFES.
Prerequisite: GFGB 6007.

GFGB 7030. CFA Competition and Workshop. (0 Credits)
While this course is for zero credit, it has a heavy work load and provides valuable practical experience. Students will be arranged into teams. Each team will write a full sell-side coverage report, build out a presentation, and pitch it to Fordham Wall Street alumni.
Attribute: GFPM.

GFGB 7031. Seminar in Value Investing. (3 Credits)
This survey course is designed to introduce the fundamentals of the Graham and Dodd value approach to investment analysis. The course will be segmented into two parts: the basic structure of the analytical approach to value investing and its relationship to many of the elements of the MBA curriculum will be described through lectures, exercises, readings, in-class discussions and homework assignments; the last sessions of the course will be devoted to student presentations of their investment recommendations.
Attribute: GFPM.
Prerequisite: GFGB 6007.

GFGB 7032. Applied Capital Markets and Financial Regulations. (3 Credits)
This course will explore how the market structure has fundamentally changed after the 2008 liquidity and credit crisis, and how that crisis has affected liquidity, balance sheets, risk taking, and returns across the entire financial services industry. The new reality is that regulation has changed the landscape of Wall Street and the dynamic of how the sell-side and buy-side will interact in the foreseeable future.

GFGB 7033. Corporate Finance. (3 Credits)
Studies corporate finance and its specific decisions. Topics include evaluating capital expenditure proposals, forecasting financing requirements and selecting sources of financing. The course also discusses working capital management, dividend policy and contingency planning, and addresses the additional challenges of multinational firms.
Prerequisite: GFGB 6006.

GFGB 7034. Finl Statement Analysis. (3 Credits)
Gives students a better understanding of financial statements and the information they communicate on the operating, investing and financing activities of corporations. Focuses on the impact of financial accounting principles, disclosure standards and alternative accounting practices on financial reports. Examines and evaluates traditional and non-traditional methods of financial statement analysis.
Attributes: GFCF, GFIB.

GFGB 7035. Intl Trade & Development. (3 Credits)
The first half of the course focuses on the theories and practices of world trade. Topics include comparative advantage, the changing trade competitiveness of nations and protectionism. During the second half, the focus shifts to developing countries: the process of economic development, including the contribution of foreign investment and technology as well as investment and trade opportunities, policies and regulations.
Attribute: GFCF.

GFGB 7036. Research in Value Invest. (3 Credits)
Prof. Johnson, a leading expert in the field of Value Investing, will lead a small, project based seminar that focuses on best practices in the field. Selective enrollment by approval of the instructor.
Attribute: GFPM.
Prerequisite: GFGB 6007.

GFGB 7037. Applied Investment Principles. (3 Credits)
This course provides applications that follow Principles of Finance or Global Investment Principles. EXCEL models will be applied to CAPM modeling of Risk and Return, to Factor Models, and to Portfolio Attribution. Data may be drawing from Boomerang, Yahoo Finance, and other sources.
Prerequisite: GFGB 6007.

GFGB 7038. Applied Quant Invest Strateg. (1.5 Credits)
This course provides applications that follow Financial Econometrics, using SAS or similar software. The techniques from that course will be reviewed, extended, and applied to stock return and accounting data. The focus will be on anomalies, predictions, and multifactor models.
Attribute: GFFA.
Prerequisite: GFGB 6007.

GFGB 7039. Computational Finance and AI Methods. (3 Credits)
This course will introduce students to programming in R and Python, and will provide many basic finance applications.
Attributes: ABFF, GFFA, GFFT, GFOF, GFOF.

GFGB 7040. Lectures in Applied Port Mgt. (3 Credits)
This advanced Portfolio Management course quickly reviews Modern Portfolio Theory (MPT) conceptual underpinnings and builds on MPT 1.0. It delves into contemporary liability driven asset allocation, MPT 2.0 and portfolio management industry practices, issues and concerns. Lectures, problem solving, and self-study along with extensive hands-on tools using Microsoft Excel based models will be used to provide a practitioner's perspective. We will review and demo contemporary asset allocation optimization and forecasting techniques, new asset class pricing and valuation, performance and risk attribution, tail risk measurement and management tools etc. using real time vendor based (third party) solutions. As Pre-reqs - the student should have class exposure to investment and portfolio analysis, Excel, stats, and basic regressions.
Attribute: GFPM.
Prerequisite: GFGB 6007.

GFGB 7042. Sustainability and Finance. (3 Credits)
In this course we explore how the evolving needs of society are changing the way financial theories, tools, and techniques are conceived and applied.
Attribute: GFES.
Prerequisites: GFGB 601A and GFGB 601B.

GFGB 7043. Financial Innova & Institu. (3 Credits)
This course will introduce major financial institutions, such as commercial and investment banks, insurance companies, mutual funds, hedge funds, and credit rating agencies with a focus on their risk contributions to the modern financial system. We will examine their credit risk in depth, and how to model and analyze credit risk and products. We will also understand new financial sector regulations and systemic risk by focusing on Dodd-Frank, market based stress-testing, Comprehensive Capital Analysis and Reviews (CCAR), and other methods. This course will help prepare students for the job market at financial institutions and regulators.
Attributes: GFFT, GFIB.
Prerequisite: GFGB 6006.

GFGB 7044. Auto Trading Systems - Intro. (2 to 3 Credits)
This course discusses key issues involved in the design of auto (algorithmic) trading systems and provides hands-on experience. The end product is a prototype auto trading system designed by students that successfully trades in the real market (stocks, futures, options) using live data feeds from exchanges. Issues covered include typical structures of trading systems, efficient processing of live information, minimizing trade slippages, handling a large number of securities, asynchronous information processing, and GUI interfaces. Industry experts are invited to discuss new developments, and key programming techniques will be reviewed. The course is suitable for MSF, MSQF, and other master's-level students with programming skills equivalent to one formal course. Students with less programming skill may take the course with instructor approval.
Attributes: GFFA, GFFT.
Prerequisite: GFGB 6007.

GFGB 7045. Investing in European Union. (3 Credits)
The EU is the largest market for US exports and foreign direct investment. The objective of the course is to familiarize students with the process of regional integration and monetary unification in Europe and the opportunities and challenges which this has created for foreign investors. Regulatory differences between the US and EU in competition laws and financial sector will related to the investment climate for foreign companies. The course will highlight that despite the deep economic and financial integration in the EU, significant country- and regional differences exist. This will be assessed through the analysis of several Harvard Business case studies covering different country- and industry experiences.

