

WEATHERHEAD SCHOOL OF MANAGEMENT COURSES

Courses

ACCT

ACCT 100. Foundations of Accounting I. 3 Units.

Accounting is the language of business and this course exposes students to that language. This course introduces students to the basic principles, objectives, terminology and role of financial, managerial, and tax accounting in business. This course is intended for both business and non-business majors. This is the first required accounting course for all business majors.

ACCT 106. Spreadsheet Basics for Business and Non-Business Majors. 1 Unit.

This one hour class combines classroom and project work to complete assignments leveraging Microsoft Excel 365. Through this course, students will gain an understanding of data, data extraction, creation of data models and use of spreadsheet technology for solving business information related problems.

ACCT 200. Foundations of Accounting II. 3 Units.

This course teaches future business professionals how to produce and use financial information for business decisions. This course expands upon the basic principles and objectives of financial and managerial accounting providing business students with essential skills for any business career. This course is the second required accounting course for all WSOM business majors. Prereq: ACCT 100.

ACCT 300. Corporate Reporting I. 3 Units.

This is the first course in the Corporate Reporting sequence. This course examines the basic financial statements (balance sheet, income statement, statement of cash flows), the asset side of the balance sheet (from cash to inventory), accrual versus cash accounting, revenue recognition, time value of money, and profitability analysis. Also, this course will highlight some of the differences between GAAP and IFRS relative to the topics covered. Prereq: ACCT 100 or ACCT 101 and ACCT 106.

ACCT 300L. Technology Lab for Corporate Reporting I. 1 Unit.

In this lab, students will learn about the technology tools currently used in the professional environment to advance their ability to report and analyze financial accounting data. Examples of foundational tools include advanced spreadsheet functions and data collection/download tools. The knowledge gained in this lab will be applied in ACCT 300, Corporate Reporting I, taken concurrently with the lab. Prereq: ACCT 106. Coreq: ACCT 300.

ACCT 301. Corporate Reporting II. 3 Units.

This course is the second of a 3 course sequence and covers financial accounting theory, generally accepted accounting principles and reporting practices. Areas of focus include: property plant and equipment, liability determination, long-term debt, derivatives, leases, pensions and other postretirement benefits, and investments. International (IFRS) aspects also are considered. Prereq: ACCT 300.

ACCT 305. Income Tax: Concepts, Skills, Planning. 3 Units.

This course addresses U.S. Federal Income Taxation concepts and applications. The subject matter includes topics applicable to individuals, partnerships and corporations and various other entities required to file income tax returns. In addition the subject matter addressed includes a variety of business, legal and taxation concepts and practices related to effective tax planning. The purpose of the course is to provide the student with the appropriate knowledge and skill levels to "speak the language of U.S. tax." Prereq: Sophomore Standing.

ACCT 306. Accounting Information Systems - Basic. 3 Units.

This course introduces the students to the major business cycles as they relate to Accounting Information Systems, including the revenue, procurement and conversion cycles. Additionally, students will be introduced to risks and controls in accounting systems, as well as emerging accounting technology. Prereq: ACCT 102 or ACCT 200.

ACCT 307. Applied Management Accounting. 3 Units.

This course advances students' ability to use management accounting to evaluate decisions, businesses, and managers. Students will begin with the idea that management accounting is a dialect within the language of accounting, explore varied types of costs and their relationships to pricing, and then use these concepts to assess decisions, organizations, and performance. Case studies will be used to stress application of management accounting concepts to problems faced in the real-world business environment. Students will use advanced spreadsheet functions and data analytics/visualization tools to further develop their proficiency at using management accounting to evaluate decisions, businesses, and managers. Prereq: (ACCT 101 and ACCT 102) or ACCT 200 and ACCT 106 or ACCT 207.

ACCT 307L. Technology Lab for Management Accounting. 1 Unit.

In this lab, students will learn about the technology tools currently used in the professional environment to further develop their proficiency at using management accounting in evaluating decisions, businesses, and managers. Examples of foundational technology tools include advanced spreadsheet functions and data analytics/visualization tools. The knowledge gained in this lab will be applied in ACCT 307, Applied Management Accounting, taken concurrently with the lab. Prereq: ACCT 106. Coreq: ACCT 307.

ACCT 314. Attestation and Assurance Services. 3 Units.

This course covers the role of the auditor, the audit process, the public accounting profession, audit risk and materiality, fraud, audit methods and techniques, audit planning, internal control, the effects of information technology on the audit, auditing revenue, receivables and inventories, professional ethics, legal responsibilities, emerging assurance services, and recent developments in the auditing profession. Prereq: ACCT 301.

ACCT 360. Independent Study. 1 - 18 Units.**ACCT 401H. Accounting for Healthcare. 3 Units.**

This course exposes MSM-Healthcare students to ways that accounting information helps managers monitor and improve the performance of organizations. After studying the nature and limitations of accounting information, we explore how financial, cost, tax, and regulatory accounting are used by various stakeholders. From this effort, students become comfortable evaluating accounting recognition, valuation, classification, and disclosure issues that arise in an executive's career. Finally, we study how accounting is a feedback loop that enables managers to assess consequences of past decisions and think about what should be done going forward. Feedback loops, in turn, can give rise to observer effects and/or unpredictable outcomes. Course content contributes to achieving the program goal of strengthening a student's ability to promote positive change in healthcare. Prereq: Master of Healthcare Management students only.

ACCT 404. Advanced Financial Reporting. 3 Units.

ACCT 404 covers advanced financial reporting topics including financial statement consolidations, foreign currency translations and transactions, VIE's, (variable interest entities), partnership accounting, derivatives, segment reporting, and interim financial statement reporting. As a graduate course, a master's level project or paper will be required. Prereq: ACCT 301.

ACCT 405. Advanced Federal Taxes. 3 Units.

Corporate income taxes, estate and gift tax, fiduciary income taxes, partnerships, and hybrid forms of organization are covered. Prereq: ACCT 305.

ACCT 406. Advanced Accounting Information Systems. 3 Units.

This is a three hour class in which the students will combine classroom and project work to learn how technology is used in the reporting and evaluation of internal and external Accounting Information. Students will learn to recognize and manage technology-based risks to Accounting Information and will study current events and relevant trends in accounting technology. Prereq: ACCT 314.

ACCT 407. Analytics and Control. 3 Units.

This is the final course in the Department of Accountancy's analytics sequence. The course is designed to further students' skills in making informed decisions when faced with unfamiliar data sets. We hone the ability to use the tools of average, variance, correlation, sampling, and hypothesis to reduce uncertainty. Upon course completion, students will be able to analyze data that help organizations accomplish desired goals. We prioritize development of critical thinking skills over the ability to use software to perform statistical calculations. We seek to be approximately right rather than precisely wrong. Prereq: (ACCT 102 and OPRE 207) or (MBAC 503 and MBAC 511) or MBAP 403.

ACCT 414. Corporate Reporting and Analysis. 3 Units.

This course provides a basis for evaluation of traditional and proposed uses of reports and information for decision making regarding investment, credit and internal planning and control. Students are introduced to concepts, and analytical techniques that can be used to critique and interpret the financial health and value of an organization. At a practical and theoretical level, the course integrates research in the areas of accounting, quantitative methods and finance which has proved useful in the financial analysis of organizations Prereq: ACCT 300 or ACCT 401H or MBAC 502 or MBAP 402 or Requisites Not Met permission.

ACCT 431. Tax Practice: Analysis, Planning and Communications. 3 Units.

This course concentrates on teaching the identification of key U.S. tax issues, the analysis of fundamental tax concepts and the underlying interpretation and application of tax law through the use of appropriate authoritative sources. Both oral and written communication will be utilized to present tax planning research results. Actual court cases will be used as the basis for simulating practical client scenarios. Prereq: ACCT 305.

ACCT 444. Advanced Auditing Theory and Practice. 3 Units.

This course examines auditing concepts and issues in depth. A special focus exists on audit evidence and how auditors make decisions. Some topic areas include ethics, analytical review, fraud, and the role of technology. Prereq: ACCT 314 or Requisites Not Met permission.

ACCT 501. Special Problems and Topics. 0 - 18 Units.

This course is offered, with permission, to students undertaking reading in a field of special interest.

ACCT 520. Advanced Accounting Theory. 3 Units.

This seminar studies contemporary issues in financial accounting theory and business reporting. Topics are considered from their historical development to contemporary circumstances. Academic and professional literatures are employed to gain a variety of perspectives on current matters. The development of communication skills, written and verbal, and use of support technology for presentations is emphasized throughout. Students are required to make several individual and team presentations, to conduct database and periodical research and to provide frequent written and oral research reports. Prereq: MAcc students only and ACCT 301. Prereq or Coreq: ACCT 404.

ACCT 540. Corporate Governance and Contemporary Accounting Policy. 3 Units.

The Sarbanes-Oxley Act (SOX), passed in the wake of a series of corporate accounting scandals including Enron and WorldCom, was designed to strengthen Corporate Governance processes for all US publicly traded companies with an aim of "protecting investors by improving the accuracy and reliability of corporate disclosures." The contemporary implications of SOX for the accounting profession are immense. Students must understand these implications to successfully navigate the world of public company financial reporting. One implication is the role SOX gave to corporate board audit committees to oversee the independent auditors charged with auditing public company financial statements. This requires a fundamental understanding of corporate boards including why they exist and what are their more general responsibilities. Another implication is the establishment of the Public Company Accounting Oversight Board (PCAOB) to regulate the accounting profession. Thus, this seminar examines broad issues surrounding Corporate Governance including governance of public companies including investment companies, with strong contemporary connections to the accounting profession, including professional ethics, independence and quality control. Prereq: MAcc students only, ACCT 301, and ACCT 314. Prereq or Coreq: ACCT 404.

ACCT 601. Special Problems and Topics. 1 - 18 Units.

This course is offered, with permission, to Ph.D. candidates undertaking reading in a field of special interest.

ACCT 701. Dissertation Ph.D.. 1 - 9 Units.

(Credit as arranged.) Prereq: Predoctoral research consent or advanced to Ph.D. candidacy milestone.

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. Introduction to 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 introduction to the emerging Fintech discipline. The course will cover Fintech innovations, who and how traditional players are being affected and how they must respond, 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.

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: At least Sophomore standing and 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 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 and FNCE 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 420. Health Finance. 3 Units.

Exploration of economic, medical, financial and payment factors in the U.S. healthcare system sets the framework for the study of decisions by providers, insurers, and purchasers in this course. The mix of students from various programs and professions allows wide discussion from multiple viewpoints. Offered as BAFI 420 and HSMC 420. Prereq: MBAC 502 or MBAP 402 or ACCT 401H and enrollment in a program other than MSM in Healthcare.

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/MSFI 401 or MEM 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.

BLAW**BLAW 331. Legal Environment of Management. 3 Units.**

This course will provide an overview of the legal environment in which business transactions take place. Through coverage of a number of topical areas, the student will be given a broad understanding of how the law impacts upon the daily decisions of managers. More specifically, the student will be better able to identify and understand how the legal issues facilitate or hinder the conduct of business. Topics covered will include contracts, property, products' liability, employment law, and corporate law. Special emphasis is placed on those regulatory areas of greatest interest to modern business. Offered as BLAW 331 and BLAW 417.

BLAW 411. Business and Law Colloquium. 3 Units.

This course will bring together law students, business students, mid-level attorneys and senior leaders in the legal field for a one-semester weekly colloquium. Even though women have represented approximately half of law-school graduates for a number of years, women represent only 16% of law firm equity partners and even fewer corporate General Counsels. This course aims to offer an introduction to the business skills that both women and men will need to rise to the highest levels of law practice and organizational leadership. Each week will focus on a different aspect of law and business. The curriculum will include sessions focused in financial management, business development, communication skills, and intercultural business and law practices. Offered as LAWS 5432 and BLAW 411.

BLAW 417. Legal Environment of Management. 3 Units.

This course will provide an overview of the legal environment in which business transactions take place. Through coverage of a number of topical areas, the student will be given a broad understanding of how the law impacts upon the daily decisions of managers. More specifically, the student will be better able to identify and understand how the legal issues facilitate or hinder the conduct of business. Topics covered will include contracts, property, products' liability, employment law, and corporate law. Special emphasis is placed on those regulatory areas of greatest interest to modern business. Offered as BLAW 331 and BLAW 417.

BTEC**BTEC 420. Introduction to Programming for Business Applications. 3 Units.**

Goals: This course will introduce students to the basics of programming logic utilizing the Python programming language and environment. The course will help students understand how to apply programming solutions and related algorithmic thinking to solve common business and decision problems. This class is a great introduction into programming logic, it just happens to use Python. This course will teach the fundamentals of programming logic, which could be applied to any programming language available today or into the future. Learning Objectives: Upon completion of this course students should have a foundational knowledge of how to use variables, operators, manipulate strings, loops, functions, and basic array manipulation all through Python programming language. The course will culminate with a final project where students will be divided into groups with each group solving a different small business problem. The final submission will require a joint white paper submission that demonstrates the following learned objectives: problem research, scope, architect, and design a potential solution using python environment. A sample of the implemented Python code that was used to solve this problem will be required for final submission. Course Requirements: Each student must have access to a computer that can be brought to class. No programming experience is required. Downloading and installing Python is covered at the start of the course. Basic computer skills: surfing websites, running programs, saving and opening documents, etc. Offered as BTEC 420 and DESN 210.

BTEC 493. Blockchains and AI: Applications in Finance and Business. 3 Units.

It behooves today's business leaders to be well acquainted with blockchain technologies and AI (Artificial Intelligence), two seemingly disparate technologies that have the potential to fundamentally disrupt a wide range of businesses. The popularity of blockchain technologies has increased exponentially since the release of bitcoin in 2009. While bitcoins garnered a lot of attention during the initial days, the focus has shifted over time to the underlying technology: blockchain. This wildly innovative technology has made possible tasks that were hitherto deemed implausible: validate ownership in a digital asset, verify the true state of a transaction without relying on a costly intermediary etc. The list of businesses that are impacted by this technology makes for an impressive reading: supply chain, health care, insurance, foreign exchange transfers, real estate, etc. If the emphasis of blockchain technology is on trust, that of Artificial Intelligence is on predictions. Accurate predictions and sound judgements are two critical ingredients of any decision making process. While the jury is still out on whether algorithms can make sound judgements, recent developments in a field called machine learning (and its sub-field, deep learning) have led to dramatic improvements in the accuracy of predictions made by these algorithms. Significantly, this gain in accuracy has been accompanied by a reduction in overall costs. These in turn have spurred the recent interest in AI. Organizations that have enabled AI at the enterprise level appear to be making more informed decisions and innovating new products. In this course, we will unpack these technologies and examine a wide range of relevant business use cases. Our objective is to provide a practical introduction to these key technologies and their business implications. We focus on business perspectives, rather than on the technical dimensions. Fittingly, this course is open to all graduate students of Weatherhead School (MBA and all specialty Masters). Students are not expected to have any specific programming background; however, a basic understanding of statistics is required to better appreciate the discourse on Artificial Intelligence. Offered as BTEC 493 and FNCE 493. Prereq or Coreq: MBAC 504 or MBAP 405.

BTEC 494. Artificial Intelligence for Financial Modeling. 3 Units.

This is a hands-on course on Artificial Intelligence (A.I.) where the emphasis is not only on understanding the theoretical underpinnings of various AI models but also on building, evaluating, and critiquing A.I. models as they apply to the finance industry. This course begins with an introduction of Machine Learning models; various key ideas such as bias-variance tradeoff, cross-validation, regularization techniques are introduced with relevant examples from Finance. The course then proceeds to discuss Artificial Neural Networks and its relevance to Deep Learning. Foundational ideas such as back-propagation are discussed in sufficient detail; we also lay a lot of emphasis on evaluating the performance of all these models. A key objective of this course is help students build cutting-edge A.I. models that are ready for prime time, i.e., real-life applications. Fittingly, we work with several real-life datasets and case studies from banking and finance. We will work with three case studies, each of which span multiple sessions. -In the first case study, students use Machine Learning algorithms to understand how imbalanced datasets are handled in real-life. -In the second study, students use time series data and learn not only about the power of regularization techniques but also to highlight the prominence of A.I. in financial markets. -In the third case study, students learn how to use cutting-edge Deep Learning models to extract sentiments from disparate news sources; these are in turn used to generate trading strategies. By contrasting the effort that goes into and the payoff obtained from Machine Learning and Deep Learning models, students gain an intuitive appreciation of both these classes of models. Offered as BTEC 494 or FNCE 494.

BUAI**BUAI 400. Linear Algebra. 1 Unit.**

The objective of this one-credit hour course is to provide a basic working knowledge of material in linear algebra that is relevant to the Master of Supply Chain Management and Master of Business Analytics & Intelligence programs. This background material includes geometric and algebraic properties of vectors and matrices together with operations that can be performed on them. The use of vectors and matrices in solving systems of linear equations is taught. Offered as BUAI 400 and SCMG 400. Prereq: For Master of Business Analytics & Intelligence students only.

BUAI 406A. Operations Management I. 1.5 Unit.

Operations managers, ranging from supervisors to vice presidents, are concerned with the production of goods and services. More specifically, they are responsible for designing, running, controlling and improving the systems that accomplish production. This course is a broad-spectrum course with emphasis on techniques helpful to the practice of management at the analyst level. Its goal is to introduce you to the environments, to help you appreciate the problems that operations managers are confronted with, and provide you with the tools to address these problems. Operations Management spans all value-adding activities of an organization including product and process design, production, service delivery, distribution network and customer order management. As global competition in both goods and services increases, a firm's survival depends upon how well it structures its operations to respond quickly to changing consumer needs. Thus, it is essential for all business managers to acquire an understanding of operations management to maintain their competitive advantage. This course provides students with the basic tools needed to become an analyst in Supply Chain and Operations Management. This course provides an overview of Process analysis, Capacity management, Queuing system and analysis. Coreq: BUAI/MSBA 433.

BUAI 406B. Operations Management II. 1.5 Unit.

Operations managers, ranging from supervisors to vice presidents, are concerned with the production of goods and services. More specifically, they are responsible for designing, running, controlling and improving the systems that accomplish production. This course is a broad-spectrum course with emphasis on techniques helpful to the practice of management at the analyst level. Its goal is to introduce you to the environments, to help you appreciate the problems that operations managers are confronted with, and provide you with the tools to address these problems. Operations Management spans all value-adding activities of an organization including product and process design, production, service delivery, distribution network and customer order management. As global competition in both goods and services increases, a firm's survival depends upon how well it structures its operations to respond quickly to changing consumer needs. Thus, it is essential for all business managers to acquire an understanding of operations management to maintain their competitive advantage. This course provides an overview of Quality management, Material Requirements planning, Inventory management, and Supply Chain management. The emphasis of the course is on both real world applications and technical problem solving. Several manufacturing and non-manufacturing environments will be discussed explicitly, like health care, insurance, hotel-management, airlines and government related operations. Also we will explore the interface of operations management with other functional areas such as marketing, finance, accounting, etc. This coursework includes individual and group assignments, case analyses and experiential learning through simulations and educational games. Prereq or Coreq: BUAI/MSBA 406A. Coreq: BUAI 433.

BUAI 407A. Managerial Marketing I. 1.5 Unit.

This course is part one of the Core Marketing Management class, as taught in typical MBA programs, including our own. Marketing management is defined as the 'art and science of choosing target markets and getting, keeping, and growing customers through creating, delivering, and communicating superior customer value' (Kotler and Keller 2012, p. 3). This course addresses the management challenges of developing products and services that profitably deliver value including selecting target markets and designing the best combination of marketing variables to carry out a firm's strategy.

BUAI 407B. Managerial Marketing II. 1.5 Unit.

This course is part one of the Core Marketing Management class, as taught in typical MBA programs, including our own. Marketing management is defined as the 'art and science of choosing target markets and getting, keeping, and growing customers through creating, delivering, and communicating superior customer value' (Kotler and Keller 2012, p. 3). This course addresses the management challenges of developing products and services that profitably deliver value including selecting target markets and designing the best combination of marketing variables to carry out a firm's strategy. Prereq: BUAI/MSBA 407A.

BUAI 410. Accounting and Financial Management. 3 Units.

This course focuses on learning the language of business, how basic accounting information is reported and analyzed, and how basic financial principles can be applied to understanding how value is created within an enterprise. This course is intended for individuals who have a limited background in accounting, finance and business. Most of the exercises will involve evaluating and building models in Excel. Teaching objectives are fairly straightforward: 1. Provide you with a basic understanding of the key principles of accounting and finance. We will quickly cover material that is typically covered in a three-course sequence (Introductory Accounting and Finance I and II). We will fly at a fairly high level, but we want to make sure you understand the basic concepts. 2. Apply these concepts to real (but straightforward) business situations, to gain a better understanding of how companies utilize accounting and financial information. 3. Time permitting, explore how these concepts can be applied to securities, mergers and acquisitions and leveraged buyout transactions, with a specific emphasis on how these concepts are likely to surface in your role in such transactions. Offered as BUAI 410 and SCMG 410. Prereq: For Master of Business Analytics & Intelligence students only.

BUAI 411. Operations Analytics: Deterministic. 3 Units.

The first half of the course provides a practical coverage of linear programming, a special type of mathematical model. The art of formulating linear programs is taught through the use of systematic model-building techniques. The simplex algorithm for solving these models is developed from several points of view: geometric, conceptual, algebraic, and economic. The role and uses of duality theory are also presented. Students learn to obtain and interpret a solution from a computer package and how to use the associated output to answer "What-happens-if..." questions that arise in post-optimality analysis. Specific topics include: problem formulation, geometric and conceptual solution procedures, the simplex algorithm (phase 1 and phase 2), obtaining and interpreting computer output, duality theory, and sensitivity analysis. The second half of this course provide a practical approach to formulating and solving combinatorial optimization problems in the areas of networks, dynamic programming, project management (CPM), integer programming, and nonlinear programming. The art of formulating problems, understanding what is involved in solving them, and obtained and interpreting the solution from a computer package are shown. A comparison with formulating and solving linear programming problems is provided as a way to understand the advantages and disadvantages of some of these problems and solutions procedures. Recommended preparation: Knowledge of Excel, one semester each of undergraduate linear algebra and undergraduate calculus (derivatives); or consent of instructor. Prereq: For Master of Business Analytics & Intelligence students only.

BUAI 432. Operations Analytics: Stochastic. 3 Units.

This course covers modeling and analysis of discrete-event dynamical systems using computer simulations. Topics include an introduction to simulation as a modeling tool, with emphasis on understanding the structure of a simulation model and how to build such models, model validation, random number generation, simulation languages, statistical simulation output analysis, design of simulation experiments and selected current research topics. Prereq: BUAI/MSBA 433. Coreq: SCMG 406.

BUAI 433. Foundations of Probability and Statistics. 3 Units.

Data of many kinds are typically available in practice, but the challenge is to use those data to make effective professional decisions. This software-intensive course begins with useful descriptions of data and the probability theory foundation on which statistics rests. It continues to statistics, including the central limit theorem, which explains why data often appear to be normally distributed, and the Palm-Khintchine theorem which explains why data often appear to have a Poisson distribution. The remainder of the course focuses on regression and forecasting, including detecting and overcoming some of the deadly sins of regression, and the surprising flexibility of regression models. Recommended preparation: One semester of undergraduate calculus or consent of instructor. Prereq: For Master of Business Analytics & Intelligence students only.

BUAI 434. Data Mining & Visualization. 3 Units.

Data Mining is the process of identifying new patterns and insights in data. As the volume of data collected and stored in databases grows, there is a growing need to provide data summarization (e.g., through visualization), identify important patterns and trends, and act upon the findings. Insight derived from data mining can provide tremendous economic value, often crucial to businesses looking for competitive advantages. This course is a survey of data visualization methods, supervised and unsupervised learning techniques, and modern tools for discovering knowledge for business decisions. Prereq or Coreq: BUAI/MSBA 433 or SCMG/MSOR 433 or OPRE 433.

BUAI 435. Marketing Models and Digital Analytics. 3 Units.

Models & analytics suitable for digital marketing data are the focus of this course. The objective to develop analytical skills for making intelligent decisions about marketing investments that create value and build competitive advantage. In short, to build capabilities for marketing ai-analytics for insights. The course content and assignments are designed to (a) enable student learning by using real- world problems and data, (b) emphasize the Problem-Data-Analytics interdependence for effective problem solving, and (c) engage with thoughtful practitioners of digital data analytics to inform current practices and opportunities. Prereq or Coreq: MBAC 506 or BUAI/MSBA 407A. Prereq: BUAI/MSBA 433 or SCMG/MSOR 433 or OPRE433.

BUAI 444. Predictive Modeling. 3 Units.

Predictive modeling is a set of procedures and tools for hypothesizing, testing and validating a model to explain and predict the probability or likelihood of a future event, or outcome. A wide range of procedures and tools are available for predictable modeling, and this course will cover a select set of topics with wide applicability. Through applications and case studies involving real-life data, the course will emphasize managerial problem solving. To build models is to capture managerial problem formulation, and to test/validate them is to confront managerial hypotheses with empirical observations. Problem solving is a creative act rooted in validated evidence of managerial hypotheses testing. Prereq or Coreq: BUAI/MSBA 433 or SCMG/MSOR 433 or OPRE 433.

BUAI 445. Advanced Marketing Analytics. 3 Units.

In order to improve decision making in various decision areas of marketing like segmentation, positioning, advertising, promotions, new product development and pricing, use of quantitative data and analysis has become very popular. It is increasingly common for marketing managers to be challenged by top managers, to show the value of marketing expenditures to an organization's financial well-being. This course will introduce a variety of data based decision-aids in the marketing area that will often focus on those metrics. In addition, the course will also introduce SAS to you. SAS is a very popular tool that analysts in business and economics field have been using for decades now, and has the potential to open some doors for you when it comes to internships and jobs. In order to improve decision making in various decision areas of marketing like segmentation, positioning, advertising, promotions, new product development and pricing, use of quantitative data and analysis has become very popular. It is increasingly common for marketing managers to be challenged by top managers, to show the value of marketing expenditures to an organization's financial well-being. This course will introduce a variety of data based decision-aids in the marketing area that will often focus on those metrics. In addition, the course will also introduce SAS to you. SAS is a very popular tool that analysts in business and economics field have been using for decades now, and has the potential to open some doors for you when it comes to internships and jobs. The course will also use Python in parallel to re-emphasize what you have already learnt in previous classes. Prereq or Coreq: BUAI/MSBA 407A or MBAC 506. Prereq: (BUAI/MSBA 433 or OPRE 433 or SCMG/MSOR 433) and (BUAI 492 or MSOR 492 or BTEC 420).

BUAI 446. Machine Learning and Artificial Intelligence in Business Analytics. 3 Units.

Advances in computational analytics including Machine, Deep and Statistical Learning (ML) provide powerful methods for developing mathematical "learning" models that can autonomously parse, learn from, and make predictions from data to improve performance with "experience". In deep learning, large neural networks are leveraged to achieve artificial intelligence (AI), enabling machines to mimic human behavior. This course covers principles, algorithms, and applications of machine learning from a business analytics perspective. Specifically, the course will provide a practical understanding of modern machine learning techniques including regression and classification methods, resampling methods and model selection, regularization, perceptron and artificial neural networks, tree-based methods, support vector machines and kernel methods, and grouping methods. Prereq: BUAI/MSBA 434 or BUAI/MSBA 444 and (BUAI/MSBA 492 or SCMG/MSOR 492 or BTEC 420).

BUAI 485B. Team Development. 1.5 Unit.

This course is unique in the sense that its primary focus is on the student working in teams. In this course the student will assess their team interaction based on team assignments simulated and action learning type projects, presenting to the class as a team, engaging in various experiential activities, participating one team coaching session, working with a team, and expanding their knowledge of team leadership and membership skills and abilities. They are also expected to engage with projects external to the university (similar to an action learning project).

BUAI 492. Foundations of Python Programming. 1.5 Unit.

Python is an object-oriented programming language that can interact with the world wide web as well as Excel and other programming languages like VBA. As such, Python has gained popularity and is becoming an industry standard in many areas, including supply chain management. In addition to assignment, if/then, and for/while statements, in this course you will learn about object-oriented programming and how to implement those ideas with appropriate data structures. You will also learn how to use libraries that others have created, such as Numpy for numerical calculations (like working with vectors, matrices, and solving systems of linear equations). In addition to individual homeworks, you will solve an assigned project in groups and make a final presentation to the class with PowerPoint. Being able to communicate your model and results is part of learning to work effectively with others in an organization, which is a goal of the supply chain program. All of this is designed to enable you to build and solve models that help organizations make good decisions. Offered as BUAI 492 and SCMG 492. Prereq: For Master of Business Analytics & Intelligence students only.

BUAI 499. Capstone Project in Business Analytics. 0 Unit.

This course is focused on engaging Master of Business Analytics students in a capstone experience. Students will be provided with analytics problems with data from local companies and will be asked to leverage the broad range of skills, tools and approaches introduced throughout the program to analyze the data. They will also present a final report to the sponsoring organization. Prereq: For Master of Business Analytics & Intelligence students only.

DESN**DESN 210. Introduction to Programming for Business Applications. 3 Units.**

Goals: This course will introduce students to the basics of programming logic utilizing the Python programming language and environment. The course will help students understand how to apply programming solutions and related algorithmic thinking to solve common business and decision problems. This class is a great introduction into programming logic, it just happens to use Python. This course will teach the fundamentals of programming logic, which could be applied to any programming language available today or into the future. Learning Objectives: Upon completion of this course students should have a foundational knowledge of how to use variables, operators, manipulate strings, loops, functions, and basic array manipulation all through Python programming language. The course will culminate with a final project where students will be divided into groups with each group solving a different small business problem. The final submission will require a joint white paper submission that demonstrates the following learned objectives: problem research, scope, architect, and design a potential solution using python environment. A sample of the implemented Python code that was used to solve this problem will be required for final submission. Course Requirements: Each student must have access to a computer that can be brought to class. No programming experience is required. Downloading and installing Python is covered at the start of the course. Basic computer skills: surfing websites, running programs, saving and opening documents, etc. Offered as BTEC 420 and DESN 210.

