MSFI (MSFI)

MSFI 401. Financial Orientation. 1.5 Unit.
This is a mandatory preparatory/refresher course for all entering MSM-Finance students. It will cover several basic topics in statistics, financial accounting and in financial management, so that all students can hit the road running with the other MSM-Finance core courses in the first semester. Prereq: For MSM-Finance students only.

MSFI 403. Corporate Finance. 3 Units.
The purpose of this course is to familiarize the student with the theory and application of additional models used in financial decision-making by corporations. Issues relating to efficient markets, dividend policy, capital structure, financing decisions, option pricing, leasing, and risk management are among the topics considered. In addition, special topics may include mergers and acquisitions, pension funds, and international financial management. Prereq: For MSF-MSM and ACL-MSF students only.

MSFI 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: For MSF-MSM and ACL-MSF students only.

MSFI 421. Corporate Financial Analysis. 3 Units.
This course is designed to lay the analytic foundation for careers in corporate finance, banking, consulting, and investment banking. The objective of the course is to strengthen students' conceptual understanding and problem-solving skills, and teach them how to think on their feet. Topics covered include Economic cash flows and valuation, Valuation methods, Long term financial planning and ratios analysis, Growth and external financing, Managerial options and valuation, Capital structure, and Payout policy. Topics covered may change from semester to semester. The course envisages use of spreadsheets and case studies, and will emphasize on links to real-world events. Prereq: For MSF-MSM and ACL-MSF students only.

MSFI 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. Prereq: For MSF-MSM and ACL-MSF students only.

MSFI 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: For MSF-MSM and ACL-MSF students only.

MSFI 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: For MSF-MSM and ACL-MSF students only.

MSFI 431. Fixed Income Markets and Their Derivatives. 3 Units.
This course 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: For MSF-MSM and ACL-MSF students only.

MSFI 432. Corporate Risk Management. 3 Units.
This is a risk management course aimed at developing an understanding of the risks faced by financial and nonfinancial firms, learning techniques to identify and measure these risks, and understanding how financial engineering (especially derivatives) can be used to manage these risks and advance the strategic goals of the firm. Main topics include Value-at-Risk (VaR) techniques and implementation of VaR systems (RiskMetrics, Delta-normal, Historical Simulation, Structured Monte-Carlo), financial risk measurement and management using forwards, futures, options, swaps, and exotics; and credit risk management, including implementing various credit risk and credit VaR models, estimating capital at risk, and using credit derivatives for managing credit risk. Several classes are devoted to discussing recent risk management debates and relating them to theory. Prereq: For MSF-MSM and ACL-MSF students only.

MSFI 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 MSFI 433. Prereq: For MSF-MSM and ACL-MSF students only.

MSFI 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 MSFI 434. Prereq: For MSF-MSM and ACL-MSF students only.
MSFI 435. **Empirical Finance.** 3 Units.
MSFI 435 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. Prereq: For MSF-MSM and ACL-MSF students only.

**MSFI 436A. Individual, Team and Career Development.** .75 Unit.
This course is designed to focus on three areas of development critical to students' personal and professional success: 1) Individual; 2) Team; and 3) Career. The individual and team aspects include developing self and other awareness through exploration of learning styles, process skills, and building communication and presentation competencies. Career development includes a focus on strategies for success such as networking, resume building, and learning from executives through intensive and interactive seminars. The course involves use of assessments, group discussions, presentations and experiential activities. Prereq: For MSF-MSM and ACL-MSF students only.

**MSFI 436B. Individual, Team and Career Development.** .75 Unit.
This course is designed to focus on three areas of development critical to students' personal and professional success: 1) Individual; 2) Team; and 3) Career. The individual and team aspects include developing self and other awareness through exploration of learning styles, process skills, and building communication and presentation competencies. Career development includes a focus on strategies for success such as networking, resume building, and learning from executives through intensive and interactive seminars. The course involves use of assessments, group discussions, presentations and experiential activities. Prereq: For MSF-MSM and ACL-MSF students only.