GFGB 7046. Fintech -An Introduction. (3 Credits)
FinTech is a new and emerging field of technology that is disrupting the way that many companies are conducting business. FinTech has already "forever" changed many sectors including mobile payments, social media, money transfers, loans, fundraising, travel, trading and asset management. It has completely revolutionized the way companies are developing products, conducting research, establishing directed sales and marketing plans, and utilizing start-up technology. Businesses are using FinTech to expand their products and services at a fraction of its previous cost. Entrepreneurs are utilizing FinTech as a central foundation for research, funding, and product development. Customers are already utilizing FinTech as part of their daily lives - mobile apps, social media, banking, online shopping, entertainment and gaming. This course will introduce students to the breadth of FinTech, and touch upon the technical underpinnings.
Attribute: GFFT.
Prerequisite: GFGB 6007.

GFGB 7047. Stress Tests and Cap Adequacy. (3 Credits)
The financial crisis of 2007 -08 taught us all a lesson: that preparedness is everything. How resilient and prepared will we be, and how fast will we be able to recover? This is the key focus of this course: how to plan for moments of distress so that firms such as yours have capital of a sufficient quality to survive potential storms. We will demonstrate how to create a robust capital plan and test it for moments of hypothetical stress. We will investigate exactly how a bank holding company and an insurance company should conduct their capital plan, highlighting the significant differences between the two industries. By the end of the course, you will be able to create a capital plan for your business on your own.

GFGB 7048. Dynamics of Banking& Fin Mkts. (3 Credits)
This course is designed to provide students a well-rounded and hands-on perspective on the practical functioning and decisions in financial markets and banking.
Prerequisite: GFGB 6006.

GFGB 7049. Global Financial Markets and the Macro-Economy. (3 Credits)
The overarching goal of this course is to give students an understanding of the forces affecting real income growth, inflation, and asset prices in the world economy. The specific topics the course will address include: the operation of monetary and fiscal policy; how those policies affect financial markets and the broader economy; the determinants of countries' long-term rates of growth; the factors behind the recent financial crises in the U.S. and EU; the features of currency crises, business cycles, and financial crises historically; and the relationships linking global interest rates, exchange rates, and inflation rates. The course will combine economic theory and empirical evidence to provide a toolbox of skills that students can use to analyze these and similar issues going forward.
Prerequisite: GFGB 6006.

GFGB 7050. Machine Learning for Finance. (3 Credits)
Machine learning (ML) methods of data analysis and prediction are transforming the financial landscape. This course provides a broad overview, knowledge, and practical skills of Machine Learning (ML), focusing on applications in Finance. The course will introduce various ML methods including supervised and unsupervised learning, as well as deep and reinforcement learning. Students will understand the general landscape of available ML algorithms and learn to implement the most appropriate solutions of a given problem. The course will use Python programming and open source Python packages, and requires knowledge of statistics. Class sessions will provide the basics of Python.
Attributes: ABFF, GFFA, GFFT, GFOE, GFOF, GFOF.

GFGB 7051. Econtech: Econ & Data Mining. (3 Credits)
The overall financial markets and individual company performance are largely driven by the growth rate of the economy, which in turn is affected by monetary, fiscal, and currency policies. Our understanding and forecasting ability are based on analyzing and mining available data. This course will examine data and data mining to better understand a range of policy and output variable, and how they interact under different regimes.
Attributes: ABFF, GFFA.
Prerequisite: GFGB 6006.

GFGB 7052. Empirical Value Investing. (3 Credits)
This course examines historical data to consider empirical aspects of Value Investing. Excel or other programming will be important to the course. Theoretical and institutional issues will also be discussed.
Attribute: GFPM.
Prerequisite: GFGB 6006.

GFGB 7053. Investor Relations. (3 Credits)
A corporate Investor Relations program formulates and communicates the financial performance and strategic direction of diversified corporations to the global investment community. Investor Relations professionals are well versed in accounting, compliance, finance, governance, marketing and communications. They collaborate with senior management and the Board of Directors to convey and interpret corporate matters to the public. This course will teach students the skills and competencies required to become a corporate Investor Relations professional. The course utilizes a course textbook, case studies, investor relations guest speakers and participation in investor relations events.
Attributes: GFCF, GFIO, GFOE, GFPO.
Prerequisite: GFGB 6006.

GFGB 7054. Wharton-Impact Investment Workshop. (3 Credits)
Students will attend workshops on ESG (Environmental, Social, and Corporate Governance) and Impact Investing. They will compete in teams of three to five against other national schools to construct a 100% Impact Portfolio. Since this is a two-semester competition, only students who participated in Fall may register in Spring.
Attribute: GFES.

GFGB 7055. Research Seminar. (3 Credits)
Students will learn from industry practitioners how textbook concepts are applied in the finance industry. Guest lecturers will cover areas which include wealth management, equity research, portfolio management, investment banking, risk management and FinTech.
Attributes: GFOE, GFOF, GFOF.

GFGB 7056. Blockchain Tech & App Dev. (3 Credits)
The main objective of this course is to familiarize you with the ecosystem, technologies, and development skills surrounding Blockchain. The course starts with foundational concepts such as distributed state machine, hash tree, P2P network, GPU processing, cryptocurrency, and cryptography. Using both simulated sandbox and locally installed environments, the course then guide you through the development, front-end integration, and deployment of Blockchain-based smart contracts. Other topics covered include rapid prototyping, design patterns, and agile process to maximize the success likelihood for Blockchain projects. Proficiency in computer programming; basic knowledge in analysis and linear algebra required.
Attribute: GFFT.
Prerequisite: GFGB 7039.

GFGB 7057. Contemp Develop in Corp Fin. (3 Credits)
This course will cover a number of important topics of current interest to the corporate finance industry, such as : executive compensation and governance; utilizing and responding to fintech; importance of the growth of intangible assets; importance of large corporate cash holdings invested in risky assets, such as hedge funds and private equity.
Prerequisite: GFGB 6006.

GFGB 7058. Behavioral Finance. (3 Credits)
Over the past several decades, the field of finance has developed a successful paradigm based on the notions that investors and managers are generally rational and that the prices of securities are generally efficient. In recent years, however, anecdotal evidence as well as theoretical and empirical research has shown this paradigm to be insufficient to describe various features of actual financial markets. In this course we will use psychology and more realistic settings to guide and develop alternative theories of financial markets. We will examine how the insights of behavioral finance complement the traditional paradigm and shed light on investors' trading patterns, the behavior of asset prices, corporate finance, and various financial market practices through lectures, case studies, and our own discussions.
Attributes: GFOE, GFPM, GFPO.
Prerequisite: GFGB 6006.