DESN 302. Creativity in Design & Business: Sources of Perception, Imagination, & Creative Thinking. 3 Units.

The goal of this course is to develop skills and techniques for creative problem solving. The course is for anyone interested in design, the development of new products and services, and strategies for change in organizations and society. It is useful wherever we face challenging situations that require imagination, new ideas, and innovative approaches in a rapidly changing world. At its core, creativity is an issue of perception. Learning to change one's perception from what is known, comfortable, and familiar to what is unknown and potentially valuable and rewarding is the challenge of this course. We will explore a wide variety of methods, techniques, and tools for encouraging new perceptions. There will be useful readings, but also exercises and projects for individuals and teams to develop new strategies of creative thinking. Offered as DESN 302 and ENTP 302.

DESN 308. Business Model Design and Innovation. 3 Units.

This course takes the perspective of entrepreneurs or business unit managers. The three basic questions that all entrepreneurs and entrepreneurs must answer is where to play, how to win and what to do. You have identified a group of customers for your product or service (where to play). Your first challenge is to know what features (Customer Attributes) your target customer will pay for. Innovative business models focus on a set of customer attributes that are usually very different from other industry incumbents that we call Focal Attributes. Your second challenge is to clearly state your profit logic -- how you will make money -- how to win. The concept called Profit Objectives (similar but not the same as KPI and/or SMART objectives) allow you to operationalize the profit logic through specific and measurable deliverables. Your third challenge is building the value chain that can deliver these focal attributes (what to do). At this point, you have a good understanding of all the elements of your business model and in particular, how the focal attributes and the value chain align with the profit objectives. You will learn how to illustrate this alignment through a mapping process. Offered as DESN 308 and ENTP 308. Prereq: Junior standing or higher.

DESN 410. Leading Digital Innovation by Design. 3 Units.

A new wave of digital revolution is transforming every industrial sector. Powered by increasingly smaller yet potent microprocessors and sensors, a new generation of analytical tools, and ubiquitous wearable and mobile devices, companies can radically transform the way they interact with users and the way they create and capture value. Technology like Block Chain and AI are likely to fundamentally reshape how we think about firms and industries. Such changes make existing strategic frameworks and tools obsolete. In order to understand how and why digital technology changes the industrial landscape, companies must understand some of the fundamental characteristics of digital technology and how it demands new types of value creation logic. Be it a large corporation or a small start-up; or a government agency or a multinational enterprise; everyone is struggling to deal with the new digital reality. Yet, exactly how to use digital technology to create value is not clear. While all companies must understand how digital technology is fundamentally different from other forms of technology, ironically digital innovation is not about technology. Digital innovation is making digital technology meaningful and value to users. Therefore, digital innovation requires us to truly understand us (people), what we do, why we do what we do, what makes us happy, and what we consider meaningful. Therefore, digital innovation is a deeply humanistic exploration to make digital technology meaningful and valuable to us. In order to fully harness the transformative capacity of digital technology, we must gain deeper insights on people and their actions, meanings and values. In this experiential course, we use design as the primary tool to gain such humanistic insights, and work with real-world projects to apply those ideas and tools to build real digital innovations.

DESN 419. Entrepreneurship and Personal Wealth Creation. 3 Units.

Course explores the accumulation of personal wealth utilizing entrepreneurial strategies. The underlying competencies of successful entrepreneurs are identified and applied to individual lives of students. Active entrepreneurs will be studied, and original case studies of start-ups and acquisitions provide the basis for class exercises. Offered as DESN 419 and IIME 419.

DESN 425. Chief Executive Officer. 3 Units.

This course will take the perspective of the CEO in deciding the actions that lead to sustainable competitive advantage. We will study decisions that span from starting a small business to expanding beyond the core using mergers and acquisitions. We will also study how CEOs decide to exit a market. The successful CEO not only has to design the strategy for success but has to also design an execution plan. As the organization grows the importance of delegation to the right subordinates becomes increasingly critical. The course material includes case studies, decision briefs and presentations (virtual and in person) by senior executives. Decision briefs are short notes that have the same information that the CEOs had when starting the business. You will develop the strategy based on these decision briefs and will compare your suggestions to what was actually done by both successful and unsuccessful CEOs. Offered as DESN 425 and IIME 424.

DESN 440. Design of Disruptive Business Models. 3 Units.

This course will explore the design of business models that disrupt traditional or established business patterns. With the shift toward services and human interactions as the foundation of many new companies, this course will focus on methods of inventing and developing business models that use digital technology, information, and service concepts to meet new needs in areas of retail, medical care, and other areas of business opportunity.

DESN 490. Business Model Innovation and Diversification. 3 Units.

This course is an advanced strategy course that explores the determinants of successful corporate strategy. In Strategy Issues and Applications you were exposed to the basic frameworks for developing successful competitive or business unit level strategy. Corporate strategy takes you to the next level and provides the frameworks you need to be able to be successful in multiple businesses. At its core corporate strategy constitutes any and all decisions that change the core business model of a firm. Examples are vertical integration, new but related product lines, entering new markets with existing products and entering new or existing markets with unrelated products. The fundamental premise of the course is that successful corporate strategy is rooted in competitive advantage arising from capabilities residing at the business unit level. Starting from analyzing business level strategies of very simple firms, the course successively builds frameworks towards more complicated business level strategies. Next, the course develops frameworks to discuss corporate strategy based around the concept of core competencies and market entry strategies. Finally, the course develops the concepts that are useful in greenfield entries, alliances and acquisitions as part of an overall corporate strategy.

DESN 494. Managerial Consultancy. 3 Units.

Students will learn to match consulting methodologies with client needs and employ a step by step strategy development process applied to actual companies which are semester-long clients of the class. Accelerated career strategies in the consultancy business are featured as well as tactics for getting hired in the first place. The course views consultancy as a role rather than career and conceptualizes consultancy as a process of optimizing an organization's value creation potential and competitive advantage. Students should be able to apply the concepts regardless of career choice. Exposure to senior practicing consultants is featured.

DESN 496. Strategic Planning and Control Systems for Strategy Implementation. 3 Units.

This course introduces the principal tools of strategy implementation, namely the design of organization structures, the use of formal planning and control systems, and the design of measurement and reward systems. The importance of organizational context (small vs. large, for profit vs. not-for-profit, manufacturing vs. service, etc.) and the need to tailor systems to the context of the organization are emphasized. New and emergent organizational forms and their role in strategy development and implementation are reviewed. Cases and readings are the principal pedagogical methods utilized. Students work in small project teams, study the operation and effectiveness of systems for strategic control in organizations, and present the results of their analysis in class presentations.

DESN 501. Special Problems and Topics. 1 - 18 Units.

This course is offered, with permission, to students undertaking reading in a field of special interest.

DESN 527. Seminar in DESN. 3 Units.

This seminar addresses topics of current interest with a strong emphasis on research. It is intended primarily for the faculty and doctoral students of the DESN Department.

DESN 601. Special Topics in MIS. 1 - 18 Units.

This course is offered, with permission, to Ph.D. candidates undertaking reading in a field of special interest.

DESN 701. Dissertation Ph.D.. 1 - 9 Units.

(Credit as arranged.) Prereq: Predoctoral research consent or advanced to Ph.D. candidacy milestone.

DBAP**DBAP 611. Theory and Practice of Collective Action. 3 Units.**

The ability of autonomous and interdependent parties to coordinate actions, or to act cooperatively, affects a wide range of organizational and social problems. This course addresses the theory and practice of collective action in local, national and global contexts. Case studies of collective action problems, such as environmental protection, community revitalization, and the mobilization of interest groups will be discussed. Offered as DBAP 611 and EDMP 611. Prereq: Must be enrolled in the Doctor of Business Administration Program.

DBAP 613. Leading Change. 3 Units.

Change is an enigma and yet sustained, desirable change (SDC) drives adaptation, growth and life itself. In this course, we will continuously attempt to answer two questions: What is the process of sustained, desirable change? and What is the role of a leader? Concepts from complexity theory will be used, including understanding the multilevel nature of SDC at the individual, dyad, team, organization, community, country, and global levels. Intentional Change Theory (ICT) will be used as the organizing concept for the changes studied. Leadership and its development will be examined by studying a number of topics and applying them to three major case studies: (1) yourself; (2) practice coaching with compassion; and (3) a major change project. This course will explore questions, such as: Who are effective leaders? How do they think and act? What makes us want to follow them? How are leaders developed? What is the role of emotional and social intelligence? How does a leader's mind, body, heart, and spirit affect their performance? Offered as DBAP 613 and EDMP 613. Prereq: Must be enrolled in the Doctor of Business Administration Program.

DBAP 614. Business as an Evolving Complex System. 3 Units.

The goal of this course is to provide a foundation for understanding how business systems evolve, why the business systems in the major advanced countries have evolved differently over the last 100 years or so, and what the underlying driving forces are. The focus is on transformation rather than economic growth. The course examines the evolution of business systems as a result of technological and organizational change. It deals with the role of history, culture and finance in generating business organizations in various countries. The course also studies the emergence of regional innovation systems and industry clusters, as well as how digitization and globalization are changing the "industrial logic." Offered as DBAP 614 and EDMP 614. Prereq: Must be enrolled in the Doctor of Business Administration Program.

DBAP 616. Global Economic Systems and Issues. 3 Units.

This course provides a framework and analytical tools for understanding globalization and international economic relations in the context of the global political system. It analyzes the economic and political forces that are shaping global cooperation on economic matters, the role and impact of international economic institutions such as the World Bank, the International Monetary Fund, and the World Trade Organization, and evolving forms of regional governance, such as the European Union. It covers national and international policies and development and the causes and cures of international financial crises. The course revolves around concepts of efficiency, equality, power, and institutions in the making of public policy towards globalization of communications and transportation. Offered as DBAP 616 and EDMP 616. Prereq: DBAP 665.

DBAP 617. Technology and Social System Design. 3 Units.

Managers are designers who shape the social and technical world we inhabit. This course explores the process of design and asks how managers can become better designers and interventionists who anticipate and evaluate the social, economic, and political consequences of existing and emerging products, processes, and organizational forms. Offered as DBAP 617 and EDMP 617. Prereq: Must be enrolled in the Doctor of Business Administration Program.

DBAP 638. Qualitative Inquiry I. 3 Units.

This course explores ways to conceptualize an object of study and facilitates formulation of students' conceptual work and production of research reports at the end of the first year of the program. The course conveys how to generate research ideas by critically reviewing literature and developing ideas that contribute to a problem or issue of interest by working with theory and extending previous research. The practicality of conducting certain kinds of research is evaluated and length, intensity and ethical constraints of different research efforts are examined. Each student produces a report communicating and supporting a conceptualization of the phenomenon of interest involving independent, mediating and dependent variables. The paper defines a problem of practice, presents, both visually and in narrative form, concepts shaped by field experience and prior writing that promote understanding of the problem, and includes a research proposal describing sample, data collection and data analysis. Offered as DBAP 638 and EDMP 638. Prereq: DBAP 665.

DBAP 640. Social Ethics: Contemporary Issues. 3 Units.

The course draws upon intellectual ancestors and current thinkers in moral philosophy and ethics to assist each student in identifying, analyzing, and discussing social and ethical questions pertaining to the definition and purpose of contemporary life, the need for moral coherence, and the meaning of life in a global society. The unifying theme of the course is Tolstoy's question, "How then shall we live?" The course does not seek to provide answers to the great questions of life. Rather, it tries to expand each student's capacity to grapple with such questions. Offered as DBAP 640 and EDMP 640. Prereq: Must be enrolled in the Doctor of Business Administration Program.

DBAP 641. Qualitative Inquiry II. 3 Units.

This course guides the student in conducting the qualitative research project that was proposed in EDMP 638. Fieldwork and initial analysis is conducted during the summer when data based on semi-structure interviews is collected and analysis begins using inductive coding techniques. A summer residency is held in mid-June to assess progress as final data collection and analysis continues. The aim of the fall semester is to prepare a formal research report on that project, which will be submitted to an academic research conference. The final report includes a revision of one's conceptual model, integrating new understandings and literature arising from the data collection and analysis. Offered as DBAP 641 and EDMP 641. Prereq: DBAP 638.

DBAP 642. Directed Studies Seminar. 0 - 9 Units.

At different times during the Program, EDM students register for Directed Studies courses. The purpose of these courses is to recognize the work the students are doing to conduct and present their individualized research at a high quality level. Activities conducted under the Directed Studies courses are dedicated to the collection of qualitative or quantitative data and the preparation of research reports. Offered as DBAP 642 and EDMP 642. Prereq: Must be enrolled in the Doctor of Business Administration Program.

DBAP 643. Measuring Business Behaviors and Structures. 3 Units.

This course aims to develop the basic foundations and skills for designing and executing generalizable studies. It focuses on building competence in model building, construct measurement, research design, data collection methodologies, and application of analytical software commonly involved in quantitative inquiry. Covered topics include framing research questions, reliability and validity of measurement, quasi-experimental research design, and fieldwork for data collection. Classes are designed to balance between the theory and practice of quantitative research design, and will be linked to the participant's own research projects. Offered as DBAP 643 and EDMP 643. Prereq: DBAP 641.

DBAP 645. Integration of Qualitative and Quantitative Inquiry. 3 Units.

Using the mixed method research toolkit developed in previous courses, this course focuses on critically analyzing selected pieces of published applied and policy research to develop a critical appreciation of issues and debates that have wide applicability and relevance. In particular, it offers students ways to integrate and triangulate using a mixed method approach, different forms of evidence, and related evidence. In addition, this course addresses common method choice and justification issues and related challenges of validity and theory formulation that typically arise during the students' execution of a series of individual research projects. Application of critical analysis and appreciation approach in justifying mixed methods designs to the student's own research work is encouraged and supported by sharing and discussing common research and methodology themes and problems. Offered as DBAP 645 and EDMP 645. Prereq: Must be enrolled in the Doctor of Business Administration Program.

DBAP 646. Advanced Analytical Methods for Generalizing Research. 3 Units.

This course addresses advanced topics in regression and structural equation modeling such as latent growth curve models, partial least squares, logit models, tests for various types of invariance, multiple-group analysis, multilevel analysis, and analyzing qualitative/categorical data. These analytical methods are intended to enhance the student's toolkit as to facilitate a strong bridge to the academic literature and the application to specific data based problems that arise in applied managerial research. Offered as DBAP 646 and EDMP 646. Prereq: Must be enrolled in the Doctor of Business Administration Program.

DBAP 648. Causal Analysis of Business Problems I. 3 Units.

Model Building & Validation I introduces fundamental concepts in theory-based model building and validation. In this course students will develop, explore, refine and validate a range of models appropriate for addressing their problem of practice including classification models, process models, variance models, and articulating nomological networks. In particular, the course will focus on effective conceptualizations of causation, control, mediation, and moderation. Further, foundational statistical techniques such as tests of assumptions of the data, exploratory factor analysis, and regression and path analysis will be introduced. Offered as DBAP 648 and EDMP 648. Prereq: Must be enrolled in the Doctor of Business Administration Program.

DBAP 649. Causal Analysis of Business Problems II. 3 Units.

Building upon the first course in Model Building & Validation, this course will guide students through the theoretically-grounded variance models that are required for testing through structural equation modeling (SEM) in the quantitative portion of their research. Fundamental concepts in model testing will be reinforced using path analysis, and will include a deeper exploration of moderation by addressing topics such as moderated mediation and interaction effects. Beyond the analysis the course will emphasize precise and accurate formulation of theoretical models and associated reasoning, as well as careful interpretation of findings. The class will also delve into testing of data assumptions and prepare students for the model testing portion of their capstone assignments. Offered as DBAP 649 and EDMP 649. Prereq: Must be enrolled in the Doctor of Business Administration Program.

DBAP 664. Knowledge Dissemination to Influence Managerial Practice. 3 Units.

The aim of this course is twofold. First, it supports students organizing and writing their DM thesis overview or their PhD thesis proposal. Also discussed are ways to organize and communicate in scientific genres, their aims and their generic properties. Secondly, students become acquainted with scientific communication and publishing. Effective reviewing, criteria for judging articles and theses, management of review processes, and how to communicate and respond to reviews are topics discussed. The course also addresses publication strategies and ways of managing and communicating scientific and managerial knowledge to different stakeholders. Offered as DBAP 664 and EDMP 664. Prereq: Must be enrolled in the Doctor of Business Administration Program.

DBAP 665. Introduction to Research Inquiry. 3 Units.

This course begins participants' three-year research experience. Energized by one's personal passion and commitment to the topic, we seek for the work to be accomplished at a level that makes it worthy of widespread dissemination and influence as engaged scholars. The goal in this course is to prepare students to develop their minds as scholars by understanding the world of research; develop a research identity by identifying one's research domain; learn to read academic literature and write in a scholarly style; work with academic literature to identify and digest concepts and theories that inform research on that problem; begin to develop a conceptual model that abstracts how the world may be functioning in that problem domain and points to a research question that can guide the next stage of the research. The final deliverable for this course is to present the research topic with substantiation for its significance, relevance and timeliness in the management field. This would include the research question(s); the literature review; and proposed qualitative methodology and analytical approach(es). Offered as DBAP 665 and EDMP 665. Prereq: Must be enrolled in the Doctor of Business Administration Program.

DBAP 672. Flourishing Enterprise: Creating Sustainable Value for Business and World Benefit. 3 Units.

This course is designed to galvanize new visions of business and society, as well as organizational leadership. The course is born of a conviction that the future of human society and the natural world is intimately linked to the future of the world economy, business enterprises, and management education. The course presentations, books, dialogues, and interview projects are organized around three themes: (1) the state of the world and the economics possibilities of our time, (2) the business case for understanding business as an agent of world benefit—how business performance can profit from current and future advances in sustainable design and social entrepreneurship; and (3) tools for becoming a change leader—including the methods of Appreciative Inquiry and new insights about "strength-based" change emerging from the science of human strengths. The overarching aim is to provide a powerful introduction to the many facets of sustainable value creation as a complete managerial approach. Offered as DBAP 672 and EDMP 672. Prereq: Must be enrolled in the Doctor of Business Administration Program.

DBAP 673. Understanding, Designing, Managing Complex Systems. 3 Units.

The purpose of this course is to provide a perspective on systems thinking and complex systems and aid PhD students in expanding the ideas in their research on systems, systems models, and complex systems. The work of the course will develop with increasingly difficult books on the subject of complex systems, a major case study in health care, and individual applications of the concepts to their potential research model and methods. Offered as DBAP 673 and EDMP 673. Prereq: Must be enrolled in the Doctor of Business Administration Program.

DBAP 677. Designing Sustainable Systems. 3 Units.

Students in teams will recognize and work in practice on a managerial problem that involves dimensions of sustainability and design. They will develop a set of solutions to the problem by generating alternative models and intervention strategies to address the problem. The project results in a short presentation and written communication of the solution in a form of a poster or prototype. The course will also include presentations of intervention and action research approaches and issues of inquiry validation and theory development. Offered as DBAP 677 and EDMP 677. Prereq: Must be enrolled in the Doctor of Business Administration Program.

DBAP 680. Conflict & Cooperation in the Global Arena. 3 Units.

The global arena is described by some as a realm of perpetual conflict. Others argue that given the right institutions and incentives, international actors can find ways to achieve cooperation, peace and increased global prosperity. Still others suggest that the international political and economic arena is "what you make of it"—emphasizing the role of norms, identities and ideas in shaping international outcomes. This course will examine both theoretical and policy perspectives regarding the question of international conflict and cooperation, with a specific emphasis on drawing on insights from collective action theory and international relations scholarship. Offered as DBAP 680 and EDMP 680. Prereq: Must be enrolled in the Doctor of Business Administration Program.

DBAP 699. Applied Research Project Continuation. 1 - 9 Units.

This course is set up individually upon conference between the student and a DM Faculty member and is designed in consult with the DM Program Director in order to complete the student's required coursework and research requirements within the DM Program. Offered as DBAP 699 and EDMP 699. Prereq: DBAP 665.

ECON

ECON 102. Principles of Microeconomics. 3 Units.

This course is an introduction to microeconomic theory, providing a foundation for future study in economics. In particular, it addresses how individuals and businesses make choices concerning the use of scarce resources, how prices and incomes are determined in competitive markets, and how market power affects the prices and quantities of goods available to society. We will also examine the impact of government intervention in the economy.

ECON 103. Principles of Macroeconomics. 3 Units.

While Microeconomics looks at individual consumers and firms, Macroeconomics looks at the economy as a whole. The focus of this class will be on the business cycle. Unemployment, inflation and national production all change with the business cycle. We will look at how these are measured, their past behavior and at theoretical models that attempt to explain this behavior. We will also look at the role of the Federal Government and the Federal Reserve Bank of the United States in managing the business cycle.

ECON 216. Data Visualization in R. 3 Units.

Visualizations, such as graphs and maps, provide a compelling and intuitively appealing approach to understanding data and communicating that understanding to others. This course provides a practical, hands-on introduction to the creation of beautiful visual displays of social science data. We will learn the powerful but easy to use visualization tools in the R language. No prior experience in working with data or in coding is required. Counts for CAS Quantitative Reasoning Requirement. Prereq: Sophomore student standing.

ECON 307. Intermediate Macro Theory. 3 Units.

Macroeconomics studies aggregate indicators of the performance of an economy, most commonly measured in terms of GDP, and the rates of unemployment and inflation. An important goal of macroeconomic researchers is to develop a model of an economy that is simple, yet powerful enough to explain the historical trends of these aggregate economic indicators. Needless to say, coming up with a good model has remained a very difficult task. So far, there is no single model that is good enough to coherently explain even the most prominent historical trends of aggregate economic indicators. But several models have been built, each offering insight into a certain aspect of the economy. Throughout the course model building is motivated by real world cases from the American economy. Prereq: ECON 102 and ECON 103.

ECON 308. Intermediate Micro Theory. 3 Units.

This course builds on ECON 102 and provides a more in-depth analysis of the theory of the consumer, the theory of the firm, market equilibrium, market failure and government intervention in the market. The focus in this class is on intuition, rather than mathematical derivations, although there will be some. You should come away from this course with a greater understanding of how consumers and firms make their decisions and how they interact in the market place. Note: a student cannot receive degree credit for both ECON 308 and ECON 309. Prereq: ECON 102 and (MATH 121 or MATH 125).

ECON 309. Intermediate Micro Theory: Calculus-Based. 3 Units.

This course builds on Economics 102 and provides a more in-depth analysis of the theory of the consumer, the theory of the firm, market equilibrium, market failure and government intervention in the market. We will use calculus to derive supply, demand and market equilibrium from first principles. You should come away from this course with a greater understanding of how consumers and firms make their decisions and how they interact in the market place. Note: a student cannot receive degree credit for both ECON 308 and ECON 309. Prereq: ECON 102 and (MATH 122 or MATH 126).

ECON 312. Entrepreneurial Finance. 3 Units.

This course explores the financing and financial management of entrepreneurial new ventures. The course will focus on issues of financial management of new ventures (forecasting cash flows, cash flow management, valuation, capital structure) and the various financial methods and mechanisms available to entrepreneurs (bootstrapping, angel investors, venture capitalists, IPOs). Offered as ENTP 310 and ECON 312.

ECON 313. Experiential Entrepreneurship. 3 Units.

Experiential entrepreneurship places students in a startup (founded by the student or someone else) for a semester, while simultaneously teaching students key concepts for startup success in a classroom setting. Each session covers tools and concepts that every entrepreneur should understand, and students should be able to apply these tools and concepts to their host companies. Prereq: ECON 102.

ECON 326. Econometrics. 4 Units.

Econometrics is the application of statistics to empirical economic analysis. One way of testing the validity of economic theories is to gather data and apply statistical tests to see if the data support the theory. These data are usually gathered by observing actual economies, firms and consumers, rather than by performing experiments in a laboratory. Because field data does not have the precision and control of laboratory data, analysts must compensate by adjusting their statistical procedures. In this class, we will concentrate on regression analysis, which is the basic tool of the economic researcher. We will study the assumptions commonly made in the application of this technique, the consequences of violating these assumptions, and the corrections that can be made. Students will have a chance to formulate and test their own hypotheses using econometric software available for personal computers. Prereq: ECON 102 and ECON 103 and (OPRE 207 or STAT 243 or STAT 312).

ECON 327. Advanced Econometrics. 3 Units.

This class builds on the foundations of applied regression analysis developed in ECON 326. The goal of the class is to equip students with the tools to conduct a causal analysis of a hypothesis in a variety of settings. Topics will include causality, panel and time series data, instrumental variables and quasi-experiments, semi- and non-parametric methods, and treatment evaluation. Offered as ECON 327 and ECON 427. Prereq: ECON 326.

ECON 328. Designing Experiments for Social Science, Policy, and Management. 3 Units.

Both economists and firms are increasingly relying on experiments to study the economic behavior of individuals and the effectiveness of policies in a wide range of settings. This course gives students the tools they need to design and critique experiments that answer a research or business question. A small part of the class will be devoted to important theoretical concepts in experimental design, such as treatments, factorial designs, randomization, internal and external validity, biases, and inference problems. The bulk will be devoted to learning about how these concepts come together by discussing exciting new experimental work on topics such as discrimination and identity, cooperation versus self-interest, and dishonesty and corruption. Prereq: ECON 102 and (OPRE 207, STAT 201, STAT 243, STAT 312, ANTH 319, or PSCL 282).

ECON 329. Game Theory: The Economics of Thinking Strategically. 3 Units.

The term "game theory" refers to the set of tools economists use to think about strategic interactions among small groups of individuals and firms. The primary purpose of this course is to introduce students to the basic concepts of game theory and its applications. The class will stress the use of game theory as a tool for building models of important economic phenomena. The class will also include a number of experiments designed to illustrate the game theoretic results, and to highlight how reality may depart from the theory. The course will stress the value of thinking strategically and provide students with a framework for thinking strategically in their everyday lives. Rather than approaching each strategic situation they encounter as a unique problem, students will be taught to recognize patterns in the situations they face and to generalize from specific experiences. A paper on an application of game theory will be required for graduate students. Offered as ECON 329 and ECON 429. Prereq: ECON 102.

ECON 330. Economic Behavior and Psychology. 3 Units.

This course is an introduction to Behavioral Economics, a growing field which incorporates insights from other disciplines—primarily psychology—into microeconomic models. We will cover fundamental aspects of decision-making, such as how people respond to risk, how people make trade-offs between short-term and long-term rewards, and the ways in which people aren't as selfish as standard economic models suggest. We will cover novel economic models that can accommodate phenomena such as altruism, loss aversion, and self-control problems. We will discuss empirical applications of these concepts in areas ranging from personal finance and health to marketing and public policy. Prereq: ECON 102.

ECON 332. Economic Analysis of Labor Markets. 3 Units.

This course explores the economics of work and pay. We take a comprehensive look at labor markets in the U.S. and other advanced countries and examine related social policy issues. These include the effect of unions on wages; the underpinnings of the income distribution of the U.S.; issues of poverty and welfare; discrimination and wage differential by gender and race; the relationship between work and family; education as a determinant of wages; immigration and migration, and the way firms use wage and employment practices to motivate their employees to work productively. What makes labor economics special is that the commodity we examine is human labor, something that is central to the organization of our lives and the functioning of the economy. Labor economics thus applies the standard neoclassical model of demand, supply, and equilibrium to many areas that also have a profound human dimension. Prereq: ECON 102.

ECON 333. The Economics of Organizations and Employment Relationships. 3 Units.

Economic activity is guided not only by the "invisible hand" of the market, but also by the "visible hand" of management. This class uses microeconomic concepts to understand different ways of organizing economic activity, including firms, cooperatives, and state-owned enterprises. The course focuses on the roles of information, property rights, and incentives in determining the origin and performance of different types of organizations. We look at problems faced by real organizations, examining questions such as, are Facebook and Uber fundamentally new types of firms? Why do some firms offer high-paying jobs while competitors in the same industry do not (eg, Costco vs. Walmart)? What are the impacts of different kinds of contracts with workers and supply chain firms on incentives to work hard, invest, and innovate? Should firms maximize shareholder value, or something else? Why are firms often not able to survive "disruptive innovation"? Are venture capitalists promoters or thwarts of innovation? An objective of the course is to give students a rigorous understanding of fundamental principles that will allow them to examine their own careers, even as many features of the economy change dramatically. Prereq: ECON 102.

ECON 338. Law and Economics. 3 Units.

This course examines legal institutions and rules from an economic perspective. Students will learn when and how legal rules can be efficient. Topics will include property law (including intellectual property), tort law, contracts, and crime. Offered as ECON 338 and ECON 438. Prereq: ECON 102.

ECON 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.

ECON 342. Public Finance. 3 Units.

Government intervention is a pervasive feature of every modern economy. The goal of this course is to develop the economic tools for understanding and evaluating a wide range of government behaviors such as taxation and redistribution policy, the public provision of goods and services, and the regulation of private markets. ECON 342 begins by considering "market failures" that justify government intervention in a market economy. To respond to such failures, governments must raise revenues through taxation. Using the tools of microeconomic theory, we will develop a framework for thinking about the positive and normative effects of alternative forms of taxation. Particular attention will be paid to the individual income tax in the U.S., allowing students to understand the efficiency, distributional and behavioral implications of recent changes in the tax code. We will then turn to the expenditure side of the public sector. The economic principles used to evaluate public expenditures will be discussed and exemplified through the analysis of significant public programs. Of particular interest will be the effect of public programs on the incentives faced by workers and families. Prereq: ECON 102.

ECON 346. Economic Perspectives. 3 Units.

This course examines important contemporary and historical issues from an economic perspective. It enables students to think about the world "like an economist." Possible topics of current interest include the transformation of Eastern Europe; ethnic and racial strife; environmental policy and sustainable development; and professional sports.

ECON 350. Regional and Urban Economics: The Case of Israel. 3 Units.

The goal of this course is to develop a deep understanding of core issue in regional and urban economics. Israel, by dint of its unique history and geo-political environment, provides a fascinating case study on the impact of refugees and immigration, urban planning and governance, security concerns, inequities and discrimination, labor force participation, poverty, environmentalism, and regional cooperation. This course provides a learning experience about these topics both via classroom time at Israeli universities and through visits to carefully chosen sites throughout the country. The trip includes a small amount of discretionary time for visiting spiritually significant sites as well. Counts for CAS Global & Cultural Diversity Requirement. Prereq: ECON 102 or ECON 103.

