BANKING & FINANCE (BAFI)

BAFI 206. Personal Financial Management with Digital Technology. 1 Unit.
In the digital era, financial technologies have worked its way into our digital wallets and portfolio. Mobile banking services, budgeting and investing apps are inextricably linked with how we conduct our personal finances. While financial literacy deals with underlying finance concepts such as time value of money, compounding, budgeting and investing, financial technologies dictate how we access tools to carry out day-to-day budgeting, investing and consuming. In the digital era, financial technologies, Fintech, serves as an enabler of financial literacy, FinLit. While technology is not a substitute for literacy, Fintech complements literacy. Technology has created a level playing field and has advanced the access to credit and investments. This course will cover four areas: 1. Comparing banking services and costs 2. Digital banking: Using mobile apps and financial technologies for financial management and decision making 3. Personal finance and digital money 4. Risks in the digital era: Identity protection Offered as BAFI 206 and MGMT 206.

BAFI 210. Seminar: Financial Services Industry. 0 - 1 Units.
The goal of this course is to prepare students for an alumni-sponsored trip to NYC focused on careers in financial services. Learning goals include: (i) providing career identification, research and preparation skills, with a particular emphasis on financial services, (ii) exposing students to job opportunities in financial services, (iii) allowing students to acquire fundamental business and financial skills, (iv) enabling students to apply skills to actual businesses and real-world cases and projects, (v) building a personal portfolio of experiences to share with prospective employers for each student and (vi) enhancing students' abilities to communicate in a business setting by developing proficiency in PowerPoint and oral presentation skills.

BAFI 335. Current Applications in Fintech. 3 Units.
Fintech refers to financial sector innovations involving technology-enabled business models that can facilitate disintermediation. These innovations are revolutionizing how existing firms create and deliver products and services, addresses privacy, regulatory and law-enforcement challenges, provides new gateways for entrepreneurship, and seed opportunities for inclusive growth. Fintech is also the label for increasingly technological approaches to the main financial intermediation functions: payments, capital raising, remittances, managing uncertainty and risk, market price discovery, and mediating information asymmetry and incentives. In today's Fintech businesses, consumers bank via mobile apps integrated into social media, institutions trade electronically, and robo-advisers make decisions about investment portfolios. This course provides an overview of the current applications in Fintech. The course will also cover Fintech innovations, and what business models for new and traditional financial services firms are likely to succeed. Prereq: Sophomore Standing.

BAFI 341. Money and Banking. 3 Units.
This course emphasizes the importance of financial markets, the nature and role of the financial system, and the linkages between these—money and banking—and the economy. Emphasis is placed on both theoretical and practical constructs, on major innovations and contemporary changes, and the closely intertwined condition of financial and economic systems with monetary and fiscal policy. Offered as BAFI 341 and ECON 341. Prereq: ECON 102 and ECON 103 and Sophomore standing or above.

BAFI 350. Financial Systems, Payments, and Digital Technology. 3 Units.
Technological innovation has made major advances into financial services, especially payments. Fintech has transformed the provision of financial services, financial management and spurring the development of new business models, applications, processes, and products. New technologies have implications for payments, financial inclusion and financial management. By the end of the course, you will have a deeper understanding in the following areas: - Fintech developments in the payment aspects of financial management and financial inclusion. - Have an improved understanding on how digitization of financial services improve financial wellness. - Opportunities and challenges of Fintech developments in driving access to and usage of transaction accounts. - Awareness and financial literacy in the digital age. - Foundations of harnessing digital technology's opportunities while addressing the challenges. Prereq: ACCT 100.