GFGB 7059. Student Managed Investment Fund: ESG-Impact. (3 Credits)
In this joint graduate and undergraduate course, students will apply their investment and portfolio skills in the analysis and selection of a real set of securities and opportunities. Selection will focus on ESG investments and/or those that stress societal impact.

GFGB 7060. Practical Exploration of M&A. (1.5 Credits)
This class will provide an introduction to the essential elements of large cap M&A transactions from the perspective of real, recent examples taught by a senior investment banker.
Prerequisite: GFGB 6006.

GFGB 7061. Advanced Corporate Valuation. (1.5 to 3 Credits)
The objective of the course is to learn firm, debt, and equity valuation methods from both a conceptual and practical framework. It combines both accounting and finance into practical valuation frameworks. Adequate accounting and finance backgrounds are required. Working knowledge of Excel is important.
Attributes: GFCF, GFIB.
Prerequisite: GFGB 6006.

GFGB 7062. Financial Markets and Major Players. (3 Credits)
This course will provide an overview of a broad range of financial markets, from practitioner standpoints. It will discuss how secondary market prices, ranging from equity and fixed income to commodities and complex derivatives, are established in listed exchanges, OTC markets, and dealer platforms. We will examine the roles of both market-maker ("sell-side") and price takers ("buy-side"), with the latter further divided into two major groups: institutional or retail. We will survey sell-side businesses, including market-makers vs. agents in listed markets and OTC markets, institutional block trading, securities lending, and prime-brokerage. On the retail clientele side, we will discuss the whole-sale market making business. On the risk management of the sell-side business, we will cover market risk, credit risk, and counterparty credit risk. At the end of the course, students should have a thorough understanding of how various businesses fit together. Hopefully, the course will help students better understand the area in which they might pursue their career path in financial markets.
Attribute: GFAL.

GFGB 7063. Student Managed Investment Fund/Responsible Investing. (3 Credits)
This course will focus on ESG-aware analysis of equity securities, culminating in the identification of specific stocks that will be recommended for purchase by the University's endowment, where funds have been specifically allocated for this purpose. Only stocks selected and pitched by students will be considered, with those vetted by the class as a whole under the instructor's supervision. The course will start with a brief overview of modern equity security analysis, especially the use of alpha and risk factors to codify equity characteristics. We'll then build upon the techniques described in the Portfolio Management/Responsible Investing course to satisfy an ESG investment mandate while seeking investment outperformance based on ESG insights. The bulk of the term will then be devoted to investment ideas pitched by students and intensively vetted in class. All students will be collectively held responsible for the quality of the resulting recommendations.
Attribute: GFES.
Corequisite: GFGB 700F.

GFGB 70AA. Quantitative Asset Management Capstone Consulting Projects. (3 Credits)
The course bridges the gap between academics and practice by immersing students in the entire life cycle of real-world analytics engagements. Divided into small groups, students will work on pre-defined projects designed to boost your career with real-world experience and formulated to be completed within a single semester. This project-based course is structured as a consulting internship with actual companies, augmented with lectures to form a comprehensive framework based on the course textbook. Big data combined with machine learning and artificial intelligence provides amazing opportunities for institutional investors. Apply modern tools to investing with real-world details such as currency controls, market impact, and taxes. Study the entire investing process, from designing goals to planning, research, implementation, testing, and risk management. Use Python, MATLAB, and R to build alpha and risk engines, optimal multi-factor models, contextual nonlinear models, multi-period portfolio implementation, and more.

GFGB 70AB. Introduction to Venture Capital. (3 Credits)
This course offers a comprehensive introduction to the world of venture capital, a critical component of the global financial system that drives innovation, rewards founders and drive economic growth. If you are a financial professional, investor or an aspiring entrepreneur, this course will give you a deep understanding of how venture capital firms operate, how deals are sourced, evaluated and how deals are structured. You will also learn about the history of venture capital and the key opportunities and challenges venture capitalists are facing today.

GFGB 70AC. Artificial Intelligence in Cybersecurity. (3 Credits)
This course teaches students how to use artificial intelligence (AI) as a cybersecurity tool to reduce breach risks and improve security postures efficiently and effectively. AI is used throughout the business world through predictive analytics, self-driving cars, chatbots, assistant-enabled homes, and military organizations. It is also used in cybersecurity. AI is a critical technology in information security, able to quickly analyze millions of events and identify many different types of threats, from malware exploiting zero-day vulnerabilities to risky behavior that might lead to a phishing attack or download of malicious code. Topics will include the evolution of cyber threats, understanding AI in cybersecurity, AI vs. data analytics, types of AI-based attacks, adversarial machine learning, deep fake attacks, AI-powered malwares, and future challenges and trends. Cybersecurity experts will also speak on their experiences using AI as a successful tool against threats.

GFGB 70AD. Hedge Funds. (3 Credits)
This introductory course is designed to provide students with an overview of the alternative investment business and in particular hedge fund investment management. The course will survey the rationale for investing in hedge funds from an academic and a practitioner's perspective. The course will explore the benefits of including alternative investments and hedge funds in tradional portfolios and asset allocation models from both an individual and institutional investor's perspective. Students will learn about building blocks of alternative investments such as leverage, short selling, and derivatives. They will also learn to perform detailed rate of return and risk assessment on a wide range of the most popular hedge fund strategies and styles, including long/short equity, global macro, quantitative trading, credit arbitrage, convertible arbitrage, risk arbitrage and distressed investing.

GFGB 70AE. Advanced Topics in the Ethics of Finance. (3 Credits)
This course is about the interplay between ethics and finance, challenging students to critically examine the moral dimensions of financial practices, instruments, and institutions. The class will explore fundamental questions about the foundations of financial systems, from the purpose of markets to the moral implications of economic decision-making. Students will develop sophisticated analytical skills by exploring ethical challenges in investment banking, corporate governance, risk management, and financial innovation. Topics include shareholder control, corporate governance, fiduciary obligations, financialization, and firm valuation (e.g., ESG data), bankruptcy ethics, the distributive justice of home ownership, and the ethics of international finance. The class will help students understand how ethical reasoning can transform our understanding of finance beyond simple notions of profit and loss.