ECON 351. Startup Nation Trip Course. 3 Units.

The course offers an opportunity to experience, first hand, Israel's raging start-up economy. Students will visit some of the country's hottest high-tech companies and meet face-to-face with top entrepreneurs and investors. The course will meet with prominent figures in the Israeli innovation scene, including directors of leading accelerators; top angel investors; leaders of corporate innovation; and representatives of governmental entrepreneurship agencies. Topics will include: the role of military in spurring innovation, public support for innovation, biotech, water, energy, cyber security, and new funding models. Prereq: ECON 102.

ECON 355. The Origins of the Modern Economy. 3 Units.

This course in economic history investigates the process by which the modern industrial economy, with its high and growing standard of living, came into being. It traces the development of important pre-modern economic institutions, such as agriculture, states, markets, and long-distance trade. The industrial revolution, the fulcrum that launched the modern economy, is then explored in detail, including its origins and uneven spread around the world. Prereq: ECON 102.

ECON 360. Economics of Crime. 3 Units.

Crime and incarceration impose tremendous costs on society with lasting impact on individuals, families, and communities. Over the past four decades, the incarceration rate in the United States has grown to an historically unprecedented level with approximately 2.2 million people behind bars. In light of the substantial resources allocated towards crime, it is only natural to ask whether the criminal justice system achieves its goals. The purpose of this course is to develop the analytical skills necessary for understanding the economic rationale for criminal law and the criminal justice system. Through the lens of microeconomic theory, we will deal with questions such as when and what to criminalize, the severity of punishment, the determinants of the supply of criminal activity, the effects of policing, and the optimal level of enforcement. This course will introduce students to key concepts in crime policy and help develop their policy analysis skills, including the ability to frame problems and policy alternatives, think critically about empirical evidence, use cost-effectiveness and cost-benefit analysis to compare policy alternatives, and communicate the findings in writing. Prereq: ECON 102.

ECON 364. Economic Analysis of Business Strategies. 3 Units.

This course examines how companies compete against each other and interact with customers in an effort to increase profits. Topics include: pricing strategies, product differentiation, advertising, R&D strategies, bundling and tie-ins, entry barriers, mergers and acquisitions, collusion and cartels, the dynamics of network industries (e.g. information technology), and technology adoption and diffusion. The course will take two complementary perspectives. First, we will consider the point of view of companies, and ask how different business strategies can affect competitive success. Second, we will consider the perspective of consumers and policymakers: we will ask whether different firm strategies enhance or reduce social welfare, and will explore different policy options to increase welfare (e.g. antitrust policies, patent systems). The first part of the course will utilize a range of basic economic tools. In the second part of the course, we will apply what was learned in the first part to real examples of firms and industries, including both business and legal cases. Prereq: ECON 102.

ECON 366. Economics of Sports. 3 Units.

The world of sports provides many captivating examples of how economic tools and methods can be understood through real-world applications. While the popularity of sports is unquestioned, there are many ways in which economics can delve more deeply into the hidden inner-workings of the sports world. When sports teams acquire a new player, are they attempting to maximize wins, or profits? Do the NCAA, NFL, or other sports leagues have a monopoly, and what costs would this entail? What incentives guide sports teams, strategies, and would they ever lose on purpose? Is it worth it to subsidize a sports team to build a new stadium, or renovate an existing arena, in your city? The purpose of this course is to perform economic analysis of sports teams, leagues, and institutions by applying economic tools to a variety of sport-related topics. Microeconomic theory is applied to these questions, and others, drawing from economic fields including industrial organization and public finance. Students with an interest in applying basic economic tools to answer real-world questions in the rapidly growing world of sports should strongly consider taking this course. Prereq: ECON 102.

ECON 368. Environmental Economics. 3 Units.

Economics provides a critically important lens for understanding why environmental problems arise and persist, and the consequences of efforts to mitigate those problems. We will apply economics tools to real-world problems, such as: how can we address climate change without massive job loss? why do markets fail to prevent pollution, and how can government policy do better? Under what circumstances can companies profit by polluting less? What kinds of policies can spur the invention of green technologies? Class sessions will include guest presentations from professionals who are actively working on environmental challenges. Offered as ECON 368 and ECON 468. Prereq: ECON 102.

ECON 369. Economics of Technological Innovation and Entrepreneurship. 3 Units.

This course is designed to help students identify, evaluate, and obtain control over technological opportunities so they may successfully understand the challenges of starting new companies. The course focuses on four themes: 1) the source, discovery and evaluation of technological opportunities; 2) the process of organizing a new firm to produce new technology that satisfies the needs of customers; 3) the acquisition of financial and human resources necessary to exploit technological opportunities; and 4) the development of mechanism to appreciate the returns from exploitation of technological opportunities. Prereq: ECON 102.

ECON 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.

ECON 373. International Trade. 3 Units.

This course deals with international trade theories and policies, covering: gains from and patterns of trade; immigration; foreign direct investment; protectionism; multilateral trade liberalization; regionalism; and the costs and benefits of globalization within, as well as among, nations. Prereq: ECON 102.

ECON 374. Financial Regulation. 3 Units.

This course will provide students with an understanding of the economic underpinnings of financial regulation as it exists in the United States today. The course will highlight salient aspects of financial markets, such as asymmetric information and the chains of exposures linking financial market participants, that make financial regulation both necessary and yet problematic. Emphasis will be put on the difference between regulations on individual financial firms as compared with regulating for systemic financial stability. The course will be designed to: (1) provide enhanced understanding of financial markets to undergraduate students who have already taken ECON/BAFI 341 (Money and Banking); (2) provide institutional insight to master's level finance students; (3) illustrate the application of welfare analysis to financial regulation, and (4) teach all students to think critically about regulatory arbitrage and the dynamic evolution of regulated markets. Prereq: ECON 102, ECON 103 and (ECON 341 or BAFI 341).

ECON 375. Economics of Developing Countries. 3 Units.

This course focuses on international aspects of economic development. The term "developing country" is often defined as a country that exhibits low per capita income, high poverty level, low level of industrialization, or low life expectancy. In terms of size, the developing countries make up at least three-fourth of the world population. Why do we study those countries' economies separately from the industrialized economies? In fact, low economic growth, high unemployment, or high poverty rates also exist in many developed countries. The differences lie not in the types of problems but in the causes of these problems. In addition, differences in the kind of institutions that prevail in developing countries also lead to different policy prescriptions. Among developing countries, differences in historical experience, cultural practices, political institutions and economic conditions are also enormous. Illustrations and explanations of those differences are provided from a wide range of developing countries. Prereq: ECON 102.

ECON 376. Inside Financial Crises. 3 Units.

Financial crises throughout history share common elements, though each one contains aspects unique to its own era. Why do financial systems tend to develop imbalances that lead to bankruptcies and systemic collapse? What are the linkages that cause spillovers from financial systems to the broader economy? What tools are available to detect and counter financial pressures before they erupt into economic catastrophe? This course will examine these issues, by examining several recent financial collapses, including the 2007-2009 global financial crisis. We consider post-crisis legislative and regulatory responses, and ask whether they are likely to dramatically reduce the odds of another crisis. Prereq: ECON 102 and ECON 103.

ECON 377. Topics in Monetary Policy. 3 Units.

Central banks have become enormously powerful economic institutions in many countries, yet their purposes and functions are widely misunderstood. This course is designed to enrich one's understanding of how central banks, such as the Federal Reserve System, actually operate; how they have been adapting to changes in the economic and financial landscape; and how they have been adapting to changes in technology. The course will highlight current monetary policy and central banking issues being dealt with in the United States and elsewhere. The course will emphasize the connection between economic theory and the practice of central banking. Where relevant, topics will be examined from a multi-country perspective, so that the practices of several different countries may be compared and contrasted. Prereq: ECON 102 and ECON 103.

ECON 378. Health Care Economics. 3 Units.

Healthcare accounts for over one-sixth of the U.S. national economy and over one-eighth of its workforce, shares that have dramatically increased over the last 50 years. The rapid growth in healthcare spending has accompanied growing concerns about the quality and efficiency of U.S. healthcare delivery and persistent disparities in access to care. Are these concerns justified? If so, what can policymakers do - and what are they doing - to address them? The purpose of this course is to develop the analytical skills necessary for understanding how the U.S. health care sector operates, how it has evolved, the forces at work behind perceived deficiencies (in access, quality and cost control), and the expected impact of alternative policy proposals. These issues are addressed through the lens of microeconomic theory. Under this framework, outcomes result from the interaction of decisions made by participants in the healthcare economy (e.g. patients, providers, insurers, government), with those decisions governed by the preferences, incentives and resource constraints facing each decision-maker. This course should be of particular interest to students who envision future careers in healthcare delivery, healthcare management, pharmaceutical and device innovation, health insurance or public health, as well as other policy-oriented students seeking to understand the contentious issues in healthcare policymaking. Prereq: ECON 102.

ECON 380. Computational Economics. 3 Units.

Over the past two decades, computational methods have become an indispensable tool in social science studies. The goal of this course is to introduce undergraduate students to numerical methods and computer implementations for conducting modern quantitative research in economics and social sciences. In this course, we will learn about how to utilize computational methods to conduct research in several different domains, including microeconomics, macroeconomics, financial market, and empirical methods. At the conclusion of this course, students will be able to effectively apply quantitative solution methods to a wide range of economic, financial, and business issues. In addition, students will learn Python as a basic programming language. The learned programming skills will be readily applicable out of classroom. Computational economics will provide students a comprehensive experience and training in economics, computer science, and statistics. Students will be able to distinguish themselves on the job-market, as candidates ready to work in an environment that requires both economics insights and strong quantitative data/computational skills. The course will also be highly useful for students who plan to go to graduate school in either economics, business, finance or statistics. Recommended preparation but not required: basic programming experience (e.g. using Python, R, Matlab, Stata). Prereq: (ECON 102 or ECON 103) and (OPRE 207, ANTH 319, SOCI 307, STAT 201, STAT 243, STAT 312, or STAT 312R).

ECON 386. Urban Economics. 3 Units.

Microeconomic theory as taught in principles (and even intermediate) does not usually take into account the fact that goods, people, and information must travel in order to interact. Rather, markets are implicitly modeled as if everyone and everything is at a single point in space. In the first part of the course, we will examine the implications of spatial location for economic analysis. In the second part of the class, we will use microeconomic tools to understand urban problems. Topics that we will cover include urban growth, suburbanization, land use, poverty, housing, local government, transportation, education, and crime. Prereq: ECON 102.

ECON 391. Advanced Topics and Writing in Economics. 3 Units.

This course is characterized by intense yet open-ended intellectual inquiry, guided by reading from primary and secondary sources, and will include extensive practice in written and oral communication. The focus will be on contemporary economic issues and scholarship, and assumes a high level of ability in undergraduate economics training. Specifically, this course provides an avenue for an intellectual discourse on some of the most challenging present day economic issues, and we will rigorously think and write about how economic concepts can be applied to virtually any topic, issue and event in the social world. Students will be challenged throughout the course to think and write like an economist and see the world through the economist's lens. Counts as SAGES Departmental Seminar. Prereq: (ECON 308 or ECON 309) and (ECON 326 or BAFI 361).

ECON 395. Senior Capstone in Economics. 3 Units.

This course satisfies the SAGES capstone experience for economics majors, giving students the opportunity to apply their knowledge from previous coursework to conduct economic research in the role of an on-the-job economist. Opportunities to research economic issues on the American economy will be provided in two ways: one through short data analysis projects on various assigned topics and another larger project of original research on a topic of the student's choosing. For the shorter empirical assignments students will take on the role of an economist, whether it be for a company or in public policy. Students will offer both theoretical and empirical analyses of economic issues, both historical and new, such as wage discrimination, determining damages in a court case, analyzing product data for a firm, and analyzing a firm's anticompetitive behavior. For their project of original research, students will identify an applied research problem, determine an appropriate model and methodology, give a review of the literature, gather data, run an economic analysis, and interpret the results. Projects will be presented in writing, orally, and with posters. Counts as SAGES Senior Capstone. Prereq: ECON 326 and Junior or Senior standing.

ECON 397. Honors Research I. 3 Units.

All students admitted to the Honors Program will undertake an independent research project (Senior Thesis) under the guidance of a faculty member (Thesis Advisor). ECON 397 is used to define the topic, review relevant literature, formulate hypotheses, and collect appropriate data toward completing their research project. Students will have the responsibility of providing regular progress reports to their thesis advisor highlighting the work accomplished to date, the immediate challenges confronting them, and a plan to complete the project in the time remaining. Prereq: ECON 102, ECON 103, ECON 326 and ECON 308 or ECON 309; Junior standing and minimum GPA of 3.3 in ECON major and 3.0 overall.

ECON 398. Honors Research II. 3 Units.

This is the second course in a two course sequence to complete the Honors Research Program in Economics. Counts as SAGES Senior Capstone. Prereq: A grade of B or higher in ECON 397.

ECON 399. Individual Readings and Research. 1 - 6 Units.

Intensive examination of a topic selected by the student. A student must receive permission from the program administrator before the start of the term, and permission will only be granted in cases where the student has a clear learning plan and objectives in using the independent readings/research option that cannot be met through available course offerings.

ECON 427. Advanced Econometrics. 3 Units.

This class builds on the foundations of applied regression analysis developed in ECON 326. The goal of the class is to equip students with the tools to conduct a causal analysis of a hypothesis in a variety of settings. Topics will include causality, panel and time series data, instrumental variables and quasi-experiments, semi- and non-parametric methods, and treatment evaluation. Offered as ECON 327 and ECON 427.

ECON 429. Game Theory: The Economics of Thinking Strategically. 3 Units.

The term "game theory" refers to the set of tools economists use to think about strategic interactions among small groups of individuals and firms. The primary purpose of this course is to introduce students to the basic concepts of game theory and its applications. The class will stress the use of game theory as a tool for building models of important economic phenomena. The class will also include a number of experiments designed to illustrate the game theoretic results, and to highlight how reality may depart from the theory. The course will stress the value of thinking strategically and provide students with a framework for thinking strategically in their everyday lives. Rather than approaching each strategic situation they encounter as a unique problem, students will be taught to recognize patterns in the situations they face and to generalize from specific experiences. A paper on an application of game theory will be required for graduate students. Offered as ECON 329 and ECON 429. Prereq: MBAC 512 or MBAP 406.

ECON 431. Economics of Negotiation and Conflict Resolution. 3 Units.

Students frequently enroll in a negotiation class with one thought in mind—negotiating a better job offer from an employer. They soon learn, however, that negotiation skills can do far more than improve a paycheck. Negotiations occur everywhere: in marriages, in divorces, in small work teams, in large organizations, in getting a job, in losing a job, in deal making, in decision making, in board rooms, and in court rooms. The remarkable thing about negotiations is that, wherever they occur, they are governed by similar principles. The current wave of corporate restructuring makes the study of negotiations especially important for M.B.A.s. Mergers, acquisitions, downsizing and joint ventures call into question well established business and employment relationships. Navigating these choppy waters by building new relationships requires the negotiation skills that you will learn in this class. Offered as ECON 431 and ORBH 413.

ECON 438. Law and Economics. 3 Units.

This course examines legal institutions and rules from an economic perspective. Students will learn when and how legal rules can be efficient. Topics will include property law (including intellectual property), tort law, contracts, and crime. Offered as ECON 338 and ECON 438. Prereq: MBAC 512 or MBAP 406.

ECON 468. Environmental Economics. 3 Units.

Economics provides a critically important lens for understanding why environmental problems arise and persist, and the consequences of efforts to mitigate those problems. We will apply economics tools to real-world problems, such as: how can we address climate change without massive job loss? why do markets fail to prevent pollution, and how can government policy do better? Under what circumstances can companies profit by polluting less? What kinds of policies can spur the invention of green technologies? Class sessions will include guest presentations from professionals who are actively working on environmental challenges. Offered as ECON 368 and ECON 468. Prereq: MBAC 512 or MBAP 406.

ECON 501. Special Problems and Topics. 1 - 18 Units.

This course is offered, with permission, to students undertaking reading in a field of special interest.

EDMP**EDMP 611. Theory and Practice of Collective Action. 3 Units.**

The ability of autonomous and interdependent parties to coordinate actions, or to act cooperatively, affects a wide range of organizational and social problems. This course addresses the theory and practice of collective action in local, national and global contexts. Case studies of collective action problems, such as environmental protection, community revitalization, and the mobilization of interest groups will be discussed. Offered as DBAP 611 and EDMP 611. Prereq: Must be enrolled in the DM Program.

EDMP 613. Leading Change. 3 Units.

Change is an enigma and yet sustained, desirable change (SDC) drives adaptation, growth and life itself. In this course, we will continuously attempt to answer two questions: What is the process of sustained, desirable change? and What is the role of a leader? Concepts from complexity theory will be used, including understanding the multilevel nature of SDC at the individual, dyad, team, organization, community, country, and global levels. Intentional Change Theory (ICT) will be used as the organizing concept for the changes studied. Leadership and its development will be examined by studying a number of topics and applying them to three major case studies: (1) yourself; (2) practice coaching with compassion; and (3) a major change project. This course will explore questions, such as: Who are effective leaders? How do they think and act? What makes us want to follow them? How are leaders developed? What is the role of emotional and social intelligence? How does a leader's mind, body, heart, and spirit affect their performance? Offered as DBAP 613 and EDMP 613. Prereq: Must be enrolled in the DM Program.

EDMP 614. Business as an Evolving Complex System. 3 Units.

The goal of this course is to provide a foundation for understanding how business systems evolve, why the business systems in the major advanced countries have evolved differently over the last 100 years or so, and what the underlying driving forces are. The focus is on transformation rather than economic growth. The course examines the evolution of business systems as a result of technological and organizational change. It deals with the role of history, culture and finance in generating business organizations in various countries. The course also studies the emergence of regional innovation systems and industry clusters, as well as how digitization and globalization are changing the "industrial logic." Offered as DBAP 614 and EDMP 614. Prereq: Must be enrolled in the DM Program.

EDMP 616. Global Economic Systems and Issues. 3 Units.

This course provides a framework and analytical tools for understanding globalization and international economic relations in the context of the global political system. It analyzes the economic and political forces that are shaping global cooperation on economic matters, the role and impact of international economic institutions such as the World Bank, the International Monetary Fund, and the World Trade Organization, and evolving forms of regional governance, such as the European Union. It covers national and international policies and development and the causes and cures of international financial crises. The course revolves around concepts of efficiency, equality, power, and institutions in the making of public policy towards globalization of communications and transportation. Offered as DBAP 616 and EDMP 616. Prereq: EDMP 665.

EDMP 617. Technology and Social System Design. 3 Units.

Managers are designers who shape the social and technical world we inhabit. This course explores the process of design and asks how managers can become better designers and interventionists who anticipate and evaluate the social, economic, and political consequences of existing and emerging products, processes, and organizational forms. Offered as DBAP 617 and EDMP 617. Prereq: Must be enrolled in the DM Program.

EDMP 638. Qualitative Inquiry I. 3 Units.

This course explores ways to conceptualize an object of study and facilitates formulation of students' conceptual work and production of research reports at the end of the first year of the program. The course conveys how to generate research ideas by critically reviewing literature and developing ideas that contribute to a problem or issue of interest by working with theory and extending previous research. The practicality of conducting certain kinds of research is evaluated and length, intensity and ethical constraints of different research efforts are examined. Each student produces a report communicating and supporting a conceptualization of the phenomenon of interest involving independent, mediating and dependent variables. The paper defines a problem of practice, presents, both visually and in narrative form, concepts shaped by field experience and prior writing that promote understanding of the problem, and includes a research proposal describing sample, data collection and data analysis. Offered as DBAP 638 and EDMP 638. Prereq: EDMP 665.

EDMP 640. Social Ethics: Contemporary Issues. 3 Units.

The course draws upon intellectual ancestors and current thinkers in moral philosophy and ethics to assist each student in identifying, analyzing, and discussing social and ethical questions pertaining to the definition and purpose of contemporary life, the need for moral coherence, and the meaning of life in a global society. The unifying theme of the course is Tolstoy's question, "How then shall we live?" The course does not seek to provide answers to the great questions of life. Rather, it tries to expand each student's capacity to grapple with such questions. Offered as DBAP 640 and EDMP 640. Prereq: Must be enrolled in the DM Program.

EDMP 641. Qualitative Inquiry II. 3 Units.

This course guides the student in conducting the qualitative research project that was proposed in EDMP 638. Fieldwork and initial analysis is conducted during the summer when data based on semi-structure interviews is collected and analysis begins using inductive coding techniques. A summer residency is held in mid-June to assess progress as final data collection and analysis continues. The aim of the fall semester is to prepare a formal research report on that project, which will be submitted to an academic research conference. The final report includes a revision of one's conceptual model, integrating new understandings and literature arising from the data collection and analysis. Offered as DBAP 641 and EDMP 641. Prereq: EDMP 638.

EDMP 642. Directed Studies Seminar. 0 - 9 Units.

At different times during the Program, EDM students register for Directed Studies courses. The purpose of these courses is to recognize the work the students are doing to conduct and present their individualized research at a high quality level. Activities conducted under the Directed Studies courses are dedicated to the collection of qualitative or quantitative data and the preparation of research reports. Offered as DBAP 642 and EDMP 642. Prereq: Must be enrolled in DM program or PhD in Management: Designing Sustainable Systems track.

EDMP 643. Measuring Business Behaviors and Structures. 3 Units.

This course aims to develop the basic foundations and skills for designing and executing generalizable studies. It focuses on building competence in model building, construct measurement, research design, data collection methodologies, and application of analytical software commonly involved in quantitative inquiry. Covered topics include framing research questions, reliability and validity of measurement, quasi-experimental research design, and fieldwork for data collection. Classes are designed to balance between the theory and practice of quantitative research design, and will be linked to the participant's own research projects. Offered as DBAP 643 and EDMP 643. Prereq: EDMP 641.

EDMP 645. Integration of Qualitative and Quantitative Inquiry. 3 Units.

Using the mixed method research toolkit developed in previous courses, this course focuses on critically analyzing selected pieces of published applied and policy research to develop a critical appreciation of issues and debates that have wide applicability and relevance. In particular, it offers students ways to integrate and triangulate using a mixed method approach, different forms of evidence, and related evidence. In addition, this course addresses common method choice and justification issues and related challenges of validity and theory formulation that typically arise during the students' execution of a series of individual research projects. Application of critical analysis and appreciation approach in justifying mixed methods designs to the student's own research work is encouraged and supported by sharing and discussing common research and methodology themes and problems. Offered as DBAP 645 and EDMP 645. Prereq: Must be enrolled in the DM Program.

EDMP 646. Advanced Analytical Methods for Generalizing Research. 3 Units.

This course addresses advanced topics in regression and structural equation modeling such as latent growth curve models, partial least squares, logit models, tests for various types of invariance, multiple-group analysis, multilevel analysis, and analyzing qualitative/categorical data. These analytical methods are intended to enhance the student's toolkit as to facilitate a strong bridge to the academic literature and the application to specific data based problems that arise in applied managerial research. Offered as DBAP 646 and EDMP 646. Prereq: Must be enrolled in the DM Program.

EDMP 648. Causal Analysis of Business Problems I. 3 Units.

Model Building & Validation I introduces fundamental concepts in theory-based model building and validation. In this course students will develop, explore, refine and validate a range of models appropriate for addressing their problem of practice including classification models, process models, variance models, and articulating nomological networks. In particular, the course will focus on effective conceptualizations of causation, control, mediation, and moderation. Further, foundational statistical techniques such as tests of assumptions of the data, exploratory factor analysis, and regression and path analysis will be introduced. Offered as DBAP 648 and EDMP 648. Prereq: Must be enrolled in the DM Program.

EDMP 649. Causal Analysis of Business Problems II. 3 Units.

Building upon the first course in Model Building & Validation, this course will guide students through the theoretically-grounded variance models that are required for testing through structural equation modeling (SEM) in the quantitative portion of their research. Fundamental concepts in model testing will be reinforced using path analysis, and will include a deeper exploration of moderation by addressing topics such as moderated mediation and interaction effects. Beyond the analysis the course will emphasize precise and accurate formulation of theoretical models and associated reasoning, as well as careful interpretation of findings. The class will also delve into testing of data assumptions and prepare students for the model testing portion of their capstone assignments. Offered as DBAP 649 and EDMP 649. Prereq: Must be enrolled in the DM Program.

EDMP 664. Knowledge Dissemination to Influence Managerial Practice. 3 Units.

The aim of this course is twofold. First, it supports students organizing and writing their DM thesis overview or their PhD thesis proposal. Also discussed are ways to organize and communicate in scientific genres, their aims and their generic properties. Secondly, students become acquainted with scientific communication and publishing. Effective reviewing, criteria for judging articles and theses, management of review processes, and how to communicate and respond to reviews are topics discussed. The course also addresses publication strategies and ways of managing and communicating scientific and managerial knowledge to different stakeholders. Offered as DBAP 664 and EDMP 664. Prereq: Must be enrolled in the DM Program.

EDMP 665. Introduction to Research Inquiry. 3 Units.

This course begins participants' three-year research experience. Energized by one's personal passion and commitment to the topic, we seek for the work to be accomplished at a level that makes it worthy of widespread dissemination and influence as engaged scholars. The goal in this course is to prepare students to develop their minds as scholars by understanding the world of research; develop a research identity by identifying one's research domain; learn to read academic literature and write in a scholarly style; work with academic literature to identify and digest concepts and theories that inform research on that problem; begin to develop a conceptual model that abstracts how the world may be functioning in that problem domain and points to a research question that can guide the next stage of the research. The final deliverable for this course is to present the research topic with substantiation for its significance, relevance and timeliness in the management field. This would include the research question(s); the literature review; and proposed qualitative methodology and analytical approach(es). Offered as DBAP 665 and EDMP 665. Prereq: Must be enrolled in the DM Program.

EDMP 672. Flourishing Enterprise: Creating Sustainable Value for Business and World Benefit. 3 Units.

This course is designed to galvanize new visions of business and society, as well as organizational leadership. The course is born of a conviction that the future of human society and the natural world is intimately linked to the future of the world economy, business enterprises, and management education. The course presentations, books, dialogues, and interview projects are organized around three themes: (1) the state of the world and the economics possibilities of our time, (2) the business case for understanding business as an agent of world benefit—how business performance can profit from current and future advances in sustainable design and social entrepreneurship; and (3) tools for becoming a change leader—including the methods of Appreciative Inquiry and new insights about "strength-based" change emerging from the science of human strengths. The overarching aim is to provide a powerful introduction to the many facets of sustainable value creation as a complete managerial approach. Offered as DBAP 672 and EDMP 672. Prereq: Must be enrolled in the DM Program.

EDMP 673. Understanding, Designing, Managing Complex Systems. 3 Units.

The purpose of this course is to provide a perspective on systems thinking and complex systems and aid PhD students in expanding the ideas in their research on systems, systems models, and complex systems. The work of the course will develop with increasingly difficult books on the subject of complex systems, a major case study in health care, and individual applications of the concepts to their potential research model and methods. Offered as DBAP 673 and EDMP 673. Prereq: Must be enrolled in the DM Program.

EDMP 677. Designing Sustainable Systems. 3 Units.

Students in teams will recognize and work in practice on a managerial problem that involves dimensions of sustainability and design. They will develop a set of solutions to the problem by generating alternative models and intervention strategies to address the problem. The project results in a short presentation and written communication of the solution in a form of a poster or prototype. The course will also include presentations of intervention and action research approaches and issues of inquiry validation and theory development. Offered as DBAP 677 and EDMP 677. Prereq: Must be enrolled in the DM Program.

EDMP 680. Conflict & Cooperation in the Global Arena. 3 Units.

The global arena is described by some as a realm of perpetual conflict. Others argue that given the right institutions and incentives, international actors can find ways to achieve cooperation, peace and increased global prosperity. Still others suggest that the international political and economic arena is "what you make of it"—emphasizing the role of norms, identities and ideas in shaping international outcomes. This course will examine both theoretical and policy perspectives regarding the question of international conflict and cooperation, with a specific emphasis on drawing on insights from collective action theory and international relations scholarship. Offered as DBAP 680 and EDMP 680. Prereq: Must be enrolled in the DM Program.

EDMP 699. Applied Research Project Continuation. 1 - 9 Units.

This course is set up individually upon conference between the student and a DM Faculty member and is designed in consult with the DM Program Director in order to complete the student's required coursework and research requirements within the DM Program. Offered as DBAP 699 and EDMP 699. Prereq: EDMP 665.

EMBA**EMBA 417. TEAMS. 0 Unit.**

This course enables the formation of E.M.B.A. study groups and classroom learning environment by introducing participants to their adult learning styles, models of group decision-making, theories of team development and rules of engagement for effective learning teams. Prereq: E.M.B.A. students only.

EMBA 430. Health Informatics, Analytics & Decision Making. 2.5 Units.

Increasingly in today's healthcare environment, those aspiring to succeed in leadership positions are expected to know and do more than their primary discipline traditionally required. They are also expected to transform their organizations - whether they are departments or IDS's - to a higher state of quality, effectiveness, efficiency and competitiveness. To meet this expectation they must be able to harness the interrelated power of information, analytics and decision support to plan, evaluate, improve, and control their organization. This course is for executives in health care delivery, health planning, regulatory, or accrediting organizations who will be involved with, be responsible for, or oversee: The use and/or management of health or organizational information, and analytic and decision processes; The improvement / innovation of their organization's operations and decision processes; and/or The design, acquisition, implementation, and/or evaluation of health information technologies (HIT). The course is intended to develop competence and confidence in the participant's ability to understand and manage the complex information, analytics and decision environment. Prereq: E.M.B.A. candidates only.

EMBA 436. Accounting for Business Executives. 2.5 Units.