BAFI 351. Financial Big Data Management. 3 Units.
In this course students explore the fundamental concepts of database management and data preparation for financial analysis by working with quantitative data related to the field of finance, collected from both public and privately available resources, gaining experience handling corporate financial statements and publicly traded securities data. Data resources will include the Wharton Research Data Services (WRDS) database, SEC Filings, and security prices collected from Bloomberg and Yahoo! Finance. Students should expect to spend between 5 to 7 hours, weekly, outside of class meetings completing course readings and assignments. With a focus on the tools required to enact large-scale financial data analytics projects, the course introduces relational database systems, the relational model, and structured query language (SQL) for database management activities. The course next introduces the basics of Python programming language, which is used to prepare financial data for analysis and generate basic summary statistics to better understand the structure of the data. Students will begin with an introduction to methods used to extract, transform, and load (ETL) data into Python. Students will acquire hands-on experience working with financial data from a variety of data sources and file formats. Moreover, students will be introduced to the special challenges inherent in working with financial data, in specific, and big data in general. Prereq: BAFI 355.

BAFI 355. Corporate Finance. 3 Units.
The basic goals of this course are to familiarize students with the concepts and tools used in financial management at both the corporate and personal levels. They include the notion of present value, securities valuation, risk and return analysis, and other financial analysis techniques. The concepts and techniques are, in turn, used to evaluate and make decisions regarding the firm's investments (capital budgeting) and the cost of capital. Prereq: ACCT 100 or ACCT 101.

BAFI 356. Investments. 3 Units.
This course is about investing in securities. It provides a comprehensive introduction to security analysis and portfolio management. Investing is a rational decision-making process in which the investor seeks to select a package or portfolio of securities that meets a predetermined set of objectives. Descriptive, institutional and quantitative decision-making methods are arranged in a cohesive framework of analysis of interest to the informed investor. Topics include modern portfolio theory, the relation between risk and return, efficient markets, bonds, and options, among others. Prereq: BAFI 355.
BAFI 357. Financial Modeling, Analysis and Decision Making. 3 Units.
Firms try to create value. In their day-to-day operations, they are faced with numerous challenges: Should we accept trade credit or borrow? Will an acquisition create or destroy value? Should we introduce a new product line even if it cannibalizes an existing one? In each of these situations they try to quantify the impact on the value of their firm. The goal of this course is to develop your skills in financial modeling and valuation, so you can tackle issues like the ones described above. The course is designed to be "hands-on": You will learn to apply the theory and develop spreadsheet modeling skills through homework, case studies and a group project. By the end of the course you will have a good understanding of both the theory and practice of valuation, and possess a set of cutting-edge financial modeling skills. This course is designed for students who aspire to work in a regular company, a bank or a consulting firm in (i) corporate finance (including mergers and acquisitions); (ii) strategy; or (iii) equity and analysis. Prereq: BAFI 355.

BAFI 358. Intermediate Corporate Finance. 3 Units.
This is a rigorous second course in corporate finance (following BAFI 355) designed to lay the analytic foundation for careers in business. The objective is to strengthen students' theoretical and conceptual understanding of several important topics in finance, and to develop their problem-solving skills. Topics covered include economic cash flows and valuation, Long term financial planning and ratios analysis, Growth and external financing, Short term financial planning and Working capital management, Managerial options and valuation, Derivatives, Agency cost and asymmetric information, Capital structure and payout policy. Prereq: BAFI 355

BAFI 359. Cases in Finance. 3 Units.
This course applies the case study method applied to a variety of business situations that teaches students to think on their feet, develop presentation skills and hone business judgment. The objective of the course is to strengthen students' conceptual understanding and problem-solving skills. It is intended to complement the two course sequence in corporate finance (BAFI 355 and BAFI 358) by applying these concepts to real world problems. Topics covered include cash flow estimation and corporate valuation, financial planning and ratio analysis, financing using internal and external sources, capital budgeting and managerial options, capital structure, payout policy, financial strategy, public equity analysis (including initial public offerings), mergers and acquisitions and leveraged buyouts. The course envisages an extensive use of case studies and simulation exercises. Prereq: BAFI 355.

BAFI 360. Independent Study. 1 - 18 Units.
This course is offered for candidates undertaking reading in a field of special interest. Permission of department chair required.