GFGB 8001. Iss in Fin: Modern Fin'al Ana. (1.5 Credits)
Learn how the financial services industry applies valuation techniques in a deal context! In this mini-course, you will demystify the theory behind the analytics and ultimately appreciate the “art” and “science” of valuation analytics. What is a company worth? What is someone willing to pay? The answers depend on: who the seller is; who the potential buyer(s) is; the context of the transaction and the current market conditions... The seminar is ideal for individuals are currently working in or are considering a career in the following disciplines: • Financial services industry (investment banking, consulting, research, asset management, private equity, brokerage, sales & trading, insurance, etc.) • Finance or strategic development group of a corporation – mid-sized thru multinational • Marketing, brand management or a non-finance field... namely anyone interested in gaining a solid foundation in valuation analytics in a condensed, real-world context.
Attribute: GFIB.
Prerequisite: GFGB 6006.

GFGB 8002. Fin'lmkts: Cncpts/Methods/Trd. (1.5 Credits)
This course provides a real-life, hands-on experience of financial market activity and its impact on the broader economy. Throughout the course, students will participate in a trading game to asses and manage real world factors such as counterparty risk, liquidity, leverage, etc.
Prerequisite: GFGB 6006.

GFGB 8004. Iss in Fin: Delevgd Finance. (1.5 Credits)
This course discusses the use of debt in Leverage Buyouts, recapitalization, restructuring and refinancing, including Debtor-in-Possession (DIP) financing. Students develop practical insights by utilizing case studies from several public highly leveraged firms; practical insights are critically reviewed.
Prerequisite: GFGB 6006.

GFGB 8005. Business Communication for Finance- A. (0.5 to 1 Credits)
Effective communication is the ability to convey your ideas in a logical and convincing manner in order to persuade others to take an action, modify their viewpoint, or at least be open to your perspective. This requires practice for many different situations, whether it is to promote an investment, prioritize your project, or convince your manager why you deserve a promotion. Simply being fluent in a language is not enough to communicate effectively. You must also know how to construct a compelling narrative to address the priorities, sensitivities, and concerns of your audience. As the world becomes more technical and data-driven, it is the ability to effectively communicate, verbally and in writing, which will be the differentiator to progress in your career. Teamwork, leadership, and management are all skills rooted in strong communications skills—again, just being able to speak a language in not enough to be an effective presenter, negotiator or salesperson. The only way to improve is through practice, so the course will be focused on student presentations on a varied set of topics, from current events to investment ideas.

GFGB 8006. Business Communication for Finance - B. (0.5 to 1 Credits)
This class will enable qualified students to more fluently converse with professionals on a variety of financial topics, and will improve students' ability to achieve success as they enter the business community.

GFGB 8009. Mergers and Acquisitions. (1.5 Credits)
Mergers and acquisitions constitute some of the most important growth, diversification, and globalization strategies for firms. Finance, specifically corporate finance, plays an important role in M&A because the completion of a deal requires careful attention to valuation, risk management, and the designing of an appropriate payment package. That design is an important part of a deal for reasons ranging from accounting and tax to synergies and stock price. In this course, students will examine these features through a number of cases and readings. We will also briefly discuss issues of corporate governance, securities law, and corporate law whenever the context requires us to do so.
Attributes: GFCF, GFIB.
Prerequisite: GFGB 6006.

GFGB 800A. Booms, Bubbles, Busts, and Crashes: A Capital Markets History. (1.5 Credits)
This course will prepare students to understand and anticipate regulatory and institutional changes in financial markets. Fintech and other technological changes are disrupting the financial markets in an unprecedented way—and will probably usher in new regulations. A good understanding of the market’s institutional evolution, including the evolution of money, is essential to prepare for a successful career in the financial services industry.
Prerequisite: GFGB 6006.

GFGB 800B. Introduction in Wealth Management. (1.5 Credits)
This class is intended to demystify the wealth management process. Class lectures will be open-ended discussions with the goal of providing a better understanding of personal wealth and the business of wealth management by combining some aspects of financial planning and overall portfolio management.

GFGB 8010. Advanced Finan Modeling. (1.5 Credits)
Advanced Financial Modeling.
Attributes: GFFA, GFIB.
Prerequisite: GFGB 6006.

GFGB 8011. Blockchain. (1.5 Credits)
Blockchain.
Attributes: ABEP, GFFT.
Prerequisite: GFGB 6006.

GFGB 8012. Digital Currencies. (1.5 Credits)
Digital Currencies.
Attribute: ABEP.
Prerequisite: GFGB 6006.

GFGB 8013. Acct &Corp Fin-Valua&Modeling. (1.5 Credits)
This course expands on valuation techniques discussed in Modern Financial Analysis and Vaulation Techniques. Students will have the opportunity to learn the modeling techniques used by todays Wall Street practitioners associated with Discounted Cash Flow Analysis, Merger Analysis, Purchase Price Allocations and Synergy DCFs. COREQUISTE: GFGB 8001.

GFGB 8014. Empirical Value Investing - A. (1.5 Credits)
This course examines historical data to consider empirical aspects of Value Investing. Excel or other programming will be important to the course. Theoretical and institutional issues will also be discussed. The "A-section" will examine several topics / methods. It is a pre-req for the "B-section," which will investigate the same issues more fully.
Prerequisite: GFGB 6006.

GFGB 8015. Empirical Value Investing - B. (1.5 Credits)
This course examines historical data to consider empirical aspects of Value Investing. Excel or other programming will be important to the course. Theoretical and institutional issues will also be discussed. The "A-section" is a pre-req for the "B-section," which will investigate the same issues more fully.
Prerequisite: GFGB 6006.

GFGB 8016. Fintech and AI: Disruption in Finan Services. (1.5 to 3 Credits)
In this course, students will gain the knowledge and insight needed to understand the latest developments in Fintech and their disruptive impact on the global financial services industry. Upon completion of this course, students will develop a deeper understanding of the business and economic aspects of financial services-based technologies, gain insight into financial ecosystems, understand Fintech regulatory frameworks, and be able to critically evaluate the disruptive potential of Fintech innovations.
Attributes: GFFT, GFOE, GFOF, GFOF, GFPO.
Prerequisite: GFGB 6006.