**MSFI 440. Financial Decisions, Contracting & Value.** 3 Units.
The firm is a nexus of contracts among its various stakeholders (managers, shareholders, debt holders etc.). In this course, we will examine how value is created, and how real world conflicts between the various stakeholders of a firm lead to deviations from "perfect world" solutions. For instance, you may have learned in basic corporate finance courses that it is optimal to invest in positive NPV projects. Real-world conflicts can make it sub-optimal for shareholders do so. We will examine such issues and ways to mitigate them. In particular, we will examine Valuation, Asymmetric Information, Agency Cost, Incentive Contracts and Performance Metrics, and, time permitting, also discuss Regulation, Reputation and the role of certifiers and the economic crises. The takeaway learnings from this course are: (a) Understanding how Value can be created or destroyed, (b) Measuring Value, (c) Understanding the links between capital structure and: asymmetric information, market reactions and signaling, agency and management incentives, taxes, shareholder-bondholder conflicts etc., (d) Understanding the links between payout policy and: informational content, market reaction, stock returns and signaling, clientele effects etc., and (e) Understanding the need for and the design of incentive mechanisms. Case studies will be used to reinforce learning. We will emphasize on links to real-world events. Prereq: For MSF-MSM and ACL-MSF students only.

**MSFI 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 MSFI 444. Prereq: For MSF-MSM and ACL-MSF students only.

**MSFI 450. Mergers and Acquisitions.** 3 Units.
This course examines the economic rationale and motivation for the different merger and acquisition and recapitalization activity undertaken by firms and individuals in the U.S. market. Emphasis is on the different three (3) methods of valuing a firm, the various forms of debt and equity capital employed to fund mergers and acquisitions and recapitalizations, how lenders and investors structure their loans and/or investments, and how investors realize the gains through different exit strategies. The course gives the student an excellent understanding of the role that senior commercial banks, insurance companies, pensions funds, LBO funds, investment banking firms, and venture/growth capital investors play in mergers and acquisitions. Prereq: For MSF-MSM and ACL-MSF students only.
MSFI 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 MSFI 460. Prereq: For MSF-MSM and ACL-MSF students only.

MSFI 470. Financial Models Using Big Data. 3 Units.
This course is focused on developing models in investments using financial big data. A strong theoretical base will be developed and then relevant empirical analyses using real data will be used for testing models, via individual assignments and group projects. In the projects, groups of students will be immersed in collecting, analyzing, and interpreting financial big data sets. Prereq: For MSF-MSM and ACL-MSF students only.

MSFI 471. Applications in Financial Big Data. 3 Units.
This course is project-based and focused on solving real-life problems using financial big data. Groups of students will collect/use data, estimate parameters, and conduct appropriate validation tests. Not only do the members have to work together, but they also have to be professional, make interim reports, and communicate effectively with each other. Prereq: For MSF-MSM and ACL-MSF students only.

MSFI 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 MSFI 480. Prereq: For MSF-MSM and ACL-MSF students only.

MSFI 490. Projects in Corporate Finance. 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 three general areas: (i) mergers and acquisitions (involving corporations and/or leveraged buyout firms), (ii) public equities (IPOs and/or equity research) and (iii) corporate financial policies and transactions. This course is structured to be a capstone experience that allows students to leverage the broad range of skills, tools and approaches introduced throughout the program. It is intended to provide an important bridge from work in the classroom to the unstructured, chaotic nature of real world business. Prereq: For MSF-MSM and ACL-MSF students only.

MSFI 491. Projects in Risk Management. 3 Units.
This course is focused on engaging groups of students in identifying, analyzing and making decisions on real-world risk management financial problems. Teams of students will be assigned to a specific client situation drawn from one of two general areas: (i) investments and hedge funds, equity and portfolio management, fixed income and foreign exchange and (ii) risk management with derivatives, credit risk management, risk analytics, regulatory capital, asset liability bank management. This course is structured to be a capstone experience that allows students to leverage the broad range of skills, tools and approaches introduced throughout the program. It is intended to provide an important bridge from work in the classroom to the unstructured, chaotic nature of real world business. Prereq: For MSF-MSM and ACL-MSF students only.