BAFI 361. Empirical Analysis in Finance. 3 Units.
This course is developed based on the feedback received from employers who have hired BS Management (finance) graduates in the past and will likely do so in future. The goal is to enable students to use financial econometrics to effectively analyze financial data. The course will draw on theoretical aspects of BAFI 355 but focus on developing financial analytic skills. The applied nature of the course comes from the use of real, rather than theoretical, data. In other words, in a real-world fashion, through the use of statistical methods to analyze real data, the student can address practical questions of high relevance to the Finance industry. The scope of the data as well as the quantitative methods used in such analysis often requires familiarity with computational environments and statistical packages. As such, another goal of the course is to familiarize the student with at least one such environment. Prereq: BAFI 355 and OPRE 207.

BAFI 362. Advanced Financial Analytics. 3 Units.
The objectives of this course include understanding important quantitative risk models, risk measurement tools and explaining implications for risk management and investment decisions. Data will be used from Bloomberg and other intra-day data sources to estimate models and evaluate results in many areas of finance. At the end of the course students will: (i) understand and apply analytical models to real financial market problems, (ii) be exposed to debt, credit, and derivatives markets and associated career opportunities in applied analytics and (iii) be exposed to bank risk management skills and applications. This course is designed to be focused and intense, while also being very aligned with the best practices in the financial industry today. Microsoft Excel, because of its flexibility, will be the primary source of practical experience, though the course may also incorporate other computer tools /languages. Prereq: OPRE 207 and BAFI 355.

BAFI 365. Options and Other Derivatives. 3 Units.
This course is designed to introduce students to the theoretical and practical aspects of financial futures, options, and other derivatives. The markets for these instruments have grown enormously and have generated a profusion of innovative products and ideas, not to mention periodic crises. Derivatives have become one of the most important tools of modern finance. The goal is for students to understand the principles of how these important instruments and markets work. Prereq: BAFI 355.

BAFI 372. International Finance. 3 Units.
This course deals with open-economy macroeconomics and international financial markets, covering open-economy national income analysis, international macroeconomic policy coordination, exchange rate determination, foreign portfolio investment, and global financial crises. Offered as BAFI 372 and ECON 372. Prereq: ECON 103.

BAFI 403. Corporate Financial Technology. 3 Units.
This course is focused on the many aspects of the development in Financial Technology from recent notable successes to the current edge and thoughts about the future. Topics covered will include "FinTech" Applications, Incubators and Angels, Block Chains, Crypto-currencies, Crowdfunding, and Payment Schemes. Topics can change from semester to semester, in tune with changing technology. Offered as BAFI 403, FNCE 403 and FTEC 403.

BAFI 404. Financial Modeling. 3 Units.
This is a course about financial modeling. It covers a range of topics in the field of financial economics. Each topic is chosen because it lends itself to financial modeling. The primary focus of the course is to relate the theory of finance to practical and usable spreadsheet models that will assist a financial manager with a firm's investment and financing decisions. Spreadsheet models have been the dominant vehicle for finance professionals to practice their trade. This course will utilize Excel and challenge the student to improve their finance and modeling skills. Students will improve their familiarity with financial data analysis through various exercises that incorporate completed models. In summary, the course is designed to increase your practical understanding of core concepts in finance, help you develop hands-on spreadsheet modeling skills, and strengthen your ability to perform financial data analysis within an Excel model. Prereq: MBAC 504 or MBAP 405.

BAFI 428. Financial Strategy and Value Creation. 3 Units.
The intersection between the theory of perfect markets and the reality of market imperfections provides the basis for the exploration of value creation in this course. Opportunities in both product and financial markets are explored using case studies to develop a framework for strategic financial decisions.
BAFI 429. Investment Management. 3 Units.
This course explores the characteristics of financial investments and markets and develops modern techniques of investment analysis and management. The goal is to help students develop a level of analytical skill and institutional knowledge sufficient to make sensible investment decisions. Topics include: an overview of stock, debt and derivative asset markets, practical applications of modern portfolio theory, equilibrium and arbitrage-based approaches to capital market pricing, the debate over market efficiency, the term structure of interest rates, bond portfolio management, and uses of derivative assets in investment portfolios. Prereq or Coreq: MBAC 504 or MBAP 405.