GFGB 8017. Fintech Lending & Payments. (3 Credits)
This course will consider modern on-line methods of lending and borrowing that may be outside of the traditional banking environment. The main players in the space will be analyzed, as well as their websites. Students will learn their business models, methods of credit analysis, and measures of return to investors.
Attribute: GFFT.
Prerequisite: GFGB 6006.

GFGB 8018. Fund Strategies and Performance. (3 Credits)
This course examines how money is managed by organizations such as university endowments, pension funds, mutual funds, hedge funds, and private equity funds. It provides an advanced treatment of asset allocation and equity portfolio strategies, and a performance evaluation of U.S. mutual funds and hedge funds. The course provides a deeper understanding of the measurement of risk and its relationship to return, as well as of multi-factor models. Implementation issues, including statistical estimation, back-testing, portfolio construction, and performance evaluation, are covered. Some programming skill (likely Python/SAS) will be important, and partly taught.
Attribute: GFPM.
Prerequisite: GFGB 6007.

GFGB 8951. Internship & Project Report. (0.5 to 6 Credits)
Residential students may include up to 6 internship credits in their program of study. Please note that an internship is not required as part of the program; students may complete any two MBA or MSF courses in lieu of an internship.

GFGB 8999. Independent Study. (0.5 to 3 Credits)
Independent study.

Quantitative Finance Courses

QFGB 8900. Greenpoint/Finastra Project. (0 Credits)
The goal of this program is conceptual learning and hands-on research with real-life portfolios and enterprise systems, including the Finastra Capital Markets Fusion Platform. At the end of the program students are expected to have enriched their learning—and their CVs—with projects that have direct industry applicability and through achievements that will enhance their employment prospects and career growth. The research will include FRTB QIS on a portfolio, model sensitivity of PLA tests, impact of specific portfolio features, and risk parameters on FRTB SA and IMA charges.

QFGB 8901. Foundations of Accounting. (1 to 3 Credits)
This course provides students with a basic understanding of the preparation and analysis of corporate financial statements. It also introduces generally accepted accounting principles (GAAP) and the standard-setting process, and students discuss current issues in the reporting process, such as the benefits and problems of the Sarbanes-Oxley Act.

QFGB 8902. Foundations of Economics. (1 to 3 Credits)
Covers both microeconomics and macroeconomics. Microeconomics topics include theory of demand and the nature of profit and utility-maximizing market equilibrium that constitute the economic basis of finance theory and applications. The macroeconomics segement defines the major components of the economy, outlines a simple model of long-run, real economic behavior with competitive, market clearing prices, then establishes a companion model of short-run adjustments without flexible pricing.

QFGB 8903. Foundations of Finance. (1 to 3 Credits)
Provides a conceptual framework for decision-making processes in many diverse areas of finance. Concepts including time value of money, stock and bond valuation, project and firm valuations, risk and return measures, portfolio management, basic CAPM and APT, diversification and hedging are reviewed. Basic theoretical aspects of corporate finance, such as dividend policy and capital structure, are also introduced.

QFGB 8905. Math for Quantitative Finance. (1.5 Credits)
Reviews the basics of mathematics in preparation for advanced courses in the MSQF program. Topics include: Special functions, Multivariate calculus, Optimization, Integration, Differential equations (ODE and PDEs), and Linear algebra.

QFGB 8906. Probability and Statistics. (1.5 Credits)
Reviews the basics of probability and statistics in preparation for advanced courses in the MSQF program. Topics include special distributions like binomial, poisson, normal, lognormal, gamma, beta, and fat-tailed distributions.

QFGB 890C. Cloud Computing and Finance Uses. (1 to 1.5 Credits)
This course introduces the core concepts of cloud computing, including networking, storage, database, access control, security, compliance, and pricing. Cases will be drawn from the finance Industry. The course does not require prior programming or cloud computing experience. Students will create their own account on a cloud platform and gain some hands-on experience by provisioning a cloud service and working with it.

QFGB 890H. Advanced Machine Learning. (2 to 3 Credits)
The primary focus of this course is on developing computational models to identify/forecast economic regimes, factor-based smart beta, strategic risk budgeting, and trading decisions. The topics covered in this course will help students gain theoretical knowledge and practical skills to work with global financial firms across different asset classes. Students are required to be proficient in Python programming and have knowledge of basic data mining algorithms and techniques.
Prerequisites: QFGB 8923 and QFGB 8905 and QFGB 8906.

QFGB 890K. Python Bootcamp. (0 Credits)
The goal of this bootcamp and workshop is for the students to learn basic Python. The coverage includes Python programming environment, Python shell, Python IDE, Jupyter notebook, Python data types and complex type operations, Pandas data structure, I/O, and visualization.

QFGB 890M. Market Impact Model. (1 Credit)
Stochastic calculus and derivatives pricing courses must be completed prior to taking this demanding quantitative finance course. Market Impact Model is designed to provide students with a mathematical framework grounded in academic references to apply price impact models to quantitative trading and portfolio management. Automated trading is now the dominant form of trading across all frequencies. Furthermore, the rise of algorithmic trading introduces questions professionals must answer. For instance: How do stock prices react to a trading strategy? How can you scale a portfolio considering its trading costs and liquidity risk? How can you measure and improve trading algorithms while avoiding biases? Price impact models answer these novel questions at the forefront of quantitative finance. Using these models, students learn how to build a market simulator to back-test trading algorithms, implement closed-form strategies that optimize trading signals, measure liquidity risk and stress-test portfolios for fire sales, analyze algorithm performance controlling for common trading biases, and estimate price impact models using public trading tape.

QFGB 890N. Real Estate Capital Market Analysis. (3 Credits)
This course examines selected topics and issues related to real estate capital markets. Special emphasis will be placed on mortgage backed securities (MBSs) and real estate investment trusts (REITs). This class will be conducted using a lecture format. The topics include the primary mortgage market and secondary markets, the objectives and processes for designing, implementing, and servicing mortgage and asset backed securities, the tools used by the capital market for pricing and analyzing risks of MBSs, and the regulatory environment and trend of the securitization market.

QFGB 890P. AI in Asset Management. (1 Credit)
The objective of this course is to use AI or machine learning to evaluate complex financial contracts (often involving derivatives). To do that, we not only need to be able to use on-the-shelf libraries but also need to understand the underlying math and algorithms. In other words, we will "open the black box" of every method we use in this class. Derivations as well as good skills in Python or R are required for this course.