This course is an introduction to financial and managerial accounting, rather than a course in introductory accounting. This course is designed for the business professional and is intended to prepare the student to use the information prepared by accountants. It will not dwell in detail on the technical aspects of accounting or bookkeeping. In addition, this course is designed to help the student become an effective user of cost information, from the perspective of parties internal to the firm. This aspect of accounting is a compilation of techniques rather than a set of rules. Since the information is for private use, the goal is to create the most meaningful and useful data for use by managers. Assignments will be designed to develop the student's ability to analyze and interpret accounting data and to more effectively utilize accounting data in day to day business decisions. Finally, this course is intended to strengthen abilities to identify problems and opportunities, to search out and analyze desired information leading to a well-reasoned conclusion, and to perform sensitivity analysis around that conclusion, using financial information. Prereq: E.M.B.A. candidates only.

EMBA 437. Economic Analysis for Managers. 2.5 Units.

This course, which is limited to students in the Executive M.B.A. program, explores the basic elements of the economic system which the executive needs to know in order to understand how the firm interacts with the system and how economic factors affect decision making. Prereq: E.M.B.A. candidates only.

EMBA 438A. Business Statistics and Quantitative Analysis. 1.25 Unit.

In this course, students study the use of modern quantitative and business statistics to support the executive decision-making process. With the help of computer software, the models examined assist in describing and analyzing problems and suggesting possible managerial actions. The techniques discussed include tools for decision making under uncertainty including regression analysis. This course is part of a two (2) course sequence. Prereq: E.M.B.A. candidates only.

EMBA 438B. Business Statistics and Quantitative Analysis. 1.25 Unit.

In this course, students study the use of modern quantitative and business statistics to support the executive decision-making process. With the help of computer software, the models examined assist in describing and analyzing problems and suggesting possible managerial actions. The techniques discussed include tools for decision making under uncertainty including regression analysis. This course is part of a two (2) course sequence. Prereq: EMBA 438A

EMBA 439. Corporate Finance. 2.5 Units.

The central organizing principle of this course is to familiarize the class with the basics of valuation. This first course in finance introduces the tools and methods employed in valuation of projects and corporate securities. Valuation involves the determination of (i) cash flows of the firm, project or financial assets and (ii) the discount rates that are used to compute the present values of the cash flows. Asset pricing models provide the underpinnings for the development of the discount rates. The material is synthesized in capital budgeting exercises which are cost-benefit analyses of capital project cash flows to evaluate whether they are value enhancing. Prereq: E.M.B.A. candidates only.

EMBA 441. Leading Change: Self. 2.5 Units.

The primary objective of Leading Change: Self is to learn a method for assessing your knowledge, abilities, values, and interests relevant to leadership and executive management so that you will be able to develop and implement a plan for enhancing your leadership and executive capability throughout your career and life. The enabling objectives are: (a) To systematically identify your current and desired capability (i.e., knowledge, abilities, values, and interests); (b) To develop an individualized learning agenda and plan for the next 3-5 years; and (c) To explore techniques to assist others in doing the same. This course will explore questions, such as: Who are effective leaders? How are they different than managers? How do they think and act? What makes us want to follow them? How are leaders developed? How can people help others become effective leaders? What type of leader do I want to be? And, what can I do to become that type of leader? Prereq: E.M.B.A. candidates only.

EMBA 442. Innovation. 2.5 Units.

Organizations are under continuous pressure to be efficient and productive in order to generate (often short-term) profit. At the same time they must innovate to remain competitive in the long-term. Innovation involves the generation, development, and delivery of new products, processes, or businesses. Intrapreneurs are those who can successfully bring new ideas to fruition in established organizations. Innovation in the context of an established organization requires that intrapreneurs fundamentally understand the dynamics of innovation and innovation management. This course introduces fundamental concepts associated with innovation in the context of an established organization. Prereq: E.M.B.A. candidates only.

EMBA 443. Supply Chain Management. 2.5 Units.

Operations managers, ranging from supervisors to vice presidents, are concerned with the production of goods and services. More specifically, they are responsible for designing, running, controlling and improving the systems that accomplish production. This course is a broad-spectrum course with emphasis on techniques and information that are helpful to the practice of management in general and at any level. We will discuss commonly occurring application problems such as process analysis, inventory control, quality management, just-in-time concepts, etc. The field of operations management was originally concerned with manufacturing systems. But many of the same ideas apply, and the same trade-offs are present, in service organizations like health care, insurance, hotel-management, airlines and government related operations. Several manufacturing and non-manufacturing environments will be discussed explicitly, and the emphasis will be on the fundamentals of the operations function in an organization. Also we will explore the interface of operations management with other functional areas such as marketing, finance, accounting, etc. Prereq: E.M.B.A. candidates only.

EMBA 445. Expanding Boundaries. 2.5 Units.

This course will help you understand the keys to successful corporate development-competitive advantage in every business in which a firm is involved. In particular, the course will help the participants to understand the following: -Corporate development strategy through capabilities and leveragable capabilities -Before venturing into a new business, the firm has to have a clear understanding of the critical capabilities required for success in the new business. -Firms can increase the odds of success if they can leverage (parts of) existing capabilities to new businesses. -Corporate development strategies-adapting to a market -Analyze the industry environment in order to select the competitive battlefield to increase the odds of success by leveraging some of your existing capabilities - sometimes also known as core competencies. This is a relatively low risk strategy. We will develop methodologies that will allow you to identify markets (segments) where your current capabilities are leveragable. -Shaping a market usually requires developing a completely new set of capabilities - very risky. We will develop concepts to understand techniques to mitigate these risks. -Acquisitions as one of the means for corporate development -Approximately half of the class sessions will be devoted to the specific case of acquisitions as a means to expand the boundaries of a firm. We will explore both how acquisitions contribute to competitive advantage and the selection process and integration of the acquired entity. Less emphasis will be placed on strict financial valuations and negotiations. Prereq: E.M.B.A. candidates only.

EMBA 446. Managing Risk and Real Options. 2.5 Units.

The course seeks to help corporate managers understand how financial design can be used to advance the goals and strategies of the firm. In the Finance course, you concentrated almost exclusively on the firm's capital expenditure decision. You studied in great detail the discounted cash flow model, NPV, how you get your cash flows, and how you discount according to risk. Now we move to the other side of the balance sheet to look at how the firm can finance these expenditures. The first part of this class provides the basic building blocks of financial engineering which begins with call and put options. The course focuses on using derivatives (calls and puts) to change a firm's risk profile with respect to equity, interest rate, foreign exchange, credit, and commodity risks. We look at capital structure decisions and securitization issues and discuss what it means to create optimal structures. Almost immediately we will tie this to our financial crisis and obtain an appreciation for financial designs that could be setup so as to enhance firm value, mitigate systemic risks, or accomplish specific sustainable goals in a global economy. The second part of the class is geared towards real options and its relationship to strategic planning. In competitive markets, no one expects to formulate a detailed long-term plan and follow it mindlessly. As soon as we start down the path, we begin learning about business conditions, competitors' actions, and so forth and we need to respond flexibly to what we learn. Unfortunately, the financial tool most widely relied on to estimate the value of strategy, DCF, assumes that we follow a predetermined plan, regardless of how events unfold. A better approach to valuation would incorporate both the uncertainty inherent in business and the active decision making required for strategy to succeed. Prereq: E.M.B.A. candidates only.

EMBA 449. Contemporary Issues in Management. 2.5 Units.

This course is intended to address the contemporary issues in management to be decided by faculty and student interest. With the current global economic crisis, this year the course will focus on International Finance and Economics. In subsequent years, the topics will evolve as the global business climate changes. Prereq: E.M.B.A. candidates only.

EMBA 450. Managerial Marketing. 2.5 Units.

This course is designed with three overarching objectives. The first is an emphasis on decision making in a broad range of market contexts. The second objective builds on the notion that decision making is dynamic; that is, market situations demand not just one good decision but a series of them as a situation unfolds (providing new and varied information for each subsequent decision). Integrating concepts from a number of the courses that you are taking concurrently into decision-making about markets is a final objective. Prereq: E.M.B.A. candidates only.

EMBA 451. Business Model Design. 2.5 Units.

In most companies the process of designing business models is an ad hoc process and in my opinion an inefficient process. In this course you will learn a systematic but iterative process to do this. We will expose you to some broad categories of business models and internalize the basic logic of how to make money in each of these categories. The first step is to recognize which of these categories is most applicable to your business. The second step is to customize these broad patterns to the specifics of the business at hand. This seems easy because everything is in English and there are no hard formulas to figure out. However, unless you discipline yourself to systematically go through a structured process (there are other equally valid processes than the ones you'll be exposed to) it is very easy to fall into the ad hoc trap. You will internalize this process by applying it over a wide range of business situations that will give you confidence in its applicability to any business opportunity. After the completion of this course you should be quickly able to draw the outline of a business model for any business opportunity that you're considering. Prereq: E.M.B.A. candidates only.

EMBA 458. Healthcare Financial Management. 2.5 Units.

This course will consider basic financial concepts, techniques, and strategies for institutions and companies in the U.S. health care delivery system. Note that this may differ from the influences one would find in a different country since the payment system and ownership structures vary widely around the world. These basics include relevant factors in the economic, medical, and financial environment that shape an intelligent financial decision. Therefore, although the course is directed towards financial management decisions in health delivery organizations, it may also be useful for those who supply the industry (equipment, drugs and services), purchase services from it (employers, third party administrators, health plans) or finance these (insurance, banking, investors). Public policy and the structure of the industry also play an important role in the course. However, the general approach is from the point of view of a decision-maker in a health care organizational setting dealing with issues with important economic or financial dimensions. Prereq: E.M.B.A. candidates only.

EMBA 459. Health Economics and Strategy. 2.5 Units.

The central goal of this course is for students to master essential economic concepts and their application to critical issues in the U.S. healthcare economy. After taking this course, students should be able to:

1. Understand basic microeconomic theory as it applies to firm and consumer behavior in healthcare and health insurance markets.
2. Understand the role of market forces (including market failures) and public policy in determining the price and allocation of medical services.
3. Understand the underlying causes of "changing market conditions" and the challenges and opportunities they create for healthcare organizations.
4. Converse fluently and accurately about the economic forces at play in the healthcare economy.

Prereq: E.M.B.A. candidates only.

EMBA 464. Legal Environment. 2.5 Units.

This course provides a brief overview of the legal system that managers face, with an emphasis on contracts, corporate law, property rights and the modern regulatory apparatus of government. Contracts include full coverage of the Uniform Commercial Code. Corporate law is the capstone of the consideration of other forms of business organizations such as partnerships. Regulatory areas include employment law and environmental law. Property coverage includes modern struggles over intellectual ownership claims (patents, copyrights, etc.). Prereq: E.M.B.A. candidates only.

EMBA 472. Leading Change: The Organization. 2.5 Units.

Participants in this course will be challenged to enhance their leadership capacity by assessing and analyzing the knowledge, abilities, values and interests relevant to executives. The course will also explore the art of reading and understanding organizations in ways that help us imagine, design, and develop organization excellence. Prereq: E.M.B.A. candidates only.

EMBA 473. Leading Change: Teams. 2.5 Units.

Sustainability of effective leadership is necessary for adaptive, resilient organizations and for the health and functioning of the leader. Chronic stress results in diminished cognitive functioning, as well as poor health and a contagion of negative mood in organizations. The latest advances in social neuroscience and endocrinology will be used to develop an understanding how someone in a leadership position can renew themselves and mitigate the ravages of chronic stress. The short course will focus on how to coach others toward renewal and sustainability. Prereq: E.M.B.A. candidates only.

EMBA 475. Managing in a Global Economy. 3 Units.

This course is designed to present first-hand issues in international management. It accomplishes this by means of readings, a written assignment and, most importantly, an international trip designed to witness different management cultures, styles and environments for business in the international community. Faculty responsibility rests with the Faculty Director of the E.M.B.A. Program as well as a "Resident -Faculty" specific to each field trip. Such faculty are drawn from the Weatherhead community and vary by the design and destination of the trip. In addition, the course is staffed by an administrative assistant from the complement of Dively CMDR staff. Occasionally and where appropriate, there is also "in-tourist" assistance in some of our foreign locations Prereq: E.M.B.A. candidates only.

EMBA 476. Corporate Governance and Dialogues in Healthcare. 2.5 Units.

The course incorporates insights from leaders in a number of dialogue sessions and is grounded in the following themes: -The role of the board of directors; -Leadership in healthcare organizations; -The CEO relationship to the firm's principal stakeholders (shareholders, board of directors, employees, customers) and the CEO's responsibility to give back (time and money) to the community; -CEO role in developing and maintaining the organization's vision, values and corporate culture. Prereq: E.M.B.A. candidates only.

EMBA 478A. Leading Design in Organization. 1.25 Unit.

This course explores the ideas and methods of design as a new approach to management practices that is well suited to the changing environment that organizations face in contemporary culture and the emerging economic environment in the United States and abroad. It is a studio course as well as a seminar, because it is designed around a project that each student brings to the EMBA program, a project that is grounded in the issues and operations of the student's organization or in the kind of organization that the student wishes to explore. In addition to the yearlong project, the course will also include important readings in management and organizational literature that are relevant to the new direction of strategic thinking. Finally, the course will draw on the expertise of other faculty at the Weatherhead School of Management who will be called upon to share their practical expertise and theoretical knowledge in the development and execution of the student's management design project, whether in the area of vision and strategy, new product development of goods and services, operations, organizational design and configuration, or related topics. This is the first part of a two semester course. Prereq: E.M.B.A. candidates only.

EMBA 478B. Leading Design in Organizations. 1.25 Unit.

This course explores the ideas and methods of design as a new approach to management practices that is well suited to the changing environment that organizations face in contemporary culture and the emerging economic environment in the United States and abroad. It is a studio course as well as a seminar, because it is designed around a project that each student brings to the EMBA program, a project that is grounded in the issues and operations of the student's organization or in the kind of organization that the student wishes to explore. In addition to the yearlong project, the course will also include important readings in management and organizational literature that are relevant to the new direction of strategic thinking. Finally, the course will draw on the expertise of other faculty at the Weatherhead School of Management who will be called upon to share their practical expertise and theoretical knowledge in the development and execution of the student's management design project, whether in the area of vision and strategy, new product development of goods and services, operations, organizational design and configuration, or related topics. This is the second part of a two semester course. Prereq: E.M.B.A. candidates only.

EMBA 479. Leading Change: Society. 2.5 Units.

This course explores a proposition: that business, the motor of our society has the opportunity to be a new creative force on the planet, a force that could contribute to the well being of many. Our exploration and search is for "business as an agent of world benefit" and the questions are many: what does it look like, where is it happening, what are the market, societal and leadership enablers, and what are the results? Prereq: E.M.B.A. candidates only.

ENTP**ENTP 301. Entrepreneurial Strategy. 3 Units.**

This course is designed to show students how to identify potential business opportunities, determine what constitutes a good business model, and to strategically implement a business proposal. Topics of focus include an overview of the entrepreneurial process, determinants of venture success in high tech and other business environments, and strategies for industry entry and venture growth. Prereq: At least Sophomore standing.

ENTP 302. Creativity in Design & Business: Sources of Perception, Imagination, & Creative Thinking. 3 Units.

The goal of this course is to develop skills and techniques for creative problem solving. The course is for anyone interested in design, the development of new products and services, and strategies for change in organizations and society. It is useful wherever we face challenging situations that require imagination, new ideas, and innovative approaches in a rapidly changing world. At its core, creativity is an issue of perception. Learning to change one's perception from what is known, comfortable, and familiar to what is unknown and potentially valuable and rewarding is the challenge of this course. We will explore a wide variety of methods, techniques, and tools for encouraging new perceptions. There will be useful readings, but also exercises and projects for individuals and teams to develop new strategies of creative thinking. Offered as DESN 302 and ENTP 302.

ENTP 308. Business Model Design and Innovation. 3 Units.

This course takes the perspective of entrepreneurs or business unit managers. The three basic questions that all entrepreneurs and entrepreneurs must answer is where to play, how to win and what to do. You have identified a group of customers for your product or service (where to play). Your first challenge is to know what features (Customer Attributes) your target customer will pay for. Innovative business models focus on a set of customer attributes that are usually very different from other industry incumbents that we call Focal Attributes. Your second challenge is to clearly state your profit logic -- how you will make money -- how to win. The concept called Profit Objectives (similar but not the same as KPI and/or SMART objectives) allow you to operationalize the profit logic through specific and measurable deliverables. Your third challenge is building the value chain that can deliver these focal attributes (what to do). At this point, you have a good understanding of all the elements of your business model and in particular, how the focal attributes and the value chain align with the profit objectives. You will learn how to illustrate this alignment through a mapping process. Offered as DESN 308 and ENTP 308. Prereq: Junior standing or higher.

ENTP 310. Entrepreneurial Finance. 3 Units.

This course explores the financing and financial management of entrepreneurial new ventures. The course will focus on issues of financial management of new ventures (forecasting cash flows, cash flow management, valuation, capital structure) and the various financial methods and mechanisms available to entrepreneurs (bootstrapping, angel investors, venture capitalists, IPOs). Offered as ENTP 310 and ECON 312.

ENTP 311. Entrepreneurship and Wealth Creation. 3 Units.

This course explores all aspects of the creation of a new venture from idea through startup, growth, and beyond. Students will learn how to evaluate opportunities, develop strategies, create a business plan and acquire financing for a new venture. In this course students will develop a business plan for a new venture.

ENTP 428. Entrepreneurship and Innovation. 3 Units.

In all companies, new and old, large and small, innovation and entrepreneurship are important ways economic value is created. Whether a person wants to found their own company or work in an existing one, and whether one wants to run a business or simply work in one, it is difficult to go through one's career without needing to engage in innovation or entrepreneurship. The purpose of this course is to equip students to think about how to manage innovation and entrepreneurship. The course will provide frameworks and tools for understanding four important dimensions of innovation and entrepreneurship: (1) Identifying and evaluating opportunities for the new products, processes, ways of organizing, materials, and markets; (2) assessing the needs of customers for new products and services and developing products and services that fulfill those needs; (3) creating strategies to financially benefit from investing in innovation and entrepreneurship; and (4) designing groups and organizations to be innovative and entrepreneurial.

ENTP 501. Special Problems and Topics. 1 - 18 Units.**FNCE****FNCE 401. Financial Orientation. 1.5 Unit.**

This is a mandatory preparatory/refresher course for all entering Master of Finance students. It will cover basic topics in statistics, financial accounting and in financial management, so that all students can hit the road running with the other core courses in the first semester. Prereq: For Master of Finance students only.

FNCE 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 and FNCE 403. Prereq: For Master of Finance students only.

FNCE 403C. Financial Management. 1.5 Unit.

Serves as a prerequisite for several advanced electives in banking and finance. Its purpose is to familiarize the student with the theory and application of models used in financial decision-making by corporations. Issues relating to efficient markets, financing decisions, capital budgeting, risk and return, and securities valuation are among the topics considered. Prereq: For Master of Finance students in Shanghai, China

FNCE 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 Master of Finance students only.

FNCE 404C. Financial Modeling & Value. 1.5 Unit.

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 analysis. Prereq: For Master of Finance students in Shanghai, China

FNCE 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 Master of Finance students only.

FNCE 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 Master of Finance students only.

FNCE 428C. Financial Strategies 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 Master of Finance students in Shanghai, China

FNCE 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 Master of Finance students only.

FNCE 429C. Portfolio Management and Asset Allocation. 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 Master of Finance students in Shanghai, China

FNCE 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 Master of Finance students only.

FNCE 430C. Derivatives Markets and Models. 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 Master of Finance students in Shanghai, China

FNCE 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: For Master of Finance students only.

FNCE 431C. Fixed Income Markets and Models. 1.5 Unit.

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: For Master of Finance students in Shanghai, China

FNCE 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: For Master of Finance students only.

FNCE 432C. Corporate Risk Management. 1.5 Unit.

This is a unique strategic 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. The course is designed in a manner such that it would be of use to executives of all corporations, financial and nonfinancial, across all functional areas. Prereq: For Master of Finance students in Shanghai, China

FNCE 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: For Master of Finance students only.

FNCE 433C. Quantitative Risk Modeling. 3 Units.

This course exposes students to state-of-the-art quantitative techniques in risk modeling. The course covers the analytical as well as simulation based implementation of different types of risk models using Excel, including several Value-at-Risk (VaR) models. It also covers volatility modeling, correlation estimation, extreme value theory, back-testing, and stress testing of risk models. This course is for Master of Finance (China) students. Prereq: For Master of Finance students in Shanghai, China

FNCE 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.

FNCE 434C. Financial Econometrics. 3 Units.

This course represents a rigorous study of the latest developments in the area of financial econometrics. It assumes that you have had a basic statistics class and that you have had regression analysis. It is taught using economic motivations and examples from the financial world. The course concerns modern econometric topics like time-series forecasting, volatility modeling, and panel data analysis. Various concepts and approaches in the course will be subjected to real world data. Students are expected to have basic knowledge of the fundamentals of corporate finance and statistics. The course aims at providing a lasting conceptual framework for model building using modern applied econometric techniques commonly employed in finance. Prereq: For Master of Finance students in Shanghai, China

FNCE 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: For Master of Finance students only.

FNCE 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 Master of Finance students only.

FNCE 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 Master of Finance students only.

FNCE 436D. Individual, Team, and Career Development. 0 Unit.

This course is designed to focus on three areas of development critical to a student's personal and professional success: individual, team, and career development. This will be accomplished through a project with a company so that students get a real-life experience related to their field of study. This experience provides students with the opportunity to explore their career interests while applying knowledge learned in the classroom in a real-life setting. The experience also helps students build their professional networks and be part of a team assigned to work on the corporate project.

FNCE 440. Financial Decisions Modeling and Analytics. 3 Units.

The firm is a nexus of contracts among its various stakeholders (e.g., managers, shareholders, debt holders). In this course, we will examine Valuation, Quantitative Analysis of Real Options, Asymmetric Information, Agency Cost, Incentive Contracts and Performance Metrics, Regulation and Reputation. The takeaway learnings from this course are: (a) Understanding how value can be created or destroyed, (b) Measuring/quantifying value using financial big data, (c) Understanding the links between capital structure and asymmetric information, market reactions and signaling, agency and management incentives, taxes and shareholder, bondholder conflicts, (d) Understanding the links between payout policy and informational content, market reaction, stock returns and signaling, and clientele effects, and (e) design of Performance Metrics. We will download corporate financial data (financial big data) from research databases, and conduct empirical analysis to understand the value implications of financial decisions. Excel/SAS will be used. We will analyze case studies and real-world events. Prereq: For Master of Finance students only.

FNCE 440C. Financial Decisions, Contracting and Value. 1.5 Unit.

This course exposes the students to in-depth treatment of topics that include investment decisions, financing decisions, payout decisions, contracting decisions and performance metrics, internal control systems, risk management, real options, diversification and valuation. Topics covered may vary from semester to semester. Prereq: For Master of Finance students in Shanghai, China

FNCE 441AC. Global Banking and Capital Markets I. 1.5 Unit.

This course will expose students to Banking and Capital Market Structure, Practices, and Regulations. Topics covered include the financial services industry, especially commercial banking and investment banking, regulatory framework, market reactions to various corporate events, understanding risk, the return demanded by investors, activists involvement in target firms, and market reactions to such events. 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. Prereq: For Master of Finance students in Shanghai, China

FNCE 441BC. Global Banking and Capital Markets II. 1.5 Unit.

This course will expose students to Banking and Capital Market Structure, Practices, and Regulations. Topics covered include the financial services industry, especially commercial banking and investment banking, regulatory framework, market reactions to various corporate events, understanding risk, the return demanded by investors, activists involvement in target firms, and market reactions to such events. 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. Prereq: For Master of Finance students in Shanghai, China

FNCE 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: For Master of Finance students only.

FNCE 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 Master of Finance students only.

FNCE 450C. Corporate Valuation and M&A Restructuring. 1.5 Unit.

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 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 recapitalization, 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, pensions 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: For Master of Finance students in Shanghai, China

FNCE 455C. A Foundation in Basic Concepts of Innovations and Applications for Financial Technology. 1.5 Unit.

Over last few years, field of finance has experienced a burst of technological advances that have disrupted and transformed traditional methods of accessing, allocating, and transferring capital. Understanding the evolution of traditional finance methods is increasingly important for finance students so they can meaningfully distinguish advantages and disadvantages of traditional versus emerging methods and models. Main objective of course is to provide foundation in basic concepts of these innovations and their applications. It is this collective financial technology focus that has garnered the name of FinTech. This course will cover many aspects of FinTech proliferation, from notable successes to current innovations and thoughts about future opportunities. Topics will include FinTech applications, blockchains, cryptocurrencies, crowdfunding, payment systems and trading technology. This list may change from semester to semester, in tune with changing technology and as business models become disrupted. Prereq: For Master of Finance students in Shanghai, China

FNCE 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: For Master of Finance students only.

FNCE 460C. Investment Strategies. 1.5 Unit.

The class describes some of the main strategies used by hedge funds and provides a methodology to analyze them. In class and through exercises, the strategies will be illustrated using real data and students will learn to use "back testing" to evaluate a strategy. Throughout the semester, we will discuss the economics underlying these strategies and we will analyze why certain strategies might work and why others might not. The class also covers institutional issues related to short selling, liquidity, and performance measurement. The class is fairly quantitative. As a result of the advanced techniques used in state-of-the-art hedge funds, the class requires the students to work hard, analyze and manipulate real data, and use mathematical modeling.

FNCE 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 Master of Finance students only.

FNCE 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 Master of Finance students only.

FNCE 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: For Master of Finance students only.

FNCE 480C. International Finance. 1.5 Unit.

This course introduces students to international finance and foreign exchange risk management by corporations. Topics include foreign exchange markets and international financial institutions; fx contracts; exchange rate risk and corporate risk management; and international aspects of long-term financing. Prereq: For Master of Finance students in Shanghai, China

FNCE 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: For Master of Finance students only.

FNCE 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. Prereq: For Master of Finance students only.

FNCE 493. Blockchains and AI: Applications in Finance and Business. 3 Units.

It behooves today's business leaders to be well acquainted with blockchain technologies and AI (Artificial Intelligence), two seemingly disparate technologies that have the potential to fundamentally disrupt a wide range of businesses. The popularity of blockchain technologies has increased exponentially since the release of bitcoin in 2009. While bitcoins garnered a lot of attention during the initial days, the focus has shifted over time to the underlying technology: blockchain. This wildly innovative technology has made possible tasks that were hitherto deemed implausible: validate ownership in a digital asset, verify the true state of a transaction without relying on a costly intermediary etc. The list of businesses that are impacted by this technology makes for an impressive reading: supply chain, health care, insurance, foreign exchange transfers, real estate, etc. If the emphasis of blockchain technology is on trust, that of Artificial Intelligence is on predictions. Accurate predictions and sound judgements are two critical ingredients of any decision making process. While the jury is still out on whether algorithms can make sound judgements, recent developments in a field called machine learning (and its sub-field, deep learning) have led to dramatic improvements in the accuracy of predictions made by these algorithms. Significantly, this gain in accuracy has been accompanied by a reduction in overall costs. These in turn have spurred the recent interest in AI. Organizations that have enabled AI at the enterprise level appear to be making more informed decisions and innovating new products. In this course, we will unpack these technologies and examine a wide range of relevant business use cases. Our objective is to provide a practical introduction to these key technologies and their business implications. We focus on business perspectives, rather than on the technical dimensions. Fittingly, this course is open to all graduate students of Weatherhead School (MBA and all specialty Masters). Students are not expected to have any specific programming background; however, a basic understanding of statistics is required to better appreciate the discourse on Artificial Intelligence. Offered as BTEC 493 and FNCE 493.

FNCE 494. Artificial Intelligence for Financial Modeling. 3 Units.

This is a hands-on course on Artificial Intelligence (A.I.) where the emphasis is not only on understanding the theoretical underpinnings of various AI models but also on building, evaluating, and critiquing A.I. models as they apply to the finance industry. This course begins with an introduction of Machine Learning models; various key ideas such as bias-variance tradeoff, cross-validation, regularization techniques are introduced with relevant examples from Finance. The course then proceeds to discuss Artificial Neural Networks and its relevance to Deep Learning. Foundational ideas such as back-propagation are discussed in sufficient detail; we also lay a lot of emphasis on evaluating the performance of all these models. A key objective of this course is help students build cutting-edge A.I. models that are ready for prime time, i.e., real-life applications. Fittingly, we work with several real-life datasets and case studies from banking and finance. We will work with three case studies, each of which span multiple sessions. -In the first case study, students use Machine Learning algorithms to understand how imbalanced datasets are handled in real-life. -In the second study, students use time series data and learn not only about the power of regularization techniques but also to highlight the prominence of A.I. in financial markets. -In the third case study, students learn how to use cutting-edge Deep Learning models to extract sentiments from disparate news sources; these are in turn used to generate trading strategies. By contrasting the effort that goes into and the payoff obtained from Machine Learning and Deep Learning models, students gain an intuitive appreciation of both these classes of models. Offered as BTEC 494 or FNCE 494.

HSMC**HSMC 404. Managing People and Organizations. 3 Units.**

Examines the behavioral sciences relevant to the effective management of people and the effective design of human resources system, structure and policies. Topics include leadership, change management, motivation and pay systems, team dynamics, staffing, decision making, organizational communications, employee participation, performance appraisal, conflict management, negotiation, work design, organizational design, and organizations culture. A variety of methods, including experiential and interactive learning methods, are used to study these topics. Prereq: Master of Healthcare Management students only.

HSMC 407. Managerial Marketing. 3 Units.

Through lecture, discussion, cases, projects and/or simulations you will learn theory and practice of how firms develop processes to understand, create and deliver "triple bottom line" value (i.e., economic, social and environmental) to business and/or consumer markets. Specifically in this course, we take the perspective that marketing is a process of creating value for firms, customers, and other stakeholders through mutually desirable exchanges. This is the foundation of a customer orientation and a central theme of market-driven management. Methods for strategic marketing planning, understanding buyer behavior, market analysis, segmentation and devising integrated marketing programs are introduced. Prereq: Master of Healthcare Management students only.

HSMC 411. Identifying Design Opportunities. 3 Units.