BAFI 430. Derivatives and Risk Management. 3 Units.
This course is intended to give students an understanding of options and futures markets both in theory and practice. The emphasis is on arbitrage and hedging. The course concentrates on listed common stock and index contracts as well as commodity markets. Various theories for trading strategies are studied. Prereq or Coreq: MBAC 504 or MBAP 405.

BAFI 431. Fixed Income Markets and Their Derivatives. 3 Units.
This class is concerned with fixed income securities, interest rate risk management, and credit risk. Fixed income securities account for about two thirds of the market value of all outstanding securities, and hence this topic is important. The course covers the basic products of fixed income markets including treasury and LIBOR products, such as interest rate swaps. Risk management and hedging strategies are covered as well as selected topics in credit risk models and mortgage-backed securities. Prereq: BAFI 430.

BAFI 432. Corporate Risk Management. 3 Units.
This is a risk management course aimed at participants who wish to enhance their understanding of the risks faced by corporate firms, both financial and non-financial, learn techniques to identify and measure these risks, and understand how derivatives and risk management solutions can be used to manage these risks, create value, and advance the strategic goals of the firm. Offered as BAFI 432 and FNCE 432. Prereq: MBAP 405 or MBAC 504 or MBAC 505.

BAFI 433. Quantitative Risk Modeling. 3 Units.
This course is designed to help students learn quantitative models for estimating risk in various financial settings for different types of financial institutions (banks, hedge funds, and others). It is a very hands-on course where students will become familiar with several state-of-the-art quantitative risk models as well as their detailed implementation procedure in the real world. The course uses several in-class Excel exercises to illustrate the models as well as their practical implementation using real financial data. Offered as BAFI 433 and FNCE 433. Prereq or Coreq: MBAC 504 or MBAP 405.

BAFI 434. Financial Analytics and Banking. 3 Units.
This course will cover empirical and analytical aspects of banking, including loan origination, syndication, sales, stress-testing and securitization; capital adequacy, regulation and supervision; methods of measuring and managing value at risk, credit risk, interest rate risk, liquidity risk, and other risk; credit market information, feedback, and signaling. Offered as BAFI 434 and FNCE 434. Prereq or Coreq: MBAC 504 or MBAP 405.

BAFI 435. Empirical Finance. 3 Units.
This course provides an introduction to empirical analysis and research in finance. This involves the management of empirical datasets and the aspects of quantitative applications of finance theory. The goal is to enable the student to deal with the need to analyze complex and large financial and economic datasets that is present in many fields of the financial profession. The scope of the data as well as the quantitative methods used in such analysis often requires familiarity with robust computational environments and statistical packages. As such, another goal of the course is to familiarize the student with at least one such environment. Applications are conducted using real financial and economic data. The course draws on the theoretical aspects of the subjects covered, but mainly focuses on the practical matters required to undertake an empirical analysis of financial topics—e.g., the definition of the research question, the datasets required, the computational needs, and, then, the implementation. The course enables the student to evaluate outstanding financial research as well as to conduct his or her own research. Offered as BAFI 435 and FNCE 435. Prereq or Coreq: MBAC 504 or MBAP 405.

BAFI 444. Entrepreneurial Finance. 3 Units.
The objective of this course is to introduce students to the issues of financial management and capital formation in new ventures. The course will address issues of estimation of cash requirements, development of pro forma financial plans, firm valuation and the process and tools used in raising debt and equity financing. Bootstrapping, angel investing, venture capital, strategic alliances and initial public offerings will be covered. The emphasis is on the entrepreneur and how he/she can assess financial needs and develop a sensible plan for acquiring financial resources in a manner that is consistent with their financial needs and other strategic goals. Offered as BAFI 444 and FNCE 444. Prereq or Coreq: BAFI 420, MBAC 504, MBAP 405, FNCE 401 or Master of Engineering & Management students.