QFGB 890Q. Monte Carlo Simulations. (1 Credit)
This course introduces and develops methods and techniques for applying simulations and using them to solve a variety of problems in finance. Simulations are a powerful numerical technique that allow us to solve complex, otherwise difficult or intractable problems. Simulations also give us the ability to make predictions under given scenarios. This course will proceed linearly. First, we'll have a standard review of statistics and probability topics. Then we'll introduce a new simulation method or technique that will be applied to solve problems in quantitative finance. All applications will be done using Python programming language incorporating widely used Python packages in scientific computing and mathematical modeling.
Prerequisites: QFGB 8906 and QFGB 890K.

QFGB 890R. Machine Learning and LLMs. (2 Credits)
The goal of this course is to introduce students to the modern techniques of machine learning and their application to practical problems. Throughout the term, students will learn multiple classical and model machine learning tools, their uses, limitations, and how the performance of each technique depends on the quantity and quality of the available training data. Special emphasis will be put on working with actual data sets, using proper methodology for model selection, and performance evaluation.

QFGB 890S. Quantitative Asset Management Capstone Consulting Projects. (2 to 3 Credits)
The course bridges the gap between academics and practice by immersing students in the entire life cycle of real-world analytics engagements. Divided into small groups, students will work on pre-defined projects designed to boost your career with real-world experience and formulated to be completed within a single semester. This project-based course is structured as a consulting internship with actual companies, augmented with lectures to form a comprehensive framework based on the course textbook. Big data combined with machine learning and artificial intelligence provides amazing opportunities for institutional investors. Apply modern tools to investing with real-world details such as currency controls, market impact, and taxes. Study the entire investing process, from designing goals to planning, research, implementation, testing, and risk management. Use Python, MATLAB, and R to build alpha and risk engines, optimal multi-factor models, contextual nonlinear models, multi-period portfolio implementation, and more.

QFGB 890T. Blockchain, Cryptocurrency, and Algorithmic Trading. (2 to 3 Credits)
This comprehensive course explores the dynamic world of blockchain technology, cryptocurrency markets, and algorithmic trading strategies. It provides a deep dive into decentralized finance (DeFi), digital assets, market structure, and the role of automated trading in financial markets. Students will work with real market data and build their own predictive models by the end of this course.
Prerequisite: QFGB 890K.

QFGB 890U. Advanced Credit Risk Modeling. (2 Credits)
This course provides an in-depth understanding of advanced credit risk modeling techniques, with a focus on stochastic approaches. The course will cover various advanced credit models and their applications to credit derivatives such as Credit Default Swaps (CDS), Collateralized Debt Obligations (CDOs), and CDO tranches. Students will gain practical skills in modeling credit risk using these approaches and learn to apply them in real-world scenarios.

QFGB 890V. Market Microstructure and Trade Execution Strategies. (2 Credits)
This course examines the quantitative principles underlying modern electronic markets, focusing on three key areas: order book dynamics, market impact, and optimal execution. Students begin by analyzing the structure and behavior of limit order books, order flow, and liquidity provision. The course then explores empirical and theoretical models of market impact and transaction costs. In the final part, students apply these concepts to design and evaluate optimal execution algorithms, such as VWAP, TWAP, implementation shortfall, and adaptive strategies. Hands-on projects using real and simulated data provide practical experience in modeling market behavior and implementing data-driven trading strategies.
Prerequisite: QFGB 890K.

QFGB 890W. Industry Capstone Projects. (1 to 3 Credits)
Industry Capstone Projects immerses students in semester-long, real-world quantitative finance projects sourced directly from industry partners. Students must apply to projects aligned with their interests and skills to be considered and selected to participate. Working in teams, they apply advanced quantitative modeling, data analysis, and computational techniques to develop practical solutions. Project deliverables include presentations to business stakeholders, delivery of applications where applicable, and the potential for write-up and publication of project findings.

QFGB 890X. MBS and Structured Finances. (2 Credits)
This course provides a rigorous quantitative framework for the analysis, valuation, and risk management of Mortgage-Backed Securities (MBS) and Structured Finance products. Students will learn the practical data analysis and model-building skills essential for a mortgage desk quant. The curriculum culminates in a final project requiring students to implement quantitative models using Python and mortgage datasets.
Prerequisites: QFGB 8915 and QFGB 8934 and QFGB 8925.

QFGB 890Y. Modelling for Private Markets. (2 Credits)
Private markets products require analytics similar but distinct from public market equivalent products. This course explores the full range of private markets products—credit, equity, infrastructure, hedge funds, and real estate—and the unique analytics that are used to evaluate them at the asset and portfolio level. These assets tend to have more flexible commitment and payment structures and more opaque data, making analytical evaluation more complicated than public market equivalent products.
Prerequisites: QFGB 8911 or QFGB 8914.

QFGB 890Z. Global Commodities Markets & Trading. (2 Credits)
The aim of this course is to introduce students to the structure of the global commodity markets and the fundamental concepts of physical and financial commodity trading, hedging, and arbitrage. The course will cover the cash, derivative, and bank-lending markets related to energies, precious metals, and agricultural commodities. It will explore the value chain of each commodity from the upstream point of production to the downstream point of distribution and consumption. The course will cover cash, derivative, and financial market pricing, as well as risk-management tools and techniques employed in the "spot," commodity, "listed," and "over-the-counter" markets, utilizing live financial derivative markets and real-world case studies. A knowledge of the basic operation of the futures, forwards, and listed options markets would be helpful for all students enrolled in this course.

QFGB 8911. Financial Markets and Modeling. (2 Credits)
This course provides the foundation for developing skills in the quantitative analysis of financial decisions, primarily using R and Python. Topics include business planning, forecasting, sensitivity and scenario analyses, risk and return measures, portfolio analysis, binomial option pricing, and value-at-risk (VAR) analysis. It emphasizes practical skills to produce computer models that are useful for a variety of decision-making purposes.

QFGB 8914. Derivatives. (2 Credits)
This course introduces deferred delivery (i.e., exchange-traded futures and OTC-traded forward) markets and option markets. The course covers the following: (1) briefly examines the institutional features of these markets; (2) discusses hedger, arbitrageur, and speculator strategies; (3) provides an analytical foundation for the pricing of these contracts; (4) reviews some of the available empirical evidence concerning these markets; and (5) uses the data to perform small-scale, suggestive tests of the theories and strategies.

QFGB 8915. Introduction to Stochastic Calculus. (2 Credits)
Focuses on the practical applications of stochastic differential equations subject to appropriate boundary conditions, solving valuation problems, and using measure-transformations as required in advanced financial engineering practice to value assets within a risk-neutral framework. Builds a theoretical foundation for continuous-time models that are essential for the pricing and hedging of financial derivatives.
Prerequisites: QFGB 8905 and QFGB 8906.

QFGB 8923. Machine Learn & Econometrics. (2 Credits)
Covers estimation of parametric and non-parametric techniques commonly used in finance, applying high-frequency financial databases. Discusses properties of financial data, linear time series data analysis, basic theory of statistical inference with linear models, general linear models, conditional Heteroskedasticity models, nonlinear models and Bayesian inference and estimation.

QFGB 8924. Advanced Derivatives. (2 Credits)
Designed to complement and extend the topics discussed in QFGB 8914, this course includes all types of derivatives for which a commodity, equity, or currency is the underlying asset. Hull's software and a Bloomberg/Reuters terminal are used for pricing options and gathering data. The data to perform small-scale, suggestive tests of theories and strategies is used.

QFGB 8925. Simulation Applications. (2 Credits)
Introduces state-of-the-art computational techniques essential for implementing financial models, pricing derivatives, obtaining numerical solutions to estimation problems, and simulating stochastic systems in risk management. Provides conceptual framework for gaining experience on simulation design and implementation using METLAB. This course builds a skill set that combines financial modeling, data analysis, and computation.
Attribute: ASDM.

QFGB 8926. Finance Theory. (2 Credits)
This course introduces financial theory with a particular emphasis on portfolio choice and the fundamentals of asset pricing. Focuses on both the partial equilibrium theory (CAPM) and the general equilibrium theory (Arrow-Debrew Pricing Theory), with brief introductions on the arbitrage-based theories. The course introduces the basics of asymmetric information and how the problems it imposes can be mitigated via security design. It also emphasizes an understanding of the theories of Discrete-Time Asset Pricing, studies the application of the theory of stock options to real options and complex corporate liabilities, and explores the basic foundation of the GMM tests of asset-pricing theories.

QFGB 8928. Auto Trading Systems - Intro. (2 to 3 Credits)
This course discusses key issues involved in the design of an auto (algorithmic) trading system and provides hands-on experience. The end product is a prototype auto trading system designed by students that successfully trades in the real market (stocks, futures, options) using live data feeds from exchanges. Issues covered include typical structures of trading systems, efficient processing of live information, minimizing trade slippages, handling a large number of securities, asynchronous information processing, and GUI interfaces. Industry experts are invited to discuss new developments, and key programming techniques will be reviewed. The course is suitable for MSF, MSQF, and other master's-level students with programming skills equivalent to one formal course. Students with less programming skill may take the course with instructor approval.

QFGB 8931. Fixed Income Securities. (2 Credits)
Introduces fixex-income securities, basic fixed-income concepts, the different sectors of the fixed-income market, and basic ond mathematics. Studies quantitative fixed-income analysis and its use in valuing bonds and quantifying risk-return characteristics. Involves extensive training in the mathematical formulation of bond valuation problems and in the use of the existing models and software to solve these problems.

QFGB 8933. Time Series Econometrics. (2 Credits)
This course introduces modern financial econometric techniques with a special focus on applications to finance. Both the theoretical framework for making statistical inference and exemplary applications using data in modern finance are emphasized. The course involves extensive use of commercial software packages, as well as implements new financial econometric techniques using high-level programming language, such as MATLAB.

QFGB 8934. Interest Rate Derivatives. (2 Credits)
Studies continuous time no-arbitrage models of yield curves and pricing of fixed-income securities and derivatives. In paricular, treasury bonds as well as more complicated instruments, such as options on bonds, interest rate swaps, option on interest rate swaps, caps, floors, and Mortgage Backed Securiteis are priced and analyzed.
Prerequisite: QFGB 890K.

QFGB 8935. Risk Management. (2 Credits)
Builds strong understanding of the risks of individual products and methods of hedging and/or replication those products. Also examines firm-wide risk issues from a financial perspective which requires aggregation of multiple postions and consideration of interrealationships among asset price fluctuations. Regulatory and other non-market risk issues are considered and simulation techniques for modeling risk are practiced.
Attribute: ASDM.

QFGB 8943. Large-Scale Data Modeling. (2 Credits)
Explores financial modeling topics using large data sets and various econometric techniques applied in a variety of financial problems. Topics include modeling the yield curve in the US and other countries, application of pattern recgonition techniques in developing stock-rating systems, factor models in portfolio construction, and portfolio performance evaluation. Emphasis on project analysis using SAS to process large data sets and develop appropriate models for solving real problems in equity and fixed-income research.

QFGB 8944. Credit Risk Mgmt. (2 to 3 Credits)
Introduces modern credit risk models with particular focus on credit derivative instruments. Focuses on derivative market methods, rather than accounting analyses of business risks. Exposes students to institutional practices and commonly used data. Students will be expected to thoroughly understand professional software output, along with the risks and rewards of credit product strategies.
Attribute: GFCD.

QFGB 8946. Financial Programming. (2 Credits)
This course introduces students to computer programming and software engineering using modern C++, with a special emphasis on applications in quantitative finance. By the end of the semester, students will be comfortable with core C++ programming concepts and modern design techniques, as well as their application to quantitative financial problems. The course does not assume any previous programming experience but additional challenges will be provided for students with stronger technical backgrounds or prior experience.

QFGB 8948. Quantitative Methods for Portfolio Management. (2 to 3 Credits)
Introduces the scope of the quantitative concepts used in asset management, with focus on practical application, challenges and limitations in constructing optimal portfolios, evaluating performance and portfolio risk. Involves extensive discussions of case studies and group project.* *Subject to NY Approval.

QFGB 8950. Alternative Investments. (2 to 3 Credits)
The course is an introduction to the rapidly evolving universe of alternative investments. Delivered in modules, the course covers a broad array of alternative strategy classeS(Quantitative/Systematic, Fundamental Long/Short, Global Macro, Private Equity) ranging across all major asset classes (Equities, Fixed Income, Currencies, Commodities, Derivatives).* *Subject to NY Approval.

QFGB 8951. Internship and Project Report. (1 to 4 Credits)
A professional project report and presentation are the final outputs of this course. Students complete these projects under the supervision of a faculty member. Both individual and group-projects are possible.

QFGB 8952. Business Comm for Quants A. (0.5 to 1 Credits)
Covers the basics of professional speaking and writing. Develops oral and written presentation skills essential for successful careers. Coordinated with summer term internship to give students the opportunity to apply their new communication skills in a business setting.

QFGB 8953. Research Seminar 1. (1 Credit)
This fall course features a series of lecturers from the finance industry. They discuss research projects that their companies are working on.

QFGB 8954. Research Seminar 2. (1 to 1.5 Credits)
This spring course features a series of lecturers from the finance industry. They discuss research projects that their companies are working on.

QFGB 8955. Computational Finance. (2 Credits)
This course offers both theoretical and practical experience in investing and risk management, including financial market microstructure, types of arbitrage, and principles of modeling the price dynamics of financial assets and market risk. We will derive the Black-Scholes option pricing model, binomial models, yield curve models, credit default risk models, and volatility forecast models using mathematical tools such as copulas. We will also implement all of these models in Python. Students are required to be proficient in Python programming and have a knowledge of stochastic calculus.
Prerequisites: QFGB 8915 and QFGB 890K.

QFGB 8957. Applied Capital Markets and Financial Regulations. (3 Credits)
This course will explore how the market structure has fundamentally changed after the 2008 liquidity and credit crisis, and how this crisis has impacted on liquidity, balance sheets, risk taking, and returns across the entire financial services industry. The new reality is that regulation has changed the landscape of Wall Street and the dynamic of how the sell-side and buy-side will interact in the foreseeable future.

QFGB 8960. Advanced C++ for Finance. (2 Credits)
In this course, students solve a variety of asset pricing and risk-management problems using the C++ programming language. Over the course of the semester, a quant library of algorithms is constructed and used by the students to analyze instruments and portfolios from the equities, fixed income, and credit markets. The mathematical foundations of the pricing algorithms are also explained in class. Upon successful completion, students will be fluent in those aspects of the C++ language, tools, and third-party libraries that are relevant for creating efficient and reusable software, following financial industry practices and standards.

QFGB 8961. Business Comm for Quants B. (0.5 to 1 Credits)
Covers the basics of professional speaking and writing. Develops oral and written presentation skills essential for successful careers.

QFGB 8963. Stress Tests and Cap Adequacy. (3 Credits)
The financial crisis of 2007 -08 taught us all a lesson: that preparedness is everything. How resilient and prepared will we be, and how fast will we be able to recover? This is the key focus of this course: how to plan for moments of distress so that firms such as yours have capital of a sufficient quality to survive potential storms. We will demonstrate how to create a robust capital plan and test it for moments of hypothetical stress. We will investigate exactly how a bank holding company and an insurance company should conduct their capital plan, highlighting the significant differences between the two industries. By the end of the course, you will be able to create a capital plan for your business on your own.

QFGB 8965. Trading - Market Making and Algorithms. (3 Credits)
This course will introduce students to basic market microstructure, algorithmic trading, and quantitative investment strategies. Mathematical and statistical techniques along with their computational implementation in R or Python will be used throughout the course.
Prerequisites: QFGB 8911 and QFGB 8923 and QFGB 8926.

QFGB 8966. Behavioral Finance. (2 Credits)
Over the past several decades, the field of finance has developed a successful paradigm based on the notions that investors and managers are generally rational and that the prices of securities are generally efficient. In recent years, however, anecdotal evidence as well as theoretical and empirical research has shown this paradigm to be insufficient to describe various features of actual financial markets. In this course we will use psychology and more realistic settings to guide and develop alternative theories of financial markets. We will examine how the insights of behavioral finance complement the traditional paradigm and shed light on investors' trading patterns, the behavior of asset prices, corporate finance, and various financial market practices through lectures, case studies, and our own discussions.

QFGB 8967. Bank Capital and CCAR. (2 Credits)
This course will provide an overview of the range of risks that banking institutions undertake to perform their role as credit intermediaries. It will delve into the choices that bank managers make to measure the risks they undertake, and will explore the approaches that a bank can take to translate risk measurement into stress tests of a bank's capital position. Students will have an opportunity to apply methodologies discussed while developing a model to stress test a bank's exposure to market, credit, or operational risk for the purpose of testing the adequacy of a bank's capital position.

QFGB 8968. Blockchain Technology and Application Development. (3 Credits)
The main objective of this course is to familiarize you with the ecosystem, technologies, and development skills surrounding Blockchain. The course starts with foundational concepts such as distributed state machine, hash tree, P2P network, GPU processing, cryptocurrency, and cryptography. Using both simulated sandbox and locally installed environments, the course then guides you through the development, front-end integration, and deployment of Blockchain-based smart contracts. Other topics covered include rapid prototyping, design patterns, and agile process to maximize the success likelihood for Blockchain projects. The lab portion of this course involves weekly submissions of programming exercises, assignments, and project deliverables. Prior knowledge required: Proficiency in computer programming; basic knowledge in analysis and linear algebra.
Attribute: ISEL.

QFGB 8969. Systematic Investment Strategies. (2 Credits)
This lecture series will cover a variety of topics on quantitative investment management. We start with an overview of the evolution of the current state of affairs, both with respect to individual strategies as well as topics related to their management within the context of a portfolio. We will first cover the basic set of thematic strategies (e.g., value/reversion, momentum/trend, carry, volatility, etc.) across different asset classes with some representative specific strategies covered in detail. We will then consider extensions and refinements. We will also cover various portfolio construction approaches for baskets of systematic strategies and their consequences. The lecture series will feature readings from “Wall Street” practitioner research series at the major asset managers and investment banks, with guest lecturers from industry on specific topics. Students will be expected to participate via data collection, strategy construction, and back-testing analysis, etc.

QFGB 8972. Deep Machine Learning. (3 Credits)
The goal of this course is to acquaint you with the objectives and methods of deep machine learning (DML). We will explore and learn the basic types of deep neural networks including convolutional, recurrent, and generative adversarial, and the type of data each is designed for. Key additional topics include learning techniques to improve training, preventing overfitting, and finding best practices for minimizing error. Students will study the major technology trends driving DML. A key takeaway is a working knowledge of the vocabulary of concepts and algorithms in DML. The challenges and issues surrounding the use of DML including design issues, ethics, governance, ownership of data, privacy, and security standards. Quality control and validation are also discussed. Emphasis is on business applications. The course is organized as a seminar-style course, with hands-on assignments in DML tools. Familiarity with basic calculus and linear algebra expected.

QFGB 8999. Independent Study. (1 to 3 Credits)
Independent study.