Designing is giving form to an idea for a more desirable product, service, process or organization, and refining the idea into something that can be delivered reliably and efficiently. Good design integrates these evolving ideas with the day-to-day realities of a firm's operations, systems, marketing, economics, finance and human resources. Designing is thus a unique managerial activity that brings together changing technologies, capabilities, relationships, activities and materials to shape an organization's plans and strategies. It combines analysis and synthesis to create opportunities for improvement and means of attaining them. Viewed this way, designing is a core competence of a successful entrepreneur or innovative leader. Design analysis is the systematic review of the four orders of design found in every firm—namely, the firm's communications, products, interactions and environments—and the creation of opportunities to increase firm value by improving each. Students will identify ill-defined, ill-structured problems within organizations. Such problems are ones for which there are no definitive formulations and for which the formulation chosen affects the solutions available. For such problems, there is no explicit way of knowing when you have reached a solution, and solutions cannot necessarily be considered correct or incorrect. But finding innovative solutions to such problems can provide unique opportunities to create exceptional value. A major outcome of the semester's inquiry is a presentation of the design problem and proposed design solution. Prereq: Master of Healthcare Management students only.

HSMC 412. Lean Services Operations. 3 Units.

The course will be delivered over four modules: 1) Service Process Blueprints, 2) Managing Capacity in Service Systems, 3) Mapping the Value Stream (current and future state), and 4) Inventory Management in Service Systems. The topics considered are viewed in the context of healthcare management, financial services, insurance firms, call centers, back-office operations, and other applications. Through these topics, the participants will be trained in tools that help them understand customers' expectations and needs and to identify service system characteristics that can meet these needs. We will learn how to identify errors in service and troubleshoot these problems by identifying the root causes of errors. Subsequently, we will discuss how one can modify the product or service design so as to prevent defects from occurring. Finally, we will establish performance metrics that help evaluate the effectiveness of the Lean system in place. These efforts will result to improved quality. This course is not oriented toward specialists in service management. Its goal is to introduce you to the environments and help you appreciate the problems that operations managers are confronted with. Then, we will typically discuss some system specifics and emphasize the principles and issues that play key role in their management. Offered as HSMC 412 and OPMT 412. Prereq: Master of Healthcare Management students only.

HSMC 420. Health Finance. 3 Units.

Exploration of economic, medical, financial and payment factors in the U.S. healthcare system sets the framework for the study of decisions by providers, insurers, and purchasers in this course. The mix of students from various programs and professions allows wide discussion from multiple viewpoints. Offered as BAFI 420 and HSMC 420. Prereq: (MBAP 402 or MBAC 502 or ACCT 401H) and Master of Healthcare Management students only.

HSMC 421. Health Economics and Strategy. 3 Units.

The purpose of this course is to develop the analytical skills necessary for understanding how the U.S. health care sector operates, how it has evolved, the forces at work behind perceived deficiencies (in quality and cost control), and the impact of alternative policy proposals. Special attention is given to recent developments in the healthcare marketplace, and the strategic considerations they create for providers and insurers. These issues are addressed through the lens of microeconomic theory. Under this framework, outcomes result from the interaction of decisions made by participants in the healthcare economy (e.g. patients, providers, insurers, government), with those decisions governed by the preferences, incentives and resource constraints facing each decision-maker. Principles of microeconomics will be reviewed as necessary to ensure consistent understanding of basic concepts. The course is designed to appeal to a broad audience, particularly students interested in healthcare management, public health, medical innovation, health law, and public policymaking. Offered as HSMC 421 and MPHP 421.

HSMC 425. Dialogues in Health Care Management. 3 Units.

Dialogues in Healthcare Management is designed to serve students in the MSM-Healthcare management program. The course seeks to educate students of the intricacies related to specific management challenges that arise in the context of healthcare delivery. This is accomplished through a process of facilitated dialogs with experienced healthcare management professionals. Drawing on the experiences and deep contextual knowledge of these professionals, the course provides students an opportunity to synthesize and apply their prior coursework to better understand the challenges and opportunities that managers face to improve organizational performance. Prereq: Master of Healthcare Management students only.

HSMC 432. Health Care Information Systems. 3 Units.

This course covers concepts, techniques and technologies for providing information systems to enhance the effectiveness and efficiency of health care organizations. Offered as HSMC 432 and MPHP 532.

HSMC 446. Models of Health Care Systems. 1.5 Unit.

This course is for professionals who will pursue their careers in, or associated with, the health care industry; and therefore, need to understand the structure, operations and decision influences in the health care delivery system. The course is intended to develop competence and confidence in the participant's ability to understand and operate in the industry, the largest and, perhaps, the most complex in the United States. It is applicable to the private and public, profit and not-for-profit sectors. In this course students are introduced to: the different systems of care delivery; their organization and operations; their markets and the nature of the demand for their services; and the dynamics of their interoperation among themselves and with other entities in the industry (e.g., payors/insurers, regulators and accreditors, technology and pharmaceuticals suppliers). Offered as HSMC 446 and IIME 446.

HSMC 447. Regulatory Affairs for the Biosciences. 1.5 Unit.

This mini-course introduces students to the Food and Drug Administration (FDA) and the laws and regulations it enforces. A scientific regulatory agency with far reaching enforcement authority, FDA is the most powerful consumer protection agency in the world. This course will familiarize students with FDA's mission, philosophy and organizational structure, as well as policy and procedure it uses to ensure the safety and effectiveness of the food, drugs, biologics, cosmetics, medical devices and radiation-emitting products it regulates. Recommended preparation: Enrollment in the MEM Biomedical Entrepreneurship Track. Offered as BIOS 447, HSMC 447, and IIME 447.

HSMC 456. Health Policy and Management Decisions. 3 Units.

This seminar course combines broad health care policy issue analysis with study of the implications for specific management decisions in organizations. This course is intended as an applied, practical course where the policy context is made relevant to the individual manager. Offered as HSMC 456 and MPHP 456.

HSMC 457. Health Decision Making & Analytics. 3 Units.

The goals of this course are to: (1) introduce the sources of data healthcare that managers can exploit to improve decision-making in their organizations; (2) examine health decision making styles, approaches and impediments; (3) provide a framework for medical informatics and how information technology can be exploited to pursue organizational goals; and (4) examine the analytic tools necessary for turning "raw data" into actionable information. The course is pragmatic, covering such issues as the current state and emerging trends in medical informatics (MI), information principles, decision models and analytics approaches, as well as the impact of emerging health legislation, information systems and processes on decisions and analytics.

HSMC 501. Special Problems and Topics. 1 - 18 Units.

This course is offered, with permission, to students undertaking reading in a field of special interest.

MBAC**MBAC 500. Probability, Statistics, and Quantitative Methods. 0 Unit.**

This 0 credit hour pass/fail course is designed to provide MBA students with all of the basic statistics and mathematics background material, as well as some experience with EXCEL and the statistics software package SPSS, that is needed in a number of their required core courses. Prereq: Full-time MBA program only.

MBAC 502. Financial Accounting. 3 Units.

This course covers financial accounting: concepts, principles, and analyses. The major emphasis is development of an understanding of accounting information and reporting to enable you to be an effective manager. Although considerable importance is placed on the evaluation, interpretation, and analysis of accounting information for decision making: the fundamentals of accounting measurement and disclosure are also covered. Prereq: Full-time MBA program only.

MBAC 503. Managerial Accounting. 1.5 Unit.

This course focuses on managerial accounting. Upon completion of the course, students should be comfortable with the following: -understanding the basics of commonly used costing methods. -creating and analyzing a budget. -analyzing departmental, divisional and corporate performance. -using data to make business decisions using managerial accounting techniques, and understanding the basic concepts of management decision analysis and the related vocabulary. Specifically, the course helps provide some answers to the following questions: -How is management accounting information prepared and reported, and how can it be understood and analyzed? -How can the analysis of management accounting and other data help management better understand the drivers of the company's financial performance, the strengths and weaknesses of the company's operations and management, and the risks and opportunities facing it? -How can the analysis of financial and other management information enable management to make the best decisions to address the risks and opportunities of its operations? The goal of this class is to move you from simply "doing the work and forgetting it" to helping you gain knowledge and a basic skill set that you will be able to apply to real-life opportunities. Prereq: Full-time MBA program and (MBAP 402 or MBAC 502).

MBAC 504. Corporate Finance I. 3 Units.

This is a MBA core finance course. In this course, students are introduced to the basics of corporate finance, including the objectives of and the decisions made by corporate financial managers. Topics covered include time value of money, stock and bond valuation, cost of capital, risk and return, investment decision rules, cash flows and free cash flows, cash flow projections and planning, and capital budgeting. Other topics may be covered from time to time. Prereq: Full-time MBA program only.

MBAC 505. Corporate Finance II. 1.5 Unit.

This is an MBA core finance course. The objective of the course is to strengthen students' conceptual understanding and problem-solving skills in corporate finance. Topics covered include cash flows and valuation, financial planning and ratio analysis, financing using internal and external sources including public offerings, capital budgeting and managerial options, capital structure, payout policy, working capital management, and financial planning and strategy. Topics could change from semester to semester. The course envisages use of case studies, excel spreadsheets, and simulation exercises. Prereq: MBAC 504.

MBAC 506. Marketing Management. 3 Units.

Through lecture, discussion, cases, projects and/or simulations you will learn theory and practice of how firms develop processes to understand, create and deliver "triple bottom line" value (i.e., economic, social and environmental) to business and/or consumer markets. Specifically in this course, we take the perspective that marketing is a process of creating value for firms, customers, and other stakeholders through mutually desirable exchanges. This is the foundation of a customer orientation and a central theme of market-driven management. Methods for strategic marketing planning, understanding buyer behavior, market analysis, segmentation and devising integrated marketing programs are introduced. Prereq: Full-time MBA program only.

MBAC 507. Operations and Supply Chain Management. 3 Units.

Operations and supply chain managers, ranging from supervisors to vice presidents, are concerned with the production of goods and services. More specifically, they are responsible for designing, running, controlling and improving the systems to deliver their goods or services timely and efficiently. This course is a broad-spectrum course with emphasis on techniques and information that are helpful to the practice of management in general and at any level. Through lectures, case discussions, and experiential learning in simulations and educational games, we will discuss commonly occurring application problems such as bottleneck identification, capacity planning, inventory control, bullwhip effect, supply chain design, etc. We will examine operations and supply chain management in a variety of contexts including manufacturing systems, financial companies, hospitals, start-ups, and apparel industries. Also we will explore the interface of operations and supply chain management with other functional areas such as marketing, finance, accounting, etc. This course is not oriented toward specialists in operations and supply chain management. Its goal is to introduce you to the basic concepts, to develop your business intuition about operations and supply chain management, to help you understand the day-to-day challenges in this area, and to provide you with the tools to address these challenges. Prereq: Full-time MBA program only.

MBAC 508. Strategic Issues and Applications. 3 Units.

Strategic management deals fundamentally with the ways firms build and sustain superior competitive positions and profitability. Successful strategy design and implementation requires an understanding of a firm's external environment, its internal resources and capabilities. It also requires an integrative view of the firm that spans functional areas such as operations, marketing and finance. Strategic analysis draws on a number of academic disciplines including economics, psychology, political and management science. Prereq: Full-time MBA program only.

MBAC 511. Statistics and Decision Modeling. 3 Units.

This course provides the foundations of statistical and operations research methodologies for managerial decision-making. Topics covered include using sample data to (a) estimate quantities of interest and create confidence intervals, (b) perform hypothesis tests, and (c) make forecasts with simple and multiple regression. Decision modeling involves using mathematical models to provide a quantitative approach to analyzing and solving complex decision problems and includes an introduction to linear and integer programming models and applications, queuing models, and simulation models, all solved by appropriate computer software packages. Prereq or Coreq: MBAC 500. Prereq: Full-time MBA program.

MBAC 512. Economics. 3 Units.

This course is designed to give you an overview and a basic understanding of modern economics. The course will cover the microeconomic topics of consumer choice, business decision making, and market equilibrium; as well as the macroeconomic topics of economic growth, inflation, interest rates, and exchange rates. In the process of achieving these specific content objectives, this course is taught in a way that will support the MBA program goals of having students become competent analysts and a critical, creative thinkers. Prereq: Full-time MBA program only.

MBAC 515. Leading People and Organizations. 3 Units.

The primary objective of this course is to develop students' capability to be effective leaders and life-long learners. Drawing upon the field of organizational behavior, the course examines leadership effectiveness on three levels: developing the leader from the inside out, working effectively with diverse teams and leading effectively in organizations. Topics include resonant leadership, emotional intelligence, coaching relationships, team learning and development, employee engagement, diversity and inclusion and organizational culture. Students will work in diverse learning teams and complete a personal vision, receive 360-degree feedback on their emotional and social competence and create a personalized learning plan to guide their development throughout the MBA program and beyond. Leadership development coaches meet privately with each student twice throughout the semester and students become peer coaches for classmates. Fundamentally, this course is about developing the leader within so that each individual is best positioned to lead and manage others effectively. Prereq: Full-time MBA program only.

MBAC 518. Business Analytics. 3 Units.

Companies, government agencies, and nonprofit organizations can collect prodigious amounts of data with relative ease, but the data become insights only after they are organized, analyzed, and communicated. Substantial evidence exists to indicate that the demand for analytics trained managers outstrips current supply, and will continue to remain strong in the foreseeable future. Using analytics tools to use data to create insights is a prerequisite to effective management. Building on your first course in statistics, in this course you will be introduced to other useful analytical tools (e.g., Predictive Modeling, Data Mining, and Data Visualization). The course will also introduce commonly used software tools. Prereq: MBAC 511.

MBAP**MBAP 400. Probability, Statistics, and Quantitative Methods. 0 Unit.**

This course is the no-cost, online program that helps students acquire and/or refresh the following probability, statistics, mathematics, and computer skills that are essential for success in the MBA program. Topics include: - Statistics: Descriptive Statistics (summarizing and explaining data). Probability (modelling randomness and variability using probability ideas). Sampling (mean, standard deviation, and the role of the Central Limit Theorem). -Algebra and Math: a self-guided review is provided of functions and their graphical representations, linear equations, and exponentials and logarithms. -Computer Skills: the basic use of SPSS and EXCEL for statistical analysis. This course is designed for incoming MBA students who have not taken a formal course in probability and statistics, have taken such a course long ago and need to refresh this knowledge, or are not confident with basic probability, statistics and mathematics. This course is a required prerequisite for the first-year Statistics course. It is also assumed that you have the knowledge of the material in MBAP 400 for the core courses (especially Finance, Marketing, and Accounting) and is not reviewed in any of those courses. Recommended Preparation: Knowledge of high school mathematics and the basics of using EXCEL (such as writing formulas, copying cells and formulas, and so on). Prereq: Enrolled in the MBA Program.

MBAP 400H. Probability, Statistics, and Quantitative Methods. 1.5 Unit.

This course helps students acquire and/or refresh the following probability, statistics, mathematics, and computer skills that are essential for effective managers in a healthcare system. Topics include: Descriptive Statistics (summarizing and explaining data), Probability (modeling randomness and variability using probability ideas) Sampling (mean, standard deviation, and the role of the Central Limit Theorem), Linear equations and exponentials. Prereq: Students enrolled in the online MBA program.

MBAP 401. Leadership Assessment and Development. 3 Units.

This main objective of this course is to help students deepen their self-awareness and to prepare them to be effective leaders and life-long learners. The course is based on a model of self-directed learning and development, which encourages students to discover and expand their emotional intelligence and leadership potential. Students are encouraged to reflect and learn through a series of activities, assessment exercises, and small and large group discussions. Students will complete a personal vision, receive 360-degree feedback on their emotional and social competence and create a personalized learning plan to guide their development throughout the MBA program. Leadership development coaches will meet with each student twice throughout the semester. Fundamentally, this course is about developing the leader within each person so that he or she can lead and manage others effectively. Prereq: This course is for students in the Part-time Cohort MBA Program.

MBAP 401H. Leadership Assessment and Development. 3 Units.

This main objective of this course is to help students deepen their self-awareness and to prepare them to be effective leaders and life-long learners. The course is based on a model of self-directed learning and development, which encourages students to discover and expand their emotional intelligence and leadership potential. Students are encouraged to reflect and learn through a series of activities, assessment exercises, and small and large group discussions. Students will complete a personal vision, receive 360-degree feedback on their emotional and social competence and create a personalized learning plan to guide their development throughout the MBA program. Leadership development coaches will meet with each student during the semester. Fundamentally, this course is about developing the leader within each person so that he or she can lead and manage others effectively within a healthcare setting. Prereq: Students enrolled in the online MBA program.

MBAP 402. Financial and Managerial Accountancy. 3 Units.

This course will cover the use and application of basic financial statements, the basic cost structures in a firm, and decision making using accounting information. We will discuss usage and analysis of information from the annual report, focusing on the balance sheet, income statement, cash flow statement and related notes. The course will also cover internally generated accounting information about the cost structure of the firm. We will discuss use of this information in decision making. You are expected to be comfortable with definitions of basic accounting terms, and you should be familiar with the accounting structure and the financial statements. Prereq: This course is for students in the Part-time Cohort MBA Program only.

MBAP 402H. Accounting for Managers. 3 Units.

The course introduces graduate management students to accounting's role in business administration. Students learn that accounting is not math, truth, or putting numbers in to boxes. Instead, accounting is an imprecise language used to send and receive information about economic performance. Every language has its quirks, and accounting is no exception. Any communication problem that arises from use of English may reveal itself when one uses accounting. This course sensitizes students to common communication problems and suggests ways that they may be mitigated. A metaphor for the class is taking a one-semester introductory course in a foreign language. A semester's worth of study does not make one fluent. However, successful completion of the course allows motivated students, over the balance of their careers, to cultivate the ability to read, write, speak, and listen to that language. Time invested lays a foundation for accelerated learning. Highly motivated students eventually become fluent, while others are better able to use the language in everyday life Prereq: Students enrolled in the online MBA program.

MBAP 403. Statistics and Decision Modeling. 3 Units.

This course provides the foundations of statistical and operations research methodologies for managerial decision-making. Business statistics focuses on statistical thinking as one of the fundamentals of effective management. Topics covered include sampling and the normal distribution, making inferences from data via confidence intervals and hypothesis tests, and analyzing relationships between samples. Decision modeling of organizational systems uses mathematical and computer models to provide a quantitative perspective on identifying, analyzing and solving complex decision problems. This course includes an introduction to linear programming models and applications, simulation techniques in decision-making, and project management. Prereq: Students in the Part-time Cohort MBA Program and successful completion of MBAP 400.

MBAP 403H. Statistics and Decision Modeling. 3 Units.

The primary objective of this course, and a goal of the part-time MBA Program, is to make you a competent analyst by providing you with the ability to use, and to communicate with those who use, certain quantitative approaches to help make informed decisions for your organizations. A secondary objective is to provide you with the quantitative knowledge and skills that are needed in other MBA courses. The two groups of quantitative techniques are statistics and decision modeling. The objective of statistics is to summarize and present information contained in data sets, to draw conclusions about large populations based only on information obtained from samples, and, using these conclusions, to obtain reliable forecasts of quantities of interest. Among other things, statistical analysis provides many of the data needed in decision modeling. At the end of this part of the course you will be able to: 1) Summarize data sets using either graphical techniques (histograms, pie charts, and so on) or descriptive statistics (mean, median, standard deviation, and so on). 2) Use computer software to develop estimates and confidence intervals for means and proportions, and analyze the tradeoff between sample size and estimation risk. 3) Use sample data either to support or reject claims about a large population; understand the concepts and consequences of type-1 and type-2 errors. 4) Analyze relationships between two or more quantities of interest and use these relationships to make intelligent forecasts. Prereq: Students enrolled in the online MBA program.

MBAP 404. Managing People and Organizations. 3 Units.

Examines the behavioral sciences relevant to the effective management of people and the effective design of human resources system, structure and policies. Topics include leadership, change management, motivation and pay systems, team dynamics, staffing, decision making, organizational communications, employee participation, performance appraisal, conflict management, negotiation, work design, organizational design, and organizations culture. A variety of methods, including experiential and interactive learning methods, are used to study these topics. Prereq: This course is for students in the Part-time Cohort MBA Program.

MBAP 404H. Managing People and Organizations. 3 Units.

In today's increasingly complex and fast-paced environment, it is critical to understand how to maximize organizational performance. All organizations (corporations, non-profits, government) aim to achieve some goal or objective (e.g., increase shareholder value, make a profit, provide a service). People and systems are the vehicles by which an organization accomplishes its goals and objectives. This course is designed to enhance your ability to make well-reasoned decisions about human capital in organizations and to help you understand organizations as complex systems. Being able to apply systems thinking is critical in order to maximize individual, team and organizational performance. Prereq: Students enrolled in the online MBA program.

MBAP 405. Financial Management I. 3 Units.

This is a Corporate Finance course that deals with investment theory and financial value. The course materials cover discounted cash flows, bond and stock valuation, capital budgeting, applications of real options in investment analysis, asset's risk and return, cost of capital, market efficiency and capital structure. The tools, problem solving techniques, and ways of thinking that you develop in this course have broad applicability to all areas of business. They also form the basis for sensible personal decisions in the areas of investments, borrowing, and financial planning. Prereq: This course is for students in the Part-time Cohort MBA Program.

MBAP 405H. Financial Management. 3 Units.

The purpose of this class is to introduce you to multiple concepts in Corporate Finance with the aim of providing principles and tools that enable you to make managerial decisions that increase the firm's value. The course will begin by building a foundation in understand the time value of money and its many applications, and then move on to various tools used to evaluate sound investment decision making. Students will also gain an understanding of how securities (different claims on the business) are evaluated and valued, including an in-depth treatment of risk vs. expected return, i.e., the notion that a more risky investment requires a higher expected return. We will then revisit corporate financial analysis first taught in financial accounting. The course will conclude with fundamental corporate valuation techniques. This portion of the class integrate topics learned earlier in the course, will build linkages to other courses (especially financial accounting) and reinforce what drives value as a manager within the enterprise. Prereq: Students enrolled in the online MBA program.

MBAP 406. Economics for Managers. 3 Units.

This course is designed to give you an overview and a basic understanding of modern economics. The course will cover the microeconomic topics of consumer choice, business decision making, and market equilibrium; as well as the macroeconomic topics of economic growth, inflation, interest rates, and exchange rates. In the process of achieving these specific content objectives, this course is taught in a way that will support the MBA program goals of having students become competent analysts and a critical, creative thinkers. Prereq: This course is for students in the Part-time Cohort MBA Program.

MBAP 406H. Economics for Managers. 3 Units.

This course offers an introduction to the theories, principles, and applications of microeconomics and macroeconomics. Topics include supply and demand, elasticity, market structure analysis, business cycles, taxation, and monetary policy. Prereq: Students enrolled in the online MBA program.

MBAP 407. Managerial Marketing. 3 Units.

Through lecture, discussion, cases, projects and/or simulations you will learn theory and practice of how firms develop processes to understand, create and deliver "triple bottom line" value (i.e., economic, social and environmental) to business and/or consumer markets. Specifically in this course, we take the perspective that marketing is a process of creating value for firms, customers, and other stakeholders through mutually desirable exchanges. This is the foundation of a customer orientation and a central theme of market-driven management. Methods for strategic marketing planning, understanding buyer behavior, market analysis, segmentation and devising integrated marketing programs are introduced. Prereq: This course is for students in the Part-time Cohort MBA Program.

MBAP 407H. Managerial Marketing. 3 Units.

This course will focus on Marketing Strategy in business organizations. We will use case studies and discussions as the primary mode of learning. To get the most out of this course, it is important that you come to class well prepared with your case analysis. The course objectives emphasize MBA program-level goals aimed at: 1. Creative and critical thinking and action in the face of ambiguity 2. Development and implementation of strategies to secure sustainable competitive advantage, and 3. Rigorous analytics Prereq: Students enrolled in the online MBA program.

MBAP 408. Operations Management. 3 Units.

Operations management deals with the design of products and processes, the acquisition of resources, the conversion of inputs to outputs, and the distribution of goods and services. It is central to a firm's ability to compete effectively. As global competition in both goods and services increases, the management of operations is becoming more and more important. This course provides a broad overview of the managerial issues associated with production and delivery of goods and services. It includes the use of quantitative modeling using computers as a central methodology. Prereq: This course is for students in the Part-time Cohort MBA Program.

MBAP 408H. Operations and Supply Chain Management. 3 Units.

Operations managers, ranging from supervisors to vice presidents, are concerned with the production of goods and services. More specifically, they are responsible for designing, running, controlling and improving the systems that accomplish production. This course is a broad-spectrum course with emphasis on techniques and information that are helpful to the practice of management in general and at any level. We will discuss commonly occurring application problems such as capacity planning, production scheduling, line balancing, inventory control, quality management, just-in-time concepts, etc. The field of operations management was originally concerned with manufacturing systems. But many of the same ideas apply, and the same trade-offs are present, in service organizations like health care, insurance, hotel-management, airlines and government related operations. Several manufacturing and non-manufacturing environments will be discussed explicitly, and the emphasis will be on the fundamentals of the operations function in an organization. Also we will explore the interface of operations management with other functional areas such as marketing, finance, accounting, etc. This course is not oriented toward specialists in operations management. Its goal is to introduce you to the environments and help you appreciate the problems that operations managers are confronted with. Then, we will typically discuss some system specifics and emphasize the principles and issues that play key role in their management. Prereq: Students enrolled in the online MBA program.

MBAP 409. Sustainability and Social Entrepreneurship. 3 Units.

This course creates a foundational platform featuring key models and managerial tools for building sustainable value and "turning the social and global issues of our day into business opportunities." Case studies of leading mainstream companies are used to analyze how business value is created for a range of social and environmental initiatives. Students will look at sustainability business strategies that reduce risks, drive down costs, create new revenue streams, serve new markets, and position companies to take advantage of changing societal expectations. Environmental issues such as climate change are covered along with social issues such as global poverty. Students acquire the competencies required to make effective business decisions based on integrating sustainability into the core of a company's value added activities. Prereq: This course is for students in the Part-time Cohort MBA Program.

MBAP 410. Strategic Issues and Applications. 3 Units.

This course helps students understand the nature of strategic competitiveness and helps them develop the ability to analyze the competitive environment facing any organization, assess the attractiveness of the industry or sector and isolate potential sources of competitive advantage which will aid in developing a positioning strategy for the organization.

MBAP 410H. Strategic Issues and Applications. 3 Units.

Strategic Management deals fundamentally with the ways firms build and sustain superior competitive positions and profitability. Successful strategy design and implementation requires an understanding of a firm's external environment, its internal resources and capabilities. It also requires an integrative view of the firm that spans functional areas such as operations, marketing and finance. Strategic analysis draws on a number of academic disciplines including economics, psychology, political and management science. Prereq: Students enrolled in the online MBA program.

MBAP 411. Identifying Design Opportunities. 3 Units.

Designing is giving form to an idea for a more desirable product, service, process or organization, and refining the idea into something that can be delivered reliably and efficiently. Good design integrates these evolving ideas with the day-to-day realities of a firm's operations, systems, marketing, economics, finance and human resources. Designing is thus a unique managerial activity that brings together changing technologies, capabilities, relationships, activities and materials to shape an organization's plans and strategies. It combines analysis and synthesis to create opportunities for improvement and means of attaining them. Viewed this way, designing is a core competence of a successful entrepreneur or innovative leader. Design analysis is the systematic review of the four orders of design found in every firm—namely, the firm's communications, products, interactions and environments—and the creation of opportunities to increase firm value by improving each. Students will identify ill-defined, ill-structured problems within organizations. Such problems are ones for which there are no definitive formulations and for which the formulation chosen affects the solutions available. For such problems, there is no explicit way of knowing when you have reached a solution, and solutions cannot necessarily be considered correct or incorrect. But finding innovative solutions to such problems can provide unique opportunities to create exceptional value. A major outcome of the semester's inquiry is a presentation of the design problem and proposed design solution. Prereq: This course is for students in the Part-time Cohort MBA Program.

MBAP 420H. Regulatory Issues in Healthcare Management. 1.5 Unit.

This course provides an overview of key areas of health law at the level important to managers in healthcare related organizations. The topical areas covered include (1) the history, structure, financing, and operation of the U.S. medical system; (2) legal and ethical rules and regulations governing physicians and other health care professionals; the patient-physician relationship; institutional providers of care such as hospitals, nursing homes, and laboratories; and drug and device manufacturers; (3) regulation of health insurers and managed care organizations; (4) medical malpractice law; (5) confidentiality and electronic medical records; (6) fraud and abuse; (7) antitrust law; (8) employer health plans; (9) medical research; and (10) public health. Prereq: Students enrolled in the online MBA program.

MBAP 421H. Organizational Culture in Healthcare Management. 1.5 Unit.

In this residency course, students will analyze corporate culture using the Burke-Litwin model. Culture in relation to other factors of organizational functioning and change. Prior to the on-campus residency, students will be introduced to factors that influence organizational culture such as the external environment, vision & mission, leadership style, organizational structure, systems (HR such as recruiting and reward and IT such as administrative records keeping), management practices & climate, and power, politics and influence. During the on-campus residency, students will visit two major hospital systems to examine how culture influences operational decision making. Prereq: Students enrolled in the online MBA program.

MBAP 422H. Digital Innovation in Healthcare. 1.5 Unit.

In this course, students will learn the role of digital technology in creating new digitally enabled services in the healthcare market. Industry experts will be engaged throughout the course to provide the latest information on developments and application being used. Prereq: Students enrolled in the online MBA program.

MBAP 423H. Engineering in Healthcare Management. 1.5 Unit.

The course focuses on the creation, funding, and management of digital health, biotech, medtech, and other health services enterprises. The course will focus on special issues surrounding the conceptualization, planning, diligence, and capitalization of these ventures and also includes management and compensation practices. In addition, the course offers methods for self-assessment & development of business models and plans, techniques for technology assessment and strategy, develops a foundation for capitalization and partnering strategies, and creates a basis for best practices in company launch and plan execution. Prereq: Students enrolled in the online MBA program.

MBAP 424H. Economic Issues and Applications in Healthcare. 1.5 Unit.

The purpose of this course is to develop the analytical skills necessary for understanding how the U.S. health care sector operates, how it has evolved, the forces at work behind perceived deficiencies (in quality and cost control), and the impact of alternative policy proposals. Special attention is given to recent developments in the healthcare marketplace, and the strategic considerations they create for providers and insurers. These issues are addressed through the lens of microeconomic theory. Under this framework, outcomes result from the interaction of decisions made by participants in the healthcare economy (e.g. patients, providers, insurers, government), with those decisions governed by the preferences, incentives and resource constraints facing each decision-maker. Principles of microeconomics will be reviewed as necessary to ensure consistent understanding of basic concepts. The course is designed to appeal to a broad audience, particularly students interested in healthcare management, public health, medical innovation, health law, and public policymaking. Prereq: Students enrolled in the online MBA program.

MBAP 425H. Experiential Learning in Healthcare. 3 Units.

In this residency based course, students will have an opportunity to apply their learning to real world projects in collaboration with a major hospital system in the Cleveland area. Students will learn how to conduct an action research project including problem identification, stakeholder engagement, needs assessment, intervention design, data collection, data analysis, and the presentation of recommendations/findings. Prereq: Students enrolled in the online MBA program.

MBAP 426H. Finance Issues and Applications in Healthcare. 1.5 Unit.

Exploration of economic, medical, financial and payment factors in the U.S. healthcare system sets the framework for the study of decisions by providers, insurers, and purchasers in this course. The mix of students from various programs and professions allows wide discussion from multiple viewpoints. Prereq: Students enrolled in the online MBA program.

MBAP 427H. Introduction to Population Health. 1.5 Unit.

This course introduces graduate students to the multiple determinants of health including the social, economic and physical environment, health services, individual behavior, genetics and their interactions. It aims to provide students with a broad understanding of the research development and design for studying population health, the prevention and intervention strategies for improving population health and the disparities that exist in morbidity, mortality, functional and quality of life. Format is primarily group discussion around current readings in the field. Prereq: Students enrolled in the online MBA program.

MBAP 428H. Healthcare Decision Making and Analytics. 3 Units.

This course is designed to introduce the students to a wide range of methods and applications of decision science and analytics in healthcare management and medical decision making. The primary objective of the course is to provide the students with the necessary technical knowledge and skills to understand mathematical and statistical models used in health decision making. Further, the course aims to provide the students with hands-on experience required to leverage such methods for evaluating clinical interventions, choosing the best treatment, and informing public health policy. Course topics include decision trees, Markov decision models, Monte Carlo simulation, cost-effectiveness analysis, sensitivity analysis, utility theory, bootstrapping and subgroup analysis, prediction and classification methods, and using computer software to build and analyze health decision analysis models. Prereq: Students enrolled in the online MBA program.

MBAP 429H. Artificial Intelligence Applications in Healthcare Management. 1.5 Unit.

Artificial intelligence (AI) is a set of methods and algorithms that enable computers to mimic human behavior. Deep learning is a subfield of machine learning that builds large neural networks to extract subtle patterns from data and is currently the state-of-the-art method of achieving artificial intelligence. Healthcare is undoubtedly one of the most promising and influential application areas of AI. The unprecedented increase in data availability and computer power over the past decade has enabled neural network models to parse massive clinical datasets, learn incredibly subtle patterns, and in some cases, augment clinicians' performance. This course covers the basic concepts and theoretical foundations of deep learning as they relate to healthcare management. We will discuss several successful applications of AI in healthcare as well as opportunities for AI across a variety of healthcare contexts. Limitations, challenges, key debates, and considerations surrounding AI models and their adoption in healthcare will also be highlighted. Prereq: Students enrolled in the online MBA program.

MBAP 430H. Lean Operations in Healthcare. 1.5 Unit.

The course will include the following topics: 1) Service Process Blueprints, 2) Managing Capacity in Service Systems, 3) Mapping the Value Stream (current and future state), and 4) Inventory Management in Service Systems. The topics considered are viewed in the context of healthcare management, financial services, insurance firms, call centers, back-office operations, and other applications. Through these topics, the participants will be trained in tools that help them understand customers' expectations and needs and to identify service system characteristics that can meet these needs. We will learn how to identify errors in service and troubleshoot these problems by identifying the root causes of errors. Subsequently, we will discuss how one can modify the product or service design so as to prevent defects from occurring. Finally, we will establish performance metrics that help evaluate the effectiveness of the Lean system in place. These efforts will result to improved quality. This course is not oriented toward specialists in service management. Its goal is to introduce you to the environments and help you appreciate the problems that operations managers are confronted with. Then, we will typically discuss some system specifics and emphasize the principles and issues that play key roles in their management. Prereq: Students enrolled in the online MBA program.

MBAP 499. Introduction to Learning Skills. 0 Unit.

Whether you are an online student, a student attending classes on campus, or a mix of both this course will equip you with the skills necessary to become a successful graduate student. Throughout this course you will learn more about yourself as a learner, how to apply universal standards for critical thinking to the evaluation of professional literature, and how to effectively balance your competing responsibilities as you begin your journey toward your degree.

MGMT**MGMT 1. Supervised Professional Practicum - Semester 1. 0 Unit.**

A professional practicum is a workplace experience, the primary goal of which is the intellectual, personal and professional growth of the student. It occurs under the sponsorship or supervision of a mentor in the workplace who is committed to seeing that it is an educational as well as a work venture. It requires skills appropriate to the student's year in college and provides students with new skills, insights and experiences that are transferable back to the academic setting and/or to a future position in the workplace. (Only available to declared Weatherhead Accounting or Management majors.) Prereq: Junior standing or higher.

MGMT 2. Supervised Professional Practicum - Semester 2. 0 Unit.

A professional practicum is a workplace experience, the primary goal of which is the intellectual, personal and professional growth of the student. It occurs under the sponsorship or supervision of a mentor in the workplace who is committed to seeing that it is an educational as well as a work venture. It requires skills appropriate to the student's year in college and provides students with new skills, insights and experiences that are transferable back to the academic setting and/or to a future position in the workplace. (Only available to declared Weatherhead Accounting or Management majors.) Prereq: Junior standing.

MGMT 201. Contemporary Business and Communication. 3 Units.

This course is designed to survey business topics, issues, and practices. Students will be introduced to each of the functional areas of business, including accounting, finance, marketing, operations, business intelligence, and human resources management. The course is designed to help students appreciate the interrelationship of these business functions and, more generally, the role and context of business in society. Other topics considered include: the economic and legal environment of business, the globalization of markets, workforce diversity, leadership and entrepreneurship. To convey course content, lectures, in-class discussions, exercises, simulations, and guest speakers are used. Weekly discussions and a high level of student interaction amplify on class materials and concepts by focusing on contemporary issues of actual businesses.

MGMT 205. Essentials of Personal Finance. 1 Unit.

This course will provide students of all disciplines with an essential foundation in personal finance. The course will focus on four core areas of personal finance: 1) Budgeting & saving, 2) Investing, 3) Obtaining credit & controlling debt, and 4) Minimizing financial risk through the use of insurance. The course will also cover the essentials of personal taxation, retirement planning, and estate planning. This course will enable students to gain the fundamental knowledge and skills needed to make wise financial decisions as they move forward in life, which in turn will impact their ability to function as productive leaders in the workplace and financially literate citizens. A student may not receive credit for both MGMT 205 and MGMT 395 with the topic "Achieving Personal Financial Security." Prereq: Sophomore standing or higher.

MGMT 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. Prereq: Sophomore standing or higher.

MGMT 315. International Management Institute. 3 Units.

The course provides undergraduate students with a unique overseas visitation, language orientation, and management subject experiences during periods such as Spring Break, or during interims immediately following the end of the semester. Opportunities for diverse cultural and language experiences which result from the institute are added benefits of these programs.

MGMT 360. Special Topics and Issues in Management. 1 - 9 Units.

This course option is available to qualified students who are undertaking special projects in a management related field.

MGMT 361. Managing in a Global Economy. 3 Units.

Managers need new skills to enable them to manage effectively in what is increasingly a global economy. They need a deeper understanding of cultural differences and how these differences may influence communications with foreign employers, employees, customers, suppliers or partners. They need a better understanding of the economic and political mechanics of the world business system. They need to learn how to find out more about potential opportunities and threats that lie outside the United States. This course is designed to address these needs. Offered as MGMT 361 and MGMT 460.

MGMT 395. Advanced Seminar. 1 Unit.

This seminar, for Accounting and Management majors with junior class standing or above, provides an opportunity to consider topics of importance in the community of ideas and activities related to the professional and managerial world. The development of writing and communication skills and in-depth discussion are expected attributes of seminar activity. The topic and scope of the coverage will be defined by the course instructor as consistent with the seminar approach to learning of the University. Accounting and Management majors must complete three seminars, each with a different topic. No academic credit will be earned for repeating seminars with the same topic. Counts as SAGES Departmental Seminar. Prereq: Declared Accounting or Management major and at least Junior standing.

MGMT 397. Undergraduate Research Project. 3 - 6 Units.

This course provides a supervisory structure for students completing and a capstone research project in the Weatherhead School of Management. Arrangements should be made by consultation with a faculty member selected and the Senior Capstone Committee of the School of Management. Open to all management and accounting majors and other qualified students with instructor approval. A written report, presentation to the faculty department most closely related to the student's topic, and an approved public presentation are required. Counts as SAGES Senior Capstone.

MGMT 398. Action Learning. 6 Units.

This is an experiential course built around consulting projects in local organizations. Each project is focused on solving a business problem or pursuing a business opportunity. Each student will work in a team to analyze the current situation and identify related problems/opportunities, conduct research, analyze findings, creatively envision alternatives, and recommend an appropriate course of action and next steps. Throughout the semester students will receive instruction and coaching on the problem solving approach used in the course. Counts as SAGES Senior Capstone. Prereq: (ACCT 102 or ACCT 200) and BAFI 355 and MKMR 201 and Senior standing with a declared Accounting or Management major.

MGMT 418. Curricular Practical Training. 0 Unit.

This course is intended for graduate business students who wish to gain curricular practical training in support of career goals. The experience developed in an internship will complement academic experience gained in Weatherhead classes.

MGMT 456. Beyond Silicon Valley: Growing Entrepreneurship in Transitioning Economies. 3 Units.

The path for entrepreneurs to grow their companies outside of well-developed entrepreneurial ecosystems like Silicon Valley is challenging. Most markets around the world do not look like Silicon Valley, and they never will. But there are other models to support new businesses. In transitioning markets (where entrepreneurs do not have much access to private sector financing), government officials, donors, and business leaders are experimenting with creative approaches to support the growth of entrepreneurs. Cleveland is one such community. This seminar will explore some of these innovative approaches.

MGMT 458. International Institute. 3 Units.

The International Institute involves semester-long study of a particular region, followed by a class trip to an area within that region. The preparatory coursework varies depending on the region selected for that particular semester; however, it typically consists of research about cultural, financial, political, and economic topics. The trip consists of daily research meeting with organizations within the region being studied. Upon return, a summary exercise is required to complete the coursework. The class trip is a mandatory component of the course.

MGMT 460. Managing in a Global Economy. 3 Units.

Managers need new skills to enable them to manage effectively in what is increasingly a global economy. They need a deeper understanding of cultural differences and how these differences may influence communications with foreign employers, employees, customers, suppliers or partners. They need a better understanding of the economic and political mechanics of the world business system. They need to learn how to find out more about potential opportunities and threats that lie outside the United States. This course is designed to address these needs. Offered as MGMT 361 and MGMT 460.

MGMT 464. Business Ethics. 3 Units.

This course is built around two core learning tracks. The first is extended analyses of case studies, which identifies ethical problems, diagnoses import, and develops strategic programs to address them. The second learning track uses short pieces of fiction to explore issues of ethical character, leadership, and organizational responsibility. Each student keeps an ethics journal over the course of the semester to reflect on ethical issues, both inside and outside the classroom. In addition, small student groups are formed to write case studies focusing on a business ethics problem.

MGMT 465. Perspectives in European Management. 3 Units.

The European Institute provides an introduction to international business through a unique combination of class meetings and an excursion to Europe. While in Europe, students meet with local business people, consulate officials, and university professors to learn the prerequisites for doing business in the region. The trip features site visits to local companies.

MGMT 467. Commercialization and Intellectual Property Management. 3 Units.

This interdisciplinary course covers a variety of topics, including principles of intellectual property and intellectual property management, business strategies and modeling relevant to the creation of start-up companies and exploitation of IP rights as they relate to biomedical-related inventions. The goal of this course is to address issues relating to the commercialization of biomedical-related inventions by exposing law students, MBA students, and Ph.D. candidates (in genetics and proteomics) to the challenges and opportunities encountered when attempting to develop biomedical intellectual property from the point of early discovery to the clinic and market. Specifically, this course seeks to provide students with the ability to value a given technological advance or invention holistically, focusing on issues that extend beyond scientific efficacy and include patient and practitioner value propositions, legal and intellectual property protection, business modeling, potential market impacts, market competition, and ethical, social, and healthcare practitioner acceptance. During this course, law students, MBA students, and Ph.D. candidates in genomics and proteomics will work in teams of five (two law students, two MBA students and one Ph.D. candidate), focusing on issues of commercialization and IP management of biomedical-related inventions. The instructors will be drawn from the law school, business school, and technology-transfer office. Please visit the following website for more information: fusioninnovate.com. Offered as LAWS 5341, MGMT 467, GENE 367, GENE 467, EBME 467 and ECSE 467.

MGMT 495. AMES Business Model. 3 Units.

AMES BUSINESS MODELS is an experiential course designed to explore the challenges that face entrepreneurs and established organizations as they develop new business models. Throughout the course we will address four general questions regarding business models: What are the key elements of any business model? How do those elements work in concert to create value? What challenges do innovators face as they explore new business models? What tools and techniques help innovators reduce their risk and enable growth? At the end of this course students should be able to: Describe the essential elements of a business model and how that model is meant to create value. Assess the potential of any business model and the key assumptions upon which it is built. Design and execute experiments to efficiently validate (or invalidate) those assumptions. Whether students plan to join an existing organization or start their own, these tools will provide a foundation for creating innovative, sustainable businesses. This course will focus Intrepreneurship (creating and testing new business models within an established organization).

MGMT 497. Action Learning Project. 3 Units.

This course allows teams of students to integrate functional, core knowledge and apply analysis and strategic management skills in a real-world setting. Students will be evaluated by the instructor and the project managers at the client organizations. Prereq: Part-time Cohort MBA Students and Master of Healthcare Management students only.

MGMT 500. Qualitative Methods for Business. 1 Unit.

This course is offered online and helps students acquire and/or refresh the following probability, statistics, mathematics, and computer skills that are essential for success in the MBA program. Topics include: - Statistics: Descriptive Statistics (summarizing and explaining data). Probability (modelling randomness and variability using probability ideas). Sampling (mean, standard deviation, and the role of the Central Limit Theorem). -Algebra and Math: a self-guided review is provided of functions and their graphical representations, linear equations, and exponentials and logarithms. -Computer Skills: the basic use of SPSS and EXCEL for statistical analysis. This course is designed for non-MBA/non-WSOM students who have not taken a formal course in probability and statistics, have taken such a course long ago and need to refresh this knowledge, or are not confident with basic probability, statistics and mathematics. Recommended Preparation: Knowledge of high school mathematics and the basics of using EXCEL (such as writing formulas, copying cells and formulas, and so on).

MGMT 501. Special Problems and Topics. 1 - 18 Units.

This course is offered, with permission, to students undertaking reading in a field of special interest.

MGMT 502. Independent Study. 1 - 18 Units.

This course is offered, with Dean's Office permission, to students undertaking reading in a field of special interest.

MGMT 560. Theoretical Perspectives in Management. 3 Units.

This seminar exposes students to management theories from a variety of disciplines. The goal of the course is to help students learn to synthesize and contrast theories to develop hypotheses of their own. Prereq: Ph.D. standing or consent of instructor.

MGMT 571. Measurement Theory and Method. 3 Units.

This doctoral seminar focuses on the theoretical and methodological issues involved in social science measurement. Specifically, the course will cover topics in basic principles of measurement including Classical Test Theory, Reliability, Validity, and Item Response Theory, as well as related tools for measurement analysis including Exploratory and Confirmatory Factor analysis. In addition, the course will expose students to analytical methods that model measurement error in simultaneous equations including models with mediation and moderation effects. This course involves extensive use of statistical packages including SPSS, LISREL, and EQS. Prereq: Ph.D. standing.

MGMT 573. Applied Multivariate Data Analysis. 3 Units.

The objectives of the seminar are to provide students with an understanding of the substantive and methodological issues involved in applied multivariate data analysis. The seminar aims to expose students to the assumptions, principles and applications of a selected set of multivariate techniques including Logistic Regression, MANOVA/ Discriminant, Profile, Multilevel and Latent Growth Model analysis. This course involves extensive use of statistical packages including SPSS, LISREL, and EQS. Prereq: Ph.D. standing.

MGMT 602. Advanced Topics. 1 - 18 Units.

This is a course of flexible design to meet advanced theoretical and/or methodological needs of doctoral students. Approval is needed from the instructor, and it requires a letter grade.

MGMT 610. Culture and World Politics. 3 Units.

Religion, ethnicity, and nationalism have assumed major political significance in the post Cold-War and post-9/11 eras. The course examines ideas of political democracy and economic liberalism in relation to different cultural and religious ideas and explores relationships among social values, political structures, and economics. Prereq: Must be enrolled in Ph.D in Management: Designing Sustainable Systems track.

MGMT 611. Theory and Practice of Collective Action. 3 Units.

The ability of autonomous and interdependent parties to coordinate actions, or to act cooperatively, affects a wide range of organizational and social problems. This course addresses the theory and practice of collective action in local, national and global contexts. Case studies of collective action problems, such as environmental protection, community revitalization, and the mobilization of interest groups will be discussed. Prereq: Must be enrolled in Ph.D in Management: Designing Systems track.

MGMT 616. Global Economic Systems and Issues. 3 Units.

This course provides a framework and analytical tools for understanding globalization and international economic relations in the context of the global political system. It analyzes the economic and political forces that are shaping global cooperation on economic matters, the role and impact of international economic institutions such as the World Bank, the International Monetary Fund, and the World Trade Organization, and evolving forms of regional governance, such as the European Union. It covers national and international policies and development and the causes and cures of international financial crises. The course revolves around concepts of efficiency, equality, power and institutions in the making of public policy towards globalization of communications and transportation. Prereq: Must be enrolled in Ph.D in Management: Designing Systems track.

MGMT 640. Social Ethics: Contemporary Issues. 3 Units.

The course draws upon intellectual ancestors and current thinkers in moral philosophy and ethics to assist each student in identifying, analyzing, and discussing social and ethical questions pertaining to the definition and purpose of contemporary life, the need for moral coherence, and the meaning of life in a global society. The unifying theme of the course is Tolstoy's question, "How then shall we live?" The course does not seek to provide answers to the great questions of life. Rather, it tries to expand each student's capacity to grapple with such questions. Prereq: Must be enrolled in Ph.D in Management: Designing Sustainable Systems track.

MGMT 641. Qualitative Res Methods II. 3 Units.

This course guides the student in conducting the qualitative research project that was proposed in EDMP 638. Fieldwork and initial analysis is conducted during the summer when data based on semi-structure interviews is collected and analysis begins using inductive coding techniques. A summer residency is held in mid-June to assess progress as final data collection and analysis continues. The aim of the fall semester is to prepare a formal research report on that project, which will be submitted to an academic research conference. The final report includes a revision of one's conceptual model, integrating new understandings and literature arising from the data collection and analysis. Prereq: Must be enrolled in Ph.D in Management: Designing Sustainable Systems track.

MGMT 643. Measuring Bus Behav & Struc. 3 Units.

This course aims to develop the basic foundations and skills for designing and executing generalizable studies that measure business behaviors and structures. It focuses on building competence in building of measurement systems, construct measurement, research design, data collection methodologies, and application of analytical software commonly involved in quantitative inquiry. Covered topics include framing research questions, reliability and validity of measurement, quasi-experimental research design, and fieldwork for data collection. Classes are designed to balance theory and practice through quantitative research design and will be linked to the participant's own research project. Prereq: Must be enrolled in Ph.D in Management: Designing Sustainable Systems track.

MGMT 645. Integration of Qualitative and Quantitative Inquiry. 3 Units.

Using the mixed method research toolkit developed in previous courses, this course focuses on critically analyzing selected pieces of published applied and policy research to develop a critical appreciation of issues and debates that have wide applicability and relevance. In particular, it offers students ways to integrate and triangulate using a mixed method approach, different forms of evidence, and related evidence. In addition, this course addresses common method choice and justification issues and related challenges of validity and theory formulation that typically arise during the students' execution of a series of individual research projects. Application of critical analysis and appreciation approach in justifying mixed methods designs to the student's own research work is encouraged and supported by sharing and discussing common research and methodology themes and problems. Prereq: Must be enrolled in Ph.D in Management: Designing Sustainable Systems track.

MGMT 646. Advanced Analytical Methods for Generalizing Research. 3 Units.

This course addresses advanced topics in regression and structural equation modeling such as latent growth curve models, partial least squares, logit models, tests for various types of invariance, multiple-group analysis, multilevel analysis, and analyzing qualitative/categorical data. These analytical methods are intended to enhance the student's toolkit as to facilitate a strong bridge to the academic literature and the application to specific data based problems that arise in applied managerial research. Prereq: Must be enrolled in Ph.D in Management: Designing Sustainable Systems track.

MGMT 648. Causal Analysis of Business Problems I. 3 Units.

Causal Analysis of Business Problems I introduces fundamental concepts in theory-based model building and validation. In this course students will develop, explore, refine a range of models appropriate for addressing their problem of practice including classification models, process models, variance models, and articulating nomological networks. In particular, the course will focus on effective conceptualizations of causation, control, mediation, and moderation. Further, foundational statistical techniques such as tests of assumptions of the data, exploratory factor analysis, and regression and path analysis will be introduced to analyze concepts of causation, control, mediation and moderation. Prereq: Only for students in PhD in Management: Designing Sustainable Systems, or by permission of the Program Director.

MGMT 649. Causal Analysis of Business Problems II. 3 Units.

Building upon the first course in Causal Analysis of Business Problems, this course will guide students through the theoretically-grounded variance models that are required for testing through structural equation modeling (SEM) in the quantitative portion of their research. Fundamental concepts in model testing will be reinforced using path analysis, and will include a deeper exploration of moderation by addressing topics such as moderated mediation and interaction effects. Beyond the analysis the course will emphasize precise and accurate formulation of theoretical models and associated reasoning, as well as careful interpretation of findings. The class will also delve into testing of data assumptions and prepare students for the model testing portion of their capstone assignments. Prereq: Must be enrolled in Ph.D in Management: Designing Sustainable Systems track.

MGMT 664. Knowledge Dissemination to Influence Managerial Practice. 3 Units.

The aim of this course is twofold. First, it supports students organizing and writing their DM thesis overview or their PhD thesis proposal. Also discussed are ways to organize and communicate in scientific genres, their aims and their generic properties. Secondly, students become acquainted with scientific communication and publishing. Effective reviewing, criteria for judging articles and theses, management of review processes, and how to communicate and respond to reviews are topics discussed. The course also addresses publication strategies and ways of managing and communicating scientific and managerial knowledge to different stakeholders. Prereq: Must be enrolled in Ph.D in Management: Designing Sustainable Systems track.

MGMT 677. Designing Sustainable Systems. 3 Units.

Students in teams will recognize and work in practice on a managerial problem that involves dimensions of sustainability and design. They will develop a set of solutions to the problem by generating alternative models and intervention strategies to address the problem. The project results in a short presentation and written communication of the solution in a form of a poster or prototype. The course will also include presentations of intervention and action research approaches and issues of inquiry validation and theory development. Prereq: Only for students in PhD in Management: Designing Sustainable Systems.

MGMT 701. Dissertation Ph.D.. 1 - 9 Units.

(Credit as arranged.) Prereq: Must be enrolled in Ph.D. in Management: Designing Sustainable Systems and have predoctoral research consent or advanced to Ph.D. candidacy milestone.

MIDS**MIDS 301. Introduction to Information: A Systems and Design Approach. 3 Units.**

This course is an introduction to the concept of information and the uses of information in organizations and social life. The course is for anyone who is interested in the evolution of digital culture and the influence of design, systems, and management in contemporary life. This will involve readings from a variety of disciplines, including mathematics, the social sciences, management and the humanities. We live in an "information ecology": a system of human activities served by a variety of technologies that are often grounded in local environments and with deep ethical implications. The goal of our course is to understand this system and how information has become a medium of human experience in our lives. There will be useful readings, but also exercises and projects that enable students to test and develop their understanding.

MKMR**MKMR 201. Marketing Management. 3 Units.**

This is an introductory marketing course designed to provide students with the concepts and theories necessary for understanding the fundamental principles of marketing and its role in any organization. Students will learn concepts such as marketing orientation, marketing-mix, relationship marketing and service logic, as well as behavioral theories of customer response and strategic frameworks of customer brand management. Students develop capabilities for understanding marketing issues in real world situations and to create and implement basic marketing plans. Prereq: At least Sophomore standing.

MKMR 304. Brand Management. 3 Units.

Successful innovation and management of brands and products creates customer, firm, and societal value. This course is designed to help students understand the principles of product and brand development and management such as understanding evolving customer needs; creating and delivering the right products, services, and experiences; and managing the process to enhance brand equity and customer satisfaction. Through text, cases, and simulation this engaging class will cover the branding process from new brand and product development; brand communication and promotion, and brand equity measurement. The course will also discuss specific topics such as global brands, brand extensions, brand revitalization, and social responsibility. Prereq: MKMR 201.

MKMR 308. Measuring Marketing Performance. 3 Units.

Evaluation and control are important strategic marketing processes and without effective and consistent measurement, these processes cannot be performed adequately. In recent years, marketing budgets have been challenged by top managers as the value of these expenditures to an organization's financial well being is not often clear. Marketing activities such as advertising, sales promotions, sales force allocation, new product development, and pricing all involve upfront investments and making these investments now require increasing scrutiny. This course will be about knowing and understanding what to measure, how to measure, and how to report it so the link between marketing tactics and financial outcomes is clearer. The course will include lecture by the instructor, readings, cases, computer based data exercises, and guest lectures. There will also be a team project requirement. Prereq: (ACCT 100 or ACCT 101) and ECON 102 and MKMR 201.

MKMR 310. Marketing Analytics. 3 Units.

To appreciate, design, and implement data-based marketing studies for extracting valid and useful insights for managerial action that yield attractive ROI, five essential processes are emphasized: (a) making observations about customers, competitors, and markets, (b) recognizing, formulating, and refining meaningful problems as opportunities for managerial action, (c) developing and specifying testable models of marketing phenomenon, (d) designing and implementing research designs for valid data, and (e) rigorous analysis for uncovering and testing patterns and mechanisms from marketing data. Prereq: MKMR 201 and OPRE 207.

MKMR 311. Customer Relationship Management. 3 Units.

Customer Relationship Management (CRM) is the strategic process of building and maintaining profitable, sustainable customer relationships through co-creation of value with customers in both business-to-business (B2B) and business-to-consumer (B2C) markets. This course starts with understanding the relationship between an organization's strategic goals and the structure and dynamics of organization-customer relationships. Topics include assessing CRM system design, implementation and management; the fundamentals of customer profitability analysis; customer portfolio management; B2B relationship management; sales force management and automation; and designing services programs to optimize customer experiences; and expanding customer relationships through services. Additionally, students will explore how one-to-one marketing and social networks enhance customer relationships. Learning will be accomplished through lecture and discussion, critical discussion of case studies and contemporary marketing issues, and interaction with experienced CRM marketing professionals. Prereq: MKMR 201.

MKMR 312. Selling and Sales Management. 3 Units.

Selling and sales management are keys to implementing an organization's marketing program and customer relationships. This course emphasizes developing an understanding of basic marketing concepts, selling principles, interrelationships among sales force management and other business functions, appropriate strategy for managing a sales force and measurement of sales force productivity. We will use theories of work motivation and explore how individual difference variables influence the choices of sales managers. This course uses a synthesis of sales research and leading practices to focus on both a strategic and a tactical perspective. Strategic issues include: entrepreneurial strategy, the sales force's role in company strategy, customer relationship and strategic account management, sales force size and organization and career paths to sales management. Tactical issues include: effective approaches to selling, finding and retaining top sales talent, motivating and compensating the field force, evaluating performance, and aligning sales territories. Prereq: MKMR 201.

MKMR 348. Strategic Internet Marketing. 3 Units.

This course aims to prepare business students to think strategically and make effective marketing decisions in networked business environments. Given the increasing strategic significance of the internet across a broad spectrum of industries, it is imperative that business students develop a deep understanding of the emerging digital marketplace. The course will focus on the following topics: The emerging digital world; individuals and firms online; network technologies; business models on the internet; online branding; customer relationship management and loyalty in electronic markets; internet's impact on innovation and product management; online retailing; business-to-business e-commerce; multi-channel management; sustainable competitive advantage in the digital marketplace; legal, ethical, and public policy issues related to digital technologies; organizing for online marketing. Prereq: MKMR 201.

MKMR 360. Independent Study. 1 - 3 Units.

This course is offered, with permission, to students undertaking reading and research in an area of their special interest.

MKMR 405. Business Marketing. 3 Units.

This course focuses on concepts and practices of business-to-business marketing of products and services. It also examines how rapid technological change impacts industrial markets. Topics covered include: buyer-seller relationship building, competitive bidding, developing markets for new materials and value-based pricing strategies. Marketing to the government, marketing of intellectual property and marketing-R&D-manufacturing interface issues will also be explored. Prereq: MBAP 407 or MBAC 506 or HSMC 407.

MKMR 408. Marketing Metrics. 3 Units.

Evaluation and control are important strategic marketing processes and without effective and consistent measurement, these processes cannot be performed adequately. In recent years, marketing budgets have been challenged by top managers as the value of these expenditures to an organization's financial well being is not often clear. Marketing activities such as advertising, sales promotions, sales force allocation, new product development and pricing all involve up-front investments and making these investments now require increasing scrutiny. This course will be about knowing and understanding what to measure, how to measure and how to report it so the link between marketing tactics and financial outcomes is clearer. The course will include lecture by the instructor, readings (no textbook), cases, computer based data exercises and guest lectures. There will also be a team project requirement. Prereq: MBAC 506, MBAP 407 or HSMC 407.

MKMR 410. Marketing Insight Management. 3 Units.

To appreciate, design, and implement data-based marketing studies for extracting valid and useful insights for managerial action that yield attractive ROI. Five essential processes are emphasized: (a) making observations about customers, competitors, and markets, (b) recognizing, formulating, and refining meaningful problems as opportunities for managerial action, (c) developing and specifying testable models of marketing phenomenon, (d) designing and implementing research designs for valid data, and (e) rigorous analysis for uncovering and testing patterns and mechanisms from marketing data. Prereq: MBAC 506 or MBAC 511 or MBAP 403 or MBAP 407.

MKMR 411. Customer Relationship Management. 3 Units.

Customer Relationship Management (CRM) is the strategic process of building and maintaining profitable customer relationships through co-creation of value with customers. This course starts with understanding the relationship between an organization's strategic goals and customer relationships, including assessing CRM systems, management and implementation, in both B2B and B2C markets. Students will learn the fundamentals of customer profitability analysis, customer portfolio management, B2B relationship/sales force management and automation, designing services to optimize customer experiences, as well as expanding customer relationships through services. Additionally, students will explore how one-to-one marketing and social networks enhance customer relationships. Learning will be accomplished through critical discussion of case studies and contemporary marketing issues, and hands-on group project and presentation, and interaction with experienced CRM marketing professionals. Prereq: MBAP 407 or MBAC 506 or HSMC 407.

MKMR 412. E-Marketing. 3 Units.

Using a combination of lectures, cases, and hands-on projects, the course examines how the Internet influences all the key aspects of marketing, including marketing strategy, pricing, advertising, segmentation, marketing research, retailing, distribution channels, and international marketing. Additionally, the course will cover more Internet specific topics such as privacy, wireless web, sales force automation, and emarketplace models. The course incorporates both business-to-business and business-to-consumer outlooks. Prereq: MBAC 506 or MBAP 407.

MKMR 421. Marketing Value Creation. 3 Units.

Marketing value creation is the process of creating and managing successful brands through continuous innovation. Successful brand innovation and management requires understanding evolving customer needs; creating and delivering the right products, services, and experiences; and managing the process to enhance brand equity and customer satisfaction. Through text, readings, cases, high-profile guest lectures and team projects, this engaging class will cover the innovation and branding process from discovery of unmet needs, brand and product development, to brand promotion and advertising and brand equity measurement. A sustainability thread will weave through the course, covering topics such as brand's ecological footprint, product safety, eco-friendly branding, the ethics of advertising, the impact of pricing on consumers and corporate social responsibility. The result of proper sensitivity to customer needs, social concerns and the environment is integral to the process of value creation for customers, companies and society. Prereq: MBAC 506 or MBAP 407.

MKMR 501. Special Problems and Topics. 1 - 18 Units.

This course is offered, with permission, to students undertaking reading or a project in a field of special interest.

MKMR 601. Special Problems and Topics. 1 - 18 Units.

This course is offered, with permission, to Ph.D. candidates undertaking reading or a project in a field of special interest.

MPOD**MPOD 413. Foundations of Positive Organization Development and Change. 3 Units.**

This course explores and develops the art of reading and understanding social systems in ways that help us imagine, design and develop organization excellence. First it seeks to show how many of our conventional ideas about organizations are based on discourse and metaphors that lead us to see and understand organizations in partial and often limiting ways. Growing research from the domains of Positive Psychology and Positive Organization Scholarship and the theory and practice of Appreciative Inquiry will be explored to show how we can create new and more positive, strength-based ways of designing and developing social systems. Includes presentations, guest lectures and panel discussions on current topics of interest for the Masters in Positive Organization Development and Change (MPOD) candidates. Led by a faculty member of the Department of Organization Behavior, these dialogues and seminars will be presented in several of the six main residencies of the MPOD program. Reflective essays and integrative papers will enable participants to explore their practice of OD, leadership capacity, application of learnings from the program and deeply held values related to current issues and opportunities in the domain of human systems change and development. Prereq: Open to MPOD candidates only.

MPOD 413B. Foundations of Positive Organization Development and Change. 1 Unit.

This course explores and develops the art of reading and understanding social systems in ways that help us imagine, design and develop organization excellence. First it seeks to show how many of our conventional ideas about organizations are based on discourse and metaphors that lead us to see and understand organizations in partial and often limiting ways. Growing research from the domains of Positive Psychology and Positive Organization Scholarship and the theory and practice of Appreciative Inquiry will be explored to show how we can create new and more positive, strength-based ways of designing and developing social systems. Includes presentations, guest lectures and panel discussions on current topics of interest for the Masters in Positive Organization Development and Change (MPOD) candidates. Led by a faculty member of the Department of Organization Behavior, these dialogues and seminars will be presented in several of the six main residencies of the MPOD program. Reflective essays and integrative papers will enable participants to explore their practice of OD, leadership capacity, application of learnings from the program and deeply held values related to current issues and opportunities in the domain of human systems change and development. Part Two of Two. Prereq: MPOD 413A.

MPOD 414. Managing Organizational Change and Real-World Challenges. 3 Units.

The objective of this course is to familiarize participants with the theory and technique of organization design and corporate change with particular emphasis on helping leaders understand and implement the latest forms of organizing in a customer-focused, electronically mediated and knowledge-driven world. Frameworks presented will be used to explore the impact of the information revolution on organization design and change, and the evolution of traditional vertically integrated and multi-divisional enterprises toward spider web structures, trans-organizational networks and communities of practice. Prereq: Open to MPOD candidates only.

MPOD 416A. Leadership, Executive Assessment and Development. 2 Units.

Leadership with emotional intelligence will be examined by studying a number of topics and applying them to two major case studies: 1) a CEO; and 2) yourself. In this context, coaching the development of leadership will be a major topic throughout the course. This course will explore questions such as: Who are effective leaders? Are they different from effective managers? How do they think and act? What makes us want to follow them? How are leaders developed? What and how can people (you) help/coach others develop their competencies to become more effective leaders? (Part one of a three-section course.) Prereq: Open to MPOD candidates only.

MPOD 416B. Leadership and Executive Assessment and Development. 1 Unit.

Leadership with emotional intelligence will be examined by studying a number of topics and applying them to two major case studies: 1) a CEO; and 2) yourself. This course will explore questions such as: Who are effective leaders? Are they different from effective managers? How do they think and act? What makes us want to follow them? How are leaders developed? What and how can people (you) help others develop their competencies to become more effective leaders? (Part two of three) Prereq: MPOD 416A.

MPOD 416C. Leadership, Executive Assessment and Development. 1 Unit.

Leadership with emotional intelligence will be examined by studying a number of topics and applying them to two major case studies: 1) a CEO; and 2) yourself. In this context, coaching the development of leadership will be a major topic throughout the course. This course will explore questions such as: Who are effective leaders? Are they different from effective managers? How do they think and act? What makes us want to follow them? How are leaders developed? What and how can people (you) help/coach others develop their competencies to become more effective leaders? (Part three of a three-section course.) Prereq: MPOD 416B.

MPOD 418. Flourishing Enterprise. 2 Units.

Global issues such as climate change and food security, as well as heightened expectations for personal health and well-being in the workplace, are introducing greater levels of complexity into business strategy and operations, with far-reaching implications for customer satisfaction and employee engagement. Effective handling of these issues can lead to new sources of revenue generation and cost efficiency, as well as reputational value, while failure to do so can lead to financial and competitive risk. Prereq: Open to MPOD candidates only.

MPOD 431B. Experiential Learning for Individuals, Teams, and Organizations. 1 Unit.

This course focuses on the theory of experiential learning and its application at the individual, team, and organizational levels of analyses. This course offers the chance for students to gain insight into their individual learning and adaptive styles, and how such styles impact the way they interact and have consequence for team. The course also explores how teams and organizations learn, and the effect that cultural determinants have on learning and adaptability. In addition, the course examines how learning theory can be applied to focused institutional development projects and educational processes. The course uses presentations, lectures, research findings, interactive activities, and class discussion. The current topics of interest are for the Masters in Positive Organization and Change (MPOD) candidates. It is led by a faculty member of the Department of Organization Behavior. Reflective essays and integrative papers will enable participants to explore their learning styles and that of their organizations and teams to strengthen the practice of OD and human systems change and development. Part two of two. Prereq: MPOD 431A.

MPOD 432. Interpersonal Skills Building. 3 Units.

Interpersonal and team dynamics. It will help you build more open and effective relationships among peers and clients by improving your ability to cooperate with and lead others to work effectively in today's increasingly team-oriented organizations. The emphasis of this course is on learning about oneself in the context of others and using these insights to facilitate learning in the groups you lead. Prereq: Open to MPOD candidates only.

MPOD 432A. Interpersonal Skills Building. 1 Unit.

The objective of this course is to hone the participant's abilities to use themselves as instruments of change and development in relationships with colleagues and clients. This requires comfort with and practice in intervening in a broad range of interpersonal and group dynamics, and knowledge of how one's unique personal style and character serve as both strengths and weaknesses in dealing with others in a helping relationship. Participants will explore theories of adult development, interpersonal and group dynamics, diagnose their interpersonal needs and styles, and practice techniques for developing generative relationships with clients across the OD (organization development) cycle and as process consultants in group settings. Prereq: Open to MPOD candidates only.

MPOD 432B. Interpersonal Skills Building. 1 Unit.

The objective of this course is to hone the participant's abilities to use themselves as instruments of change and development in relationships with colleagues and clients. This requires comfort with and practice in intervening in a broad range of interpersonal and group dynamics, and knowledge of how one's unique personal style and character serve as both strengths and weaknesses in dealing with others in a helping relationship. Participants will explore theories of adult development, interpersonal and group dynamics, diagnose their interpersonal needs and styles, and practice techniques for developing generative relationships with clients across the OD (organization development) cycle and as process consultants in group settings. (Part two of two.) Prereq: Open to MPOD candidates only.

MPOD 435. Practicum in Appreciative Inquiry and Positive OD. 3 Units.

This course develops participants' consultative skills. Competence in role entry and development, data collection, intervention and evaluation is gained through class exercises and field projects. The focus is on developing a problem-centered approach to intervening in organizations that minimizes reliance on programmed techniques and maximize collaborative innovation and learning between client and consultant. Prereq: Open to MPOD candidates only.

MPOD 439. Individual Field Project. 3 Units.

The objectives of this course are to: 1) demonstrate the ability to frame and design a clear cut action research project applied to a given organizational development challenge or improvement opportunity; 2) show the ability to engage and mobilize others in a collaborative effort toward a collective outcome; 3) employ a defined change process and use theory from the field of OD (e.g., AI, EI, Sustainability, Organization Design, Strategic Thinking, etc.) to inform practice; 4) evince the ability to sustain momentum during the course of a project, while navigating the complexities that one normally encounters in an effort to complete the action research cycle; 5) provide evidence that the organization development change project has had a positive benefit or impact; and 6) reveal sufficient self-reflection and mindfulness in ways that further your own and others personal or professional development. These six objectives will fundamentally be the same competencies that I will look for in grading Part 1 and Part 2 of your assignment. Toward these ends, you are expected to plan and execute a significant organization development, and/or change project with an ongoing client or employer. Emphasis is placed on the craft of developing projects that are consistent with one's current skills, career plans, and developmental needs that can be combined with the needs, opportunities, readiness, and resources of the client organization. Prereq: Open to MPOD candidates only.

MPOD 440A. Inclusive Leadership in a Global Context. 2 Units.

The purpose of this course is to help you understand the current theories and effective practices of inclusive leadership in a global context, and through this understanding, to help you enhance your own leadership practices and capabilities. We will examine the methods, challenges, trade-offs, and frontiers of inclusive leadership through application of leadership concepts to case studies. Student teams will identify and conduct an at-a-distance project studying a global executive. The course will facilitate the development of personal efficacy for working with and supervising diverse others—those from different nations/cultures, races/ethnicities, genders, age groups, religions and lifestyles who may have different values, perspectives, approaches and abilities. As you gain self-awareness of the impact of your own identity, you will clarify your own approaches and styles and become more authentic as a leader and change agent. You will also develop practical knowledge about enabling team cultures of engagement and inclusion. Part one of two. Prereq: Open to MPOD candidates only.

MPOD 440B. Inclusive Leadership in a Global Context. 1 Unit.

The purpose of this course is to help you understand the current theories and effective practices of inclusive leadership in a global context, and through this understanding, to help you enhance your own leadership practices and capabilities. We will examine the methods, challenges, trade-offs, and frontiers of inclusive leadership through application of leadership concepts to case studies. Student teams will identify and conduct an at-a-distance project studying a global executive. The course will facilitate the development of personal efficacy for working with and supervising diverse others—those from different nations/cultures, races/ethnicities, genders, age groups, religions and lifestyles who may have different values, perspectives, approaches and abilities. As you gain self-awareness of the impact of your own identity, you will clarify your own approaches and styles and become more authentic as a leader and change agent. You will also develop practical knowledge about enabling team cultures of engagement and inclusion. Part two of three. Prereq: Open to MPOD candidates only.

MPOD 440C. Inclusive Leadership in a Global Context. 1 Unit.

The purpose of this course is to help you understand the current theories and effective practices of inclusive leadership in a global context, and through this understanding, to help you enhance your own leadership practices and capabilities. We will examine the methods, challenges, trade-offs, and frontiers of inclusive leadership through application of leadership concepts to case studies. Student teams will identify and conduct an at-a-distance project studying a global executive. The course will facilitate the development of personal efficacy for working with and supervising diverse others—those from different nations/cultures, races/ethnicities, genders, age groups, religions and lifestyles who may have different values, perspectives, approaches and abilities. As you gain self-awareness of the impact of your own identity, you will clarify your own approaches and styles and become more authentic as a leader and change agent. You will also develop practical knowledge about enabling team cultures of engagement and inclusion. Part three of three. Prereq: Open to MPOD candidates only.

MPOD 470A. Leading Change from a Complexity Perspective. 1 Unit.

In this course, we will continuously attempt to answer two questions: (1) What is the process of sustained, desirable change? and (2) What is the role of a leader? Concepts from complexity theory will be used, including understanding the multilevel nature of SDC at the individual, dyad, team, organization, community, country, and global levels. Intentional Change Theory (ICT) will be used as the organizing concept for the changes studied. In this context, coaching the development of leadership will be a major topic throughout the course. Prereq: MPOD candidates only.

MPOD 470B. Leading Change from a Complexity Perspective. 2 Units.

In this course, we will continuously attempt to answer two questions: (1) What is the process of sustained, desirable change? and (2) What is the role of a leader? Concepts from complexity theory will be used, including understanding the multilevel nature of SDC at the individual, dyad, team, organization, community, country, and global levels. Intentional Change Theory (ICT) will be used as the organizing concept for the changes studied. In this context, coaching the development of leadership will be a major topic throughout the course. Prereq: MPOD candidates only.

MPOD 479. Foundations of Strategic Thinking. 3 Units.

This course will define what constitutes strategic change and what does not. Students will be introduced to a variety of strategic interventions and models from which to interpret, understand and achieve positive organizational change. Opportunity will be provided to apply selected models to the student's organization and other cases in order to gain insight and appreciation for financial and non-financial factors that influence fundamental organizational growth and development. Prereq: Open to MPOD candidates only.

MPOD 480. Dynamics of Effective Change Management Strategies. 3 Units.

This course will: 1) highlight the major current trends and changes that affect the nature of managerial work; 2) describe how OD practitioners and consultants need to factor such trends into their consulting strategies; 3) differentiate between types of interventions, the circumstances in which they apply and their unique strengths; 4) provide background theories that explain the challenges inherent in mobilizing positive change; 5) describe ways to bridge the gap between knowing and doing in order to build organization resilience; and 6) introduce a variety of consulting techniques and skills that the students can add to their repertoire. Prereq: Open to MPOD candidates only.

MPOD 498. Global Citizenship and Multi-Cultural OD: International Study Tour. 3 Units.

This course will broaden perspectives and knowledge of how OD principles and technologies are generated and applied in contexts and cultures outside of North America. Selected literature representing global perspectives on the practice of OD and field experiences will provide support and background for personal experience and reflection on cross-cultural issues in organizing. The primary learning context will be an intense, 10-day study tour to some country outside of North America to provide the participants with opportunities for: 1) comparative studies of OD practices in different cultural settings; 2) in-depth experiences with OD practitioners and students in a different national, regional and cultural context; 3) co-inquiry with non-North American students also involved in developing OD knowledge and skills; and 4) on-site organization visits outside of North America to observe and learn about on-going dynamic change efforts. Prereq: Open to MPOD candidates only.

MSBA

Course descriptions can be found under BUAI

MSFC

Course descriptions can be found under FNCE

MSFI

Course descriptions can be found under FNCE

MSOR

Course descriptions can be found under SCMG

OPMT

OPMT 350. Project Management. 3 Units.

Project management is concerned with the management and control of a group of interrelated tasks required to be completed in an efficient and timely manner for the successful accomplishment of the objectives of the project. Since each project is usually unique in terms of task structure, risk characteristics and objectives, the management of projects is significantly different from the management of repetitive processes designed to produce a series of similar products or outputs. Large-scale projects are characterized by a significant commitment of organizational and economic resources coupled with a high degree of uncertainty. The objective of this course is to enhance the ability of participants to respond to the challenges of large-scale projects so that they can be more effective as project managers. We study in detail up-to-date concepts, models, and techniques useful for the evaluation, analysis, management, and control of projects. Offered as OPMT 350, OPMT 450 and SCMG 450. Prereq: OPRE 301.

OPMT 377A. Business Forecasting. 1.5 Unit.

This course introduces nonmathematical managers to the major quantitative models designed for sound demand and system forecasting in today's complex and increasingly uncertain supply chains. Topics will also include reliability of historical data sets to forecast future patterns. The course will also cover non-quantitative tools to forecast demand for new products, services and technologies when historical data are not readily available. Emphasis is placed on a general understanding of theory, mechanics, application potential, available software packages, and templates. Offered as OPMT 377A, OPMT 477A and SCMG 477A. Prereq: OPRE 207 and OPRE 301.

OPMT 377B. Enterprise Resource Planning in the Supply Chain. 1.5 Unit.

Enterprise resource planning is the dominant system by which companies translate the needs from their customers into the detailed plans that the company must perform to meet the customer needs, and the resulting support the company will need from its suppliers. As such, it is a central player in the process of supply chain management. In this course, we study both the quantitative and qualitative concepts and techniques to help manage a company's operations to perform these important translation and planning tasks in order to help the company be successful. A major emphasis during the course is the design of processes and procedures (algorithms) for solving very complex (wicked) problems as a part of both class discussions and while working on case studies, as well as critiquing the designs so as to clearly understand their limitations. Offered as OPMT 377B, OPMT 477B, and SCMG 477B Prereq: OPMT 377A.

OPMT 412. Lean Services Operations. 3 Units.

The course will be delivered over four modules: 1) Service Process Blueprints, 2) Managing Capacity in Service Systems, 3) Mapping the Value Stream (current and future state), and 4) Inventory Management in Service Systems. The topics considered are viewed in the context of healthcare management, financial services, insurance firms, call centers, back-office operations, and other applications. Through these topics, the participants will be trained in tools that help them understand customers' expectations and needs and to identify service system characteristics that can meet these needs. We will learn how to identify errors in service and troubleshoot these problems by identifying the root causes of errors. Subsequently, we will discuss how one can modify the product or service design so as to prevent defects from occurring. Finally, we will establish performance metrics that help evaluate the effectiveness of the Lean system in place. These efforts will result to improved quality. This course is not oriented toward specialists in service management. Its goal is to introduce you to the environments and help you appreciate the problems that operations managers are confronted with. Then, we will typically discuss some system specifics and emphasize the principles and issues that play key role in their management. Offered as HSMC 412 and OPMT 412.

OPMT 420. Experiential Learning with Six Sigma Green Belt. 3 Units.

The Six Sigma process is the standard for quality improvement in organizations around the globe. In this course, we study the details of the five steps in the Six Sigma process: DEFINE, MEASURE, ANALYZE, IMPROVE, and CONTROL (DMAIC). Many tools, concepts, and processes that are often an integral part of Six Sigma projects in companies are included in the course content. They range from the very basic tools of quality (such as cause-and-effect diagrams for brainstorming) to complete processes (such as benchmarking, quality function deployment, failure mode and effects analysis-FMEA). Statistical concepts with software applications that are central to Six Sigma including statistical process control and introduction to design of experiments are also included. Once the Six Sigma process and its various components are understood, we study quality management including quality control, quality planning, quality improvement, strategic quality management, and quality strategy. A major requirement of the course is an action learning component in which the students are assigned in groups to work on unpaid real projects of Six Sigma in local industries. Students meeting the required standards of performance will earn a Green Belt Certification in Six Sigma and Quality Management from the Weatherhead School of Management. Offered as OPMT 420 and SCMG 420. Prereq: (SCMG/MSOR 433 or OPRE 433 or MBAC 511 or MBAP 403 or HSMC 457). Prereq or Coreq: (SCMG/MSOR 406 or MBAP 408 or MBAC 507 or HSMC 412) or Requisites Not Met permission.

OPMT 422. Lean Operations. 3 Units.

In this course, students will be taught how to identify inefficiencies associated with overproduction, waiting, transport, extra processing, inventory, motion and defects. One-by-one, areas of inefficiencies are to be identified and improved while educating the workforce towards continual improvement. Similarly, participants will be trained to reduce lead times in areas such as engineering design, order entry, purchasing, order fulfillment, receiving, production, packaging, shipping, invoicing and collection. The above improvements will lead to cost reductions. Students will be trained in costing techniques, target pricing, and cost maintenance. The course will be delivered along the following themes: 1) Mapping the Value Stream (current and future state) 2) Workplace Organization: 5S & Safety, 3) Defect Reduction and Error Proofing, 4) Quick Changeover, 5) Standard Operations, 6) Total Productive Maintenance, 7) Visual management, 8) One-piece flow, 9) Lean Metrics. This course is not oriented toward specialists in operations management. Its goal is to introduce you to the environments and help you appreciate the problems that operations managers are confronted with and the key issues in their management. Offered as OPMT 422 and SCMG 422. Prereq: Not available to Master of Supply Chain Management students.

OPMT 450. Project Management. 3 Units.

Project management is concerned with the management and control of a group of interrelated tasks required to be completed in an efficient and timely manner for the successful accomplishment of the objectives of the project. Since each project is usually unique in terms of task structure, risk characteristics and objectives, the management of projects is significantly different from the management of repetitive processes designed to produce a series of similar products or outputs. Large-scale projects are characterized by a significant commitment of organizational and economic resources coupled with a high degree of uncertainty. The objective of this course is to enhance the ability of participants to respond to the challenges of large-scale projects so that they can be more effective as project managers. We study in detail up-to-date concepts, models, and techniques useful for the evaluation, analysis, management, and control of projects. Offered as OPMT 350, OPMT 450 and SCMG 450. Prereq: MBAC 511 or MBAP 403 or HSMC 457 or HSMC 412 or Requisites Not Met permission.

OPMT 460. Supply Chain Strategy. 1.5 Unit.

Have you ever wondered what it takes to manage a successful supply chain? It all comes down to the right strategy. Supply Chain Management Strategy is the indispensable direction for managing a successful supply chain. This course reviews how organizational strategies can inform operations and supply chain strategies. Several cases in various industries are discussed to illustrate how businesses employ various supply chain business models to achieve higher efficiencies, better, quality, faster service, and subsequently promote business objectives. Offered as OPMT 460 and SCMG 460.

OPMT 470. Supply Chain Risk Management. 1.5 Unit.

A Supply Chain comprises firms, organizations, and individuals, linked through material, information, and financial flows, and whose activities enable products and services to be created and reach the consumers. Risk Management is the process of identifying risks, forecasting their impact, devising, mitigation strategies, and applying those strategies in anticipation or in response to adverse events. Supply Chain Risk Management (SCRM) is a set of solutions for identifying, measuring, preparing for, and mitigating adverse events in supply chains. As the widespread use of outsourcing is stretching supply chains further geographically and turning supply networks into intricate, global, and fragile webs, supply disruptions happen more frequently than ever and lead to substantial financial losses. A 2015 National Institute of Standards and Technology study concluded that "the likelihood that a manufacturing organization will not experience a supply chain disruption in a twenty-four month period is a mere 2%." According to research, firms that experienced supply glitches have suffered tremendous erosion in the shareholders' value (the abnormal return on stock of these companies was negative 40%). Disruptions are only one example of supply risks. From commodity price fluctuations to product adulteration, from cyber security to patent violations, from regulatory compliance to supplier bankruptcies, supply chains are rife with risks and opportunities if you know how to recognize and take advantage of them. In this course, you will learn the best industry practices and be exposed to the most current academic insights on SCRM. You will know the process for SCRM, a variety of well-known and emerging supply risks, and the unique challenges of managing each one. You will also learn advantages and disadvantages of different risk mitigation tools. You will take away a number of useful analysis tools that you can immediately apply at your job. You will know the terminology of the field, the definitions, and the "state of the art" techniques. By the end of the course, you will be able to evaluate companies' performance with respect to supply risk management, and you will be able to create, contribute to, and run a supply-risk management program at your company. Offered as OPMT 470 and SCMG 470.

OPMT 475. Global Supply Chain Logistics. 3 Units.

The course will attempt to achieve two objectives: (1) to develop your skills in solving specific types of logistics/supply chain problems, and (2) to improve your capabilities in dealing with unstructured problems of the type encountered by intermediate and top managers. Skill development is accomplished through lecturers, case studies, homework, and examinations. These skills are valuable for addressing specific problems where the given technology is useful in treating them. On the other hand, broader analytical skills are enhanced using case studies and class discussion, which allow problem solving to be placed in a larger context. Defining a framework for analysis, applying concepts and principles, and commenting on the analysis of others help to achieve the second objective. Of course, these objectives interplay throughout the course of study. Offered as OPMT 475 and SCMG 475. Prereq: (MBAP 408 or MBAC 507) and (MBAC 511 or MBAP 403) or Requisites Not Met permission.

OPMT 476A. Strategic Sourcing in Supply Chain. 1.5 Unit.

The primary purpose of the course is to provide a comprehensive introduction to supply issues in manufacturing and service organizations. Procurement and supply management has evolved as a strategic function across various industries. Recent volatility in commodity prices has further enhanced the challenges in procurement. This course explores sourcing strategies in global supply chains to reduce cost and enhance the competitiveness of the firm. This course will provide you with a framework for thinking about strategic sourcing and tools to procure commodities and services efficiently. Offered as OPMT 476A and SCMG 476A. Prereq: Not available to Master of Supply Chain Management students.

OPMT 477A. Business Forecasting. 1.5 Unit.

This course introduces nonmathematical managers to the major quantitative models designed for sound demand and system forecasting in today's complex and increasingly uncertain supply chains. Topics will also include reliability of historical data sets to forecast future patterns. The course will also cover non-quantitative tools to forecast demand for new products, services and technologies when historical data are not readily available. Emphasis is placed on a general understanding of theory, mechanics, application potential, available software packages, and templates. Offered as OPMT 377A, OPMT 477A and SCMG 477A. Prereq: MBAC 511 or MBAP 403 or requisites not met permission.

OPMT 477B. Enterprise Resource Planning in the Supply Chain. 1.5 Unit.

Enterprise resource planning is the dominant system by which companies translate the needs from their customers into the detailed plans that the company must perform to meet the customer needs, and the resulting support the company will need from its suppliers. As such, it is a central player in the process of supply chain management. In this course, we study both the quantitative and qualitative concepts and techniques to help manage a company's operations to perform these important translation and planning tasks in order to help the company be successful. A major emphasis during the course is the design of processes and procedures (algorithms) for solving very complex (wicked) problems as a part of both class discussions and while working on case studies, as well as critiquing the designs so as to clearly understand their limitations. Offered as OPMT 377B, OPMT 477B, and SCMG 477B Prereq: OPMT 477A.

OPMT 478. Operational Excellence. 3 Units.

This course focuses on the essence, principles, and practices of total quality management (TQM) and Operational Excellence. Students learn management issues of identifying, analyzing, and implementing improvement projects in organizations. Topics are mostly non-quantitative with a focus on challenging aspects of quality management that students need to know beyond green belt certification such as learning to see processes better, defining quality ethically, analyzing side effects of change, and leading Kaizen, benchmarking, and brainstorming sessions. The course involves a rigorous real-world project of continuous improvement. Students will also have an opportunity to visit a local plant to get hands on experience with a real Kaizen event. Several guest talks are also scheduled to invite Black Belt professionals to discuss their experiences with quality management in Supply Chain. Offered as OPMT 478 and SCMG 478.

OPMT 480. Blockchain Technology in Supply Chain Management. 1.5 Unit.

This course is intended to provide students with a grounding in blockchain basic concepts to enable them to understand potential applications within the supply chain. As the technology continues to develop and evolve, new use cases will emerge. Supply chain leaders need to know the capabilities offered by blockchain along with the potential risks and challenges associated with blockchain's use and implementation. Students will connect with real world organizations that are pushing ahead with the technology as a way to show its potential. Offered as OPMT 480 and SCMG 480.

OPMT 491. Revenue Management. 3 Units.

This course will focus on the theories and applications of data techniques to analyze demand models, and use optimization techniques to inform strategic decision making upon pricing and revenue management problems. The key ingredients of the class include the use of sophisticated data and optimization tools towards: - Mastering static and dynamic demand models - Understanding consumer choice behaviors - Understanding and formulating firm policies based on price response - Creating optimization toolkits for organizational decision making - Understanding and formulating competitive response The course is "tools agnostic" - you are welcome to use any of the available software packages (like MS Excel, Stata, SPSS) and programming languages (like R, Python or Matlab). Offered as OPMT 491 and SCMG 491. Prereq: OPRE 433 and OPRE 411.

OPMT 501. Special Problems and Topics. 1 - 18 Units.

This course is offered, with permission, to students undertaking reading in a field of special interest.

OPRE**OPRE 207. Statistics for Business and Management Science I. 3 Units.**

Organizing and summarizing data. Mean, variance, moments. Elementary probability, conditional probability. Commonly encountered distributions including binomial, Poisson, uniform, exponential, normal distributions. Central limit theorem. Sample quantities, empirical distributions. Reference distributions (chi-square, z-, t-, F-distributions). Point and interval estimation: hypothesis tests. Prereq: MATH 121 or MATH 125.

OPRE 301. Operations Research and Supply Chain Management. 3 Units.

Operations research (OR) or management science, is the discipline of applying advanced quantitative methods to make better decisions. Techniques covered include linear programming, queuing models and simulation. The second part of the course focuses on how OR tools are used in managing various aspects of Supply Chain. Topics covered include demand forecasting, design of distribution systems, capacity planning, and inventory management. Recommended preparation: one semester of statistics or consent of instructor. Prereq: OPRE 207.

OPRE 332. Computer Simulation. 3 Units.

Computer Simulation is a process of designing and creating a computerized model that mimics an existing or proposed system so as to better understand the behavior of the system. Many studies have shown that in Industry, simulation is most frequently used Operations Research tool due to its ability to deal with complex systems. The first half of this course is designed to give students a basic idea of simulation methodology with the aid of population simulation software. The emphasis of the course is in simulating business processes, however, the versatility of the technique will be demonstrated with applications from finance, health care, etc. The second half of the course covers the statistical design and analysis of simulation models. The topics include random number generation, input data analysis, statistical analysis of simulation outputs, variance reduction techniques, and design of simulation experiments. Offered as OPRE 332 and OPRE 432 Prereq: OPRE 301.

OPRE 332A. Spreadsheet and Business Process Simulation - I. 1.5 Unit.

Computer simulation is a process of designing and creating a computer model (video game) that mimics an existing or proposed system so as to better understand the behavior of the system. Many studies have shown that in industry, simulation is most frequently used Operations Research tool due to its ability to deal with complex systems. Another reason for the recent popularity of simulation is the availability of specialized software with animation capabilities. This course is designed to give students basic ideas of simulation methodology with the aid of popular simulation software. The emphasis of the course is in simulating business processes, however, the versatility of the technique will be demonstrated with applications from finance, health care, etc. The main focus of the course is on building simulation models using state of the art software (@RISK and ARENA). The grading is based on weekly homework and final exam. Offered as OPRE 332A, OPRE 432A, and SCMG 432A. Prereq: OPRE 301.

OPRE 332B. Spreadsheet and Business Process Simulation - II. 1.5 Unit.

Computer simulation is a process of designing and creating a computer model (video game) that mimics an existing or proposed system so as to better understand the behavior of the system. Many studies have shown that in industry, simulation is most frequently used Operations Research tool due to its ability to deal with complex systems. Another reason for the recent popularity of simulation is the availability of specialized software with animation capabilities. This course is designed to give students basic ideas of simulation methodology with the aid of popular simulation software. The emphasis of the course is in simulating business processes, however, the versatility of the technique will be demonstrated with applications from finance, health care, etc. This course builds on 332A/432A (where the main emphasis was to build simulation model using @RISK and ARENA) and focuses on statistical ideas and tools needed in building, analyzing and experimenting with these models. Offered as OPRE 332B, OPRE 432B, and SCMG 432B Prereq: OPRE 301 and OPRE 332A.

OPRE 402. Stochastic Models with Applications. 1.5 Unit.

This course surveys fundamental methods and models in operations research and operations management that incorporate random elements. Topics discussed will include basic results from the theory of stochastic processes, especially Markov chains; an introduction to stochastic dynamic programming; and models in the control of queues and inventories. Offered as OPRE 402 and SCMG 402. Prereq: OPRE 433 and not available to Master of Supply Chain Management students.

OPRE 411. Optimization Modeling. 3 Units.

The first half of the course provides a practical coverage of linear programming, a special type of mathematical model. The art of formulating linear programs is taught through the use of systematic model-building techniques. The simplex algorithm for solving these models is developed from several points of view: geometric, conceptual, algebraic, and economic. The role and uses of duality theory are also presented. Students learn to obtain and interpret a solution from a computer package and how to use the associated output to answer "What-happens-if..." questions that arise in post-optimality analysis. Specific topics include: problem formulation, geometric and conceptual solution procedures, the simplex algorithm (phase 1 and phase 2), obtaining and interpreting computer output, duality theory, and sensitivity analysis. The second half of this course provide a practical approach to formulating and solving combinatorial optimization problems in the areas of networks, dynamic programming, project management (CPM), integer programming, and nonlinear programming. The art of formulating problems, understanding what is involved in solving them, and obtained and interpreting the solution from a computer package are shown. A comparison with formulating and solving linear programming problems is provided as a way to understand the advantages and disadvantages of some of these problems and solutions procedures. Recommended preparation: Knowledge of Excel, one semester each of undergraduate linear algebra and undergraduate calculus (derivatives); or consent of instructor.

OPRE 427. Convexity and Optimization. 3 Units.

Introduction to the theory of convex sets and functions and to the extremes in problems in areas of mathematics where convexity plays a role. Among the topics discussed are basic properties of convex sets (extreme points, facial structure of polytopes), separation theorems, duality and polars, properties of convex functions, minima and maxima of convex functions over convex set, various optimization problems. Offered as MATH 327, MATH 427, and OPRE 427. Prereq: MATH 223 or consent of instructor.

OPRE 432. Computer Simulation. 3 Units.

Computer Simulation is a process of designing and creating a computerized model that mimics an existing or proposed system so as to better understand the behavior of the system. Many studies have shown that in Industry, simulation is most frequently used Operations Research tool due to its ability to deal with complex systems. The first half of this course is designed to give students a basic idea of simulation methodology with the aid of population simulation software. The emphasis of the course is in simulating business processes, however, the versatility of the technique will be demonstrated with applications from finance, health care, etc. The second half of the course covers the statistical design and analysis of simulation models. The topics include random number generation, input data analysis, statistical analysis of simulation outputs, variance reduction techniques, and design of simulation experiments. Offered as OPRE 332 and OPRE 432 Prereq: Not available to Master of Supply Chain Management students.

OPRE 432A. Spreadsheet and Business Process Simulation - I. 1.5 Unit.

Computer simulation is a process of designing and creating a computer model (video game) that mimics an existing or proposed system so as to better understand the behavior of the system. Many studies have shown that in industry, simulation is most frequently used Operations Research tool due to its ability to deal with complex systems. Another reason for the recent popularity of simulation is the availability of specialized software with animation capabilities. This course is designed to give students basic ideas of simulation methodology with the aid of popular simulation software. The emphasis of the course is in simulating business processes, however, the versatility of the technique will be demonstrated with applications from finance, health care, etc. The main focus of the course is on building simulation models using state of the art software (@RISK and ARENA). The grading is based on weekly homework and final exam. Offered as OPRE 332A, OPRE 432A, and SCMG 432A. Prereq: MBAP 403 or MBAC 511.

OPRE 432B. Spreadsheet and Business Process Simulation - II. 1.5 Unit.

Computer simulation is a process of designing and creating a computer model (video game) that mimics an existing or proposed system so as to better understand the behavior of the system. Many studies have shown that in industry, simulation is most frequently used Operations Research tool due to its ability to deal with complex systems. Another reason for the recent popularity of simulation is the availability of specialized software with animation capabilities. This course is designed to give students basic ideas of simulation methodology with the aid of popular simulation software. The emphasis of the course is in simulating business processes, however, the versatility of the technique will be demonstrated with applications from finance, health care, etc. This course builds on 332A/432A (where the main emphasis was to build simulation model using @RISK and ARENA) and focuses on statistical ideas and tools needed in building, analyzing and experimenting with these models. Offered as OPRE 332B, OPRE 432B, and SCMG 432B Prereq: MBAP 403 or MBAC 511.

OPRE 433. Statistical Data Analytics for Supply Chain. 3 Units.

Data of many kinds are typically available in practice, but the challenge is to use those data to make effective professional decisions. This software-intensive course begins with useful descriptions of data and the probability theory foundation on which statistics rests. It continues to statistics, including the central limit theorem, which explains why data often appear to be normally distributed, and the Palm-Khintchine theorem which explains why data often appear to have a Poisson distribution. The remainder of the course focuses on regression and forecasting, including detecting and overcoming some of the deadly sins of regression, and the surprising flexibility of regression models. Recommended preparation: One semester of undergraduate calculus or consent of instructor. Offered as OPRE 433 and SCMG 433.

OPRE 435B. Integrated Problem Solving in OR and SC. 1.5 Unit.

This project-oriented course uses a variety of software to involve the student in the complete problem-solving process in OR and OM. This process includes problem definition and formulation, data collection, and storage in a database, connecting the database to the solution algorithm, designing and implementing an appropriate user interface, and presenting the final solution. Offered as OPRE 435B and SCMG 435B Prereq or Coreq: OPRE 411 or requisites not met permission.

OPRE 454. Analysis of Algorithms. 3 Units.

This course covers fundamental topics in algorithm design and analysis in depth. Amortized analysis, NP-completeness and reductions, dynamic programming, advanced graph algorithms, string algorithms, geometric algorithms, local search heuristics. Offered as CSDS 410 and OPRE 454. Prereq: OPRE 435A and OPRE 435C.

OPRE 490. Independent Study in Operations Research. 1 - 15 Units.

This course is offered, with permission, to students undertaking reading in a field of special interest.

OPRE 501. Special Problems and Topics. 1 - 36 Units.

This course is offered, with permission, to students undertaking reading in a field of special interest.

ORBH**ORBH 250. Leading People (LEAD I). 3 Units.**

The principal goals of this course are to help students learn about the context in which managers and leaders function, gain self-awareness of their own leadership vision and values, understand the options they have for careers in management based on their own aptitudes, orientations and expertise, and develop the fundamental skills needed for success in a chosen career. Through a series of experiential activities, assessment exercises, group discussions, and peer coaching, based on a model of self-directed learning and life-long development, the course helps students understand and formulate their own career and life vision, assess their skills and abilities, and design a development plan to reach their objectives. The course enables students to see how the effective leadership of people contributes to organizational performance and the production of value, and how for many organizations, the effective leadership of people is the driver of competitive advantage. Credit for at most one of ORBH 250 and ORBH 396 can be applied to hours required for graduation. Prereq: At least sophomore standing.

ORBH 251. Leading Organizations (LEAD II). 3 Units.

The principal goal of this course is to help students enhance their leadership skills by understanding how organizations function through the lenses of structure, culture, and power/politics. The course enables students to discern how leaders function effectively as they integrate goals, resources and people within these constraints. Students learn about these organizational lenses while developing their own leadership and professional skills. Prereq: ORBH 250 or ORBH 396 and at least Sophomore standing.

ORBH 303. Leading Teams through Interpersonal Relationships. 3 Units.

This course is designed for students who want to increase their understanding of interpersonal and team dynamics. It is designed to help you to build more open and effective relationships and to improve your ability to cooperate with and lead others to work effectively in today's increasingly team-oriented organizations. The emphasis of this course is on learning about oneself in the context of others based on the here-and-now experience of the group. Prereq: At least sophomore standing.

ORBH 330. Quantum Leadership: Creating Value for You, Business, and the World. 3 Units.

This course is designed to help you develop your leadership skills and capabilities aimed at flourishing, defined as "to grow well, to prosper, to thrive, to live life to the fullest." It emphasizes the growing desire by people everywhere for greater purpose and well-being through practices that cultivate the self. The goal is changing who leaders are being, not only what they are doing, through daily practices that increase their awareness of how their actions impact others and the world. Through the course, students will learn mindfulness-type practices in an action learning process that allows them to experience a greater connection to self, others, and nature. Recent research shows that such direct-intuitive practices support personal well-being, team collaboration, and organizational resilience as part of an upward spiral in leadership effectiveness and life satisfaction. The most exciting aspect of this class is encouraging students to see themselves as positive change agents, with the ability to make a positive impact on the world through living their most fulfilling and flourishing selves. Offered as ORBH 330 and ORBH 430.

ORBH 360. Independent Study. 1 - 6 Units.

This course is set up individually upon conference between student and Organizational Behavior faculty member designed in consult with the student's advisor if necessary in order to engage and challenge student with topics in organizational behavior.

ORBH 370. Navigating Gender in Organizations. 3 Units.

The purpose of this course is to prepare students to succeed in the workforce by understanding and exploring the opportunities and challenges of work across the lifespan and developing necessary skills to be effective. The course broadens understanding of gender dynamics and gendered structures in the workplace, intersections of gender with other identities, and the leadership and managerial issues affecting women and men in work organizations. The course helps students create a personal framework for how to develop a successful, happy and integrated work life in the global economy. Offered as ORBH 370 and WGST 370. Counts for CAS Global & Cultural Diversity Requirement.

ORBH 380. Managing Negotiations. 3 Units.

Negotiation is the art and science of securing agreements between two or more interdependent parties. Negotiation skills are critical to influencing others and thus to effective leadership. The good news is that negotiation is a skill that can be developed. In this interactive course, you will learn how to be a more effective negotiator by learning about the theory and processes of negotiation, participating in negotiation simulations, reflecting on your own and others' negotiation experiences and completing assignments designed to help you hone your negotiation skills. This will be done through a variety of means, including: understanding the theory and processes of negotiation, participating in negotiation simulations, reflecting on your own and others' negotiation experiences and completing assignments designed to help you hone your negotiation skills. Prereq: At least sophomore standing.

ORBH 391. Leadership in Diversity and Inclusion: Towards a Globally Inclusive Workplace. 3 Units.

This course addresses workforce diversity issues from individual, group, and organizational perspectives. The focus is on innovative ways of utilizing today's culturally expanding workforce. Emphasis is on the "what and how" for managers in developing a corporate culture that embraces diversity, helping them in learning to work with, supervise and tap the talent of diverse employees within their organizations. Included are methods for modifying systems to attract, retain, develop, and capitalize on benefits of the new workforce demographics. Counts for CAS Global & Cultural Diversity Requirement.

ORBH 396. Professional Development for Engineers. 3 Units.

The overall objective of this course is essentially to help you to learn, grow and change personally and professionally. The course is designed to develop your self-awareness, leadership capability, relationship and collaboration skills. Specific learning objectives are: 1. Develop greater self-awareness around your core values, personal vision, career aspirations, strengths and emotional intelligence. Deepening your self-knowledge and self-awareness on these dimensions is important for setting up your personal path to success. 2. Learn how people develop and grow through a process of intentional change. You will personally apply this insight and create a plan to achieve your learning and development goals. 3. Learn about and experience the impact of personal and peer coaching. Being able to develop, nurture and sustain positive developmental relationships at work is a hallmark of highly effective professionals. 4. Expand your capability to work effectively with a range of people in groups and teams. Understanding and practicing effective communication, giving and receiving feedback and appreciating differences in others are key factors in working well with others. Credit for at most one of ORBH 250 and ORBH 396 can be applied to hours required for graduation. Prereq: Case School of Engineering majors only.

ORBH 403. Developing Interpersonal Skills for Managers. 3 Units.

This course is intended to sharpen students' skills in the art of relating successfully to other individuals and groups. The course uses an intensive group experience to make students more aware of how their actions affect others, more capable of giving and receiving interpersonal feedback, and more cognizant of processes through which groups work. Several Saturday classes.

ORBH 413. Economics of Negotiation and Conflict Resolution. 3 Units.

Students frequently enroll in a negotiation class with one thought in mind—negotiating a better job offer from an employer. They soon learn, however, that negotiation skills can do far more than improve a paycheck. Negotiations occur everywhere: in marriages, in divorces, in small work teams, in large organizations, in getting a job, in losing a job, in deal making, in decision making, in board rooms, and in court rooms. The remarkable thing about negotiations is that, wherever they occur, they are governed by similar principles. The current wave of corporate restructuring makes the study of negotiations especially important for M.B.A.s. Mergers, acquisitions, downsizing and joint ventures call into question well established business and employment relationships. Navigating these choppy waters by building new relationships requires the negotiation skills that you will learn in this class. Offered as ECON 431 and ORBH 413.

ORBH 430. Quantum Leadership: Creating Value for You, Business, and the World. 3 Units.

This course is designed to help you develop your leadership skills and capabilities aimed at flourishing, defined as "to grow well, to prosper, to thrive, to live life to the fullest." It emphasizes the growing desire by people everywhere for greater purpose and well-being through practices that cultivate the self. The goal is changing who leaders are being, not only what they are doing, through daily practices that increase their awareness of how their actions impact others and the world. Through the course, students will learn mindfulness-type practices in an action learning process that allows them to experience a greater connection to self, others, and nature. Recent research shows that such direct-intuitive practices support personal well-being, team collaboration, and organizational resilience as part of an upward spiral in leadership effectiveness and life satisfaction. The most exciting aspect of this class is encouraging students to see themselves as positive change agents, with the ability to make a positive impact on the world through living their most fulfilling and flourishing selves. Offered as ORBH 330 and ORBH 430.

ORBH 450. Executive Leadership. 3 Units.

This course explores answers to questions such as: Who are leaders? Are they different than managers, heroes and heroines? How do the effective ones think and act? What situations create leaders, foster their emergence or provide opportunities? What makes us want to follow them? What are the personal pits of being a leader (i.e., sex, drugs, alcohol, insomnia, ulcers, etc.)? How are leaders developed? Case studies, self-study and at-work projects will be the primary methods used in the course.

ORBH 451. Alternative Dispute Resolution. 3 Units.

Students will examine the processes of alternative dispute resolution (ADR) through reading materials, videotapes, guest lectures, and simulation exercises. Particular emphasis will be given to the interaction of lawyers and clients in business negotiations and in litigation. Negotiation, arbitration, mediation, and the mini-trial will be examined. The class will also cover impediments to ADR, such as lack of understanding or hostility on the part of clients or lawyers.

ORBH 460. Women in Organizations. 3 Units.

This course addresses important leadership and management issues concerning women in organizations. The course provides complex understandings of issues pertinent to professional women and work such as sex role typing, sex-based discrimination, equal pay, sexual harassment, work-family balance, women's leadership and women's career issues and development. The course helps students increase self-knowledge about their own values and practices as well as enhance their capabilities as leaders and managers. We will examine the opportunities, challenges, trade-offs, and organizational dynamics experienced by women in work settings, as well as the interpersonal, organizational, and societal structures and processes impacting women in organizations. Through a variety of course methods, students gain greater awareness of the gendered nature of work and organizations and learn effective strategies for women's career progress and effective participation in organizations.

ORBH 491. Leadership in Diversity and Inclusion: Towards a Globally Inclusive Workplace. 3 Units.

This dynamic course addresses how to enhance diversity, equity and inclusion in the global workplace from individual, group, and organizational perspectives. Using highly interactive and experiential methods, the focus is on innovative ways of recognizing, understanding, and maximizing the potential of today's culturally expanding workforce. The course emphasizes how emerging professionals and managers in organizations can foster a workplace culture that embraces diversity and inclusion, helping them in learning how to most effectively work with, lead, tap the talent of diverse employees within their organizations, and design systems to attract, retain, develop, and capitalize on the benefits of changing global workforce demographics.

ORBH 501. Special Problems and Topics. 1 - 18 Units.

This course is offered, with permission, to students undertaking reading in a field of special interest.

ORBH 510. Organizational Behavior Department Seminar. 1.5 Unit.

The OB Department Seminar is organized and managed by the first year PhD students. Seminar sessions will alternate between first year meetings and gatherings of the ORBH community of students, faculty and friends. Community sessions will be organized around research presentations of PhD Qualifying Papers, Dissertation Proposals and Dissertation Defense. Seminar Objectives: 1. To create and sustain an appreciative, intellectually nourishing learning space for the ORBH community that will support, inspire and empower us to explore the frontiers of scholarship in our field; 2. To provide a forum for sharing the ongoing research and scholarship of the department; 3. To develop productive collaborative research relationships; 4. To increase our collective knowledge of the current state of the art in OB and to develop productive collaborative research relationships; 4. To increase our collective knowledge of the current state of the art in OB and related fields.

ORBH 511. Micro Organizational Behavior. 1.5 Unit.

Examines the field of micro-organizational behavior. Specifically, the study of individuals and groups within an organizational context and the study of internal processes and practices as they affect individuals and groups. Major topics include individual characteristics such as beliefs, values and personality. Individual processes such as motivation, emotions, commitment, group and team processes, such as decision-making; organizational processes and practices such as goal setting, performance appraisal and rewards, and the influence of all of these on such individual, group and organizational outcomes as performance, job satisfaction, citizenship behaviors, turnover, justice, absenteeism and employee engagement.

ORBH 513. Appreciative Inquiry and Strength-Based Change. 1.5 Unit.

This course explores and develops the art of understanding social systems in ways that help us imagine, design and develop organization excellence. It seeks to show how many of our conventional ideas about organizations are based on discourse and metaphors that lead us to see and understand organizations in partial and often limiting ways. Growing research from the domains of Positive Psychology and Positive Organization Scholarship and the theory and practice of Appreciative Inquiry will be explored to show how we can create new and more positive, strength-based ways of designing and developing social systems.

ORBH 516. The Scholarship of Coaching. 1.5 Unit.

Coaching is a helping relationship in which one person assists another with change with respect to a person's behavior, attitudes, mental models, dreams of the future, etc. The popularity of the practice of coaching began to dramatically increase at least 20 years before scholars designed studies to test its efficacy. In this course, we will examine scholarly work in the coaching domain that has emerged. Prereq: Limited to ORBH PhD students only.

ORBH 520. Group and Interpersonal Analysis. 1.5 Unit.

This course is a review of major concepts and research in group dynamics and interpersonal relations. Topics concern face-to-face social interaction such as communication patterns, power, hierarchy, leadership, norms, goals, productivity, social theories of personality, and personal change through group methods. The course combines cognitive emphasis and personal experience-based learning.

ORBH 523. Design for Sustainable Value. 1.5 Unit.

The relationship between business and society—and the search for mutually beneficial advances between industry and the world's most pressing global issues—has become one of the defining issues of the 21st century. Throughout the world, immense entrepreneurial energy is finding expression, energy whose converging force is in direct proportion to the turbulence, crises, and the call of our times. Factories and buildings are being designed in ways that, surprisingly, give back more clean energy to the world than they use. Bottom-of-the-pyramid strategies and micro-enterprise models are demonstrating how business can eradicate poverty through profitability. Companies are designing products that leave behind no waste—only "food" that becomes input into their biological or technological cycles. And macrowikinomics—everything from telepresence to megacommunity—is rebooting our capacity for human cooperation and global action. Prereq: Limited to ORBH PhD students only.

ORBH 525. Leading Change from a Complexity Perspective. 1.5 Unit.

Change is an enigma and yet sustained, desirable change (SDC) drives adaptation, growth and life itself. In this course, we will continuously attempt to answer two questions: (1) What is the process of sustained, desirable change? and (2) What is the role of a leader, including their emotional and social intelligence? Concepts from complexity theory will be used, as well as case studies and longitudinal studies including understanding the multilevel nature of SDC at the individual, dyad, team, organization (including family business), community, country, and global levels. Intentional Change Theory (ICT) will be used as the organizing concept for the changes studied. Prereq: Limited to ORBH PhD students only.

ORBH 528. The Dynamics of Managing Effective Change. 1.5 Unit.

This course explores and develops an understanding of how individuals actually effect positive change and outcomes within an organization without the requisite authority or decision making power to do so. It seeks to show how managing a change process appears to follow a path of cumulative activities that in time produce a punctuated equilibrium—one that triggers a step up in performance. Such activities seem to be small episodes or learning cycles geared at converting inert knowledge into action; increasing awareness; reinforcing accountability, and/or attaining results. These findings will be compared and contrasted to existing change models and theories. Prereq: Limited to ORBH PhD students only.

ORBH 533. The Practice Turn in Organizational Research. 1.5 Unit.

In this course, doctoral students will develop an understanding of the role of practice and performativity in organizing. This involves exploring the link between doing and thinking by and between individuals in an effort to address larger issues of group- and organizational-level behavior. Students will examine elements of human behavior in organizational endeavors such as embodied cognition, and the enactment of structures and routines. Methods of "capturing" practice in organizing will also be discussed. By the end of the course, students will be expected to articulate how the practice perspective relates to their own research interests and future projects. Prereq: Limited to ORBH PhD students only.

ORBH 538. Research and Theory on Dynamical Behavior in Groups. 1.5 Unit.

This seminar exposes student to a variety of conversations in the study of group dynamics. Major topics include work on commons dilemmas, communal and exchange relationships, social facilitation, social loafing, social combination, and social creativity drawing deeply on our historical roots. It will also focus on current topical issues such as demographic faultlines, transactional memory, and issues of time and transition. Prereq: Limited to ORBH PhD students only.

ORBH 540. Social Exchange, Social Networks, and Social Capital in Organizations. 1.5 Unit.

In this course we will examine the nature of social exchange relationships in organizations. We will explore how individual perceptions regarding the quality of the relationship they have with their immediate supervisor, their work group, and the organization as an entity can impact their workplace attitudes and behaviors. Additionally, we will learn how the examination of networks of relationships can enhance our understanding of how individuals experience organizational life. The course will also provide a brief introduction to the theory, methods and procedures of social network analysis with an emphasis on applications to individual and organizational social capital.

ORBH 541. Organizational Systems. 1.5 Unit.

This course covers the use of general systems theory as a conceptual base for examining organizations from the macro-perspective. The course examines organizational structure and technology, organizations and interorganizational networks in interaction with their societal environments, and large-scale problems of organizational and social power, conflict and change. It is designed to present a large-scale perspective on organization theory and behavior that is complementary to the micro-perspective of organizational behavior.

ORBH 560. Research Methods I. 3 Units.

This course concerns itself with issues associated with the conduct of social research. The primary focus is on learning the "craft" of research and its associated technologies. Among the topics that are addressed are: scientific method; research terminology and definitions; search design; laboratory experiments; simulations; field experiments; field studies; measurement, reliability and validity; and sampling. This course is intended to help students acquire the skills necessary in undertaking dissertation-related research.

ORBH 565. Research in Gender and Diversity in Organizations. 1.5 Unit.

This course will provide a full range of feminist research methods exploring relationships between feminism and methodology involving a plurality of perspectives for conducting research and creating knowledge with an emphasis on collecting and interpreting qualitative materials. Particular attention is paid to understanding gender and diversity related phenomenon that occurs in the workplace. Classic feminist research from a variety of historical, societal, economic, interpersonal and organizational paradigms are incorporated. Coreq: ORBH doctoral students only.

ORBH 570. Learning and Development. 1.5 Unit.

This course provides an exploration of the learning and development paradigm underlying the human potential development approach to human resource development. The origins of this approach in the naturalist epistemologies John Dewey's pragmatism, Kurt Lewin's gestalt psychology, the work of James, Follett, Emerson, Piaget, Maslow, Rogers, and others and current research in adult development, biology and brain/mind research, artificial intelligence, epistemology, moral philosophy and adult learning will be considered. The course will focus on applications of these ideas to current issues in human resource development such as adult learning in higher education, advanced professional development, and large system learning and development. Coreq: ORBH doctoral students only.

ORBH 601. Special Problems and Topics. 1 - 18 Units.

This course is offered, with permission, to candidates undertaking reading in a field of special interest.

ORBH 701. Dissertation Ph.D.. 1 - 9 Units.

(Credit as arranged.) Prereq: Predoctoral research consent or advanced to Ph.D. candidacy milestone.

PLCY**PLCY 399. Business Policy. 3 Units.**

This course uses case analysis to develop perspective and judgment on business problems through the integration of functional areas. Formulation, development, and implementation of organization goals and policies, the development of strategy in relation to the competitive environment, and applications of quantitative and behavioral decision-making techniques are examined. Prereq: Senior standing.

PLCY 501. Special Problems and Topics. 1 - 18 Units.

This course is offered, with permission, to students undertaking reading in a field of special interest.

SCMG**SCMG 400. Linear Algebra. 1 Unit.**

The objective of this one-credit hour course is to provide a basic working knowledge of material in linear algebra that is relevant to the Master of Supply Chain Management and Master of Business Analytics & Intelligence programs. This background material includes geometric and algebraic properties of vectors and matrices together with operations that can be performed on them. The use of vectors and matrices in solving systems of linear equations is taught. Offered as BUAI 400 and SCMG 400. Prereq: For Master of Supply Chain Management students only.

SCMG 402. Stochastic Models with Applications. 1.5 Unit.

This course surveys fundamental methods and models in operations research and operations management that incorporate random elements. Topics discussed will include basic results from the theory of stochastic processes, especially Markov chains; an introduction to stochastic dynamic programming; and models in the control of queues and inventories. Offered as OPRE 402 and SCMG 402. Prereq: For Master of Supply Chain Management students only.

SCMG 406. Operations Management. 3 Units.

Operations managers, ranging from supervisors to vice presidents, are concerned with the production of goods and services. More specifically, they are responsible for designing, running, controlling and improving the systems that accomplish production. This course is a broad-spectrum course with emphasis on techniques helpful to the practice of management at the analyst level. Its goal is to introduce you to the environments, to help you appreciate the problems that operations managers are confronted with, and provide you with the tools to address these problems. Operations Management spans all value-adding activities of an organization including product and process design, production, service delivery, distribution network and customer order management. As global competition in both goods and services increases, a firm's survival depends upon how well it structures its operations to respond quickly to changing consumer needs. Thus, it is essential for all business managers to acquire an understanding of operations management to maintain their competitive advantage. This course provides students with the basic tools needed to become an analyst in Supply Chain and Operations Management. This course provides an overview of Process analysis, Capacity management, Queuing system, analysis, Forecasting, Quality management, Material Requirements planning, Inventory management, and Supply Chain management. The emphasis of the course is on both real world applications and technical problem solving. Several manufacturing and non-manufacturing environments will be discussed explicitly, like health care, insurance, hotel-management, airlines and government related operations. Also we will explore the interface of operations management with other functional areas such as marketing, finance, accounting, etc. This coursework includes individual and group assignments, case analyses and experiential learning through simulations and educational games. Prereq: For Master of Supply Chain Management students only.

SCMG 407. Managerial Marketing. 3 Units.

This course will emphasize how to analyze data to support and guide strategic and tactical marketing decisions relevant for supply chain managers for understanding and contributing to marketing decision-making within the firm. Many firms have extensive information, but far fewer have the expertise to act intelligently on such information. Data must be synthesized, analyzed, and interpreted before sound marketing strategies and tactical plans can be developed. The course will emphasize three key themes: (1) Market Opportunity Analysis including