BAFI 450. Mergers and Acquisitions. 3 Units.
This course examines the economic rationale and motivation for the different merger and acquisition and recapitalization activities undertaken by firms and individuals in the U.S. market. Emphasis is on the comparable publicly traded proxy company, comparable "change of control" transaction, and discounted cash flow methods of valuing a firm. The class will also review the different types of debt and equity capital employed to fund mergers and acquisitions and recapitalizations, how senior lenders and equity investors structure their loans and/or investments, and how investors realize the gains through different exit strategies. The legal and tax ramifications of various forms of M&A activity are also discussed. The course gives the student an excellent understanding of the role that senior commercial banks, insurance companies, pension funds, LBO funds, investment banking firms, and venture/growth capital investors play in mergers and acquisitions and will strengthen the students' ability to value a business enterprise. Prereq: MBAC 504 or MBAP 405.
BAFI 460. Investment Strategies. 3 Units.
This course provides a broad survey of some of the main strategies used by hedge funds today. Through exercises and projects, the hedge fund strategies will be presented using real data. Students will learn to use a methodology referred to as “back testing” in order to evaluate hedge fund strategies. The course will also cover institutional details related to short selling, liquidity, margin requirements, risk management, and performance measurement. Since hedge funds today use advanced modeling techniques, the course will require students to analyze and manipulate real data using mathematical modeling. The objective of the course is for students to gain practical knowledge about creating, back-testing, and implementing hedge fund trading strategies. Offered as BAFI 460 and FNCE 460. Prereq: MBAC 504 and MBAC 505.

BAFI 480. Global Banking & Capital Markets. 3 Units.
This course will expose students to Banking and Capital Market Structure, Practices, and Regulations in North America, Europe, as well as Asia. Students will learn about structure of the financial services industry in different parts of the world, the history and evolution of the regulatory frameworks in this industry, and its consequent impact on financial and economic development as well as risk. Several case studies are used to expose students to different issues and questions that arise in the day-to-day jobs of financial managers in this industry. Offered as BAFI 480 and FNCE 480. Prereq: MBAC 504 or MBAP 405.

BAFI 490. Cases in Applied Corporate and Real Estate Valuation. 3 Units.
This course is focused on engaging groups of students in identifying, analyzing and making decisions on real-world corporate financial problems. Teams of students will be assigned to a specific client situation drawn from one of four general areas: (i) mergers and acquisitions (involving corporations and/or leveraged buyout firms), (ii) public equities (IPOs and/or equity research), (iii) corporate financial policies and transactions or (iv) real estate. Learning will include lectures, structured problem solving using live case studies and an in-depth project in which will evaluate an actual current business opportunity and present it to a panel of industry veterans. In addition to learning deeper financial skills, the course will enhance unstructured problem solving, project management, team building and high level communications skills. Offered as BAFI 490 and FNCE 490. Prereq: MBAC 504 or MBAP 405.

BAFI 491. Python Programming w Appl in Finance. 3 Units.
There are two parts to this course. (i) In the first part we learn the basics of Python programming language by solving a sequence of rather simple problems each focusing on broadening your knowledge. At each stage we introduce important commands of Python and slowly learn the structure of object oriented programming with Python. The objective is to make you Python literate. (ii) The second part of the class is for you to tackle significant financial problems either in risk management or in corporate finance using the Python language as the primary tool to do the analysis. You will develop a series of financial models in your track and then tackle two major projects which will utilize all the skills developed. Offered as BAFI 491 and FNCE 491. Coreq: BAFI 430.

BAFI 501. Special Problems and Topics. .75 - 18 Units.
This course is offered, with permission, to students undertaking reading in a field of special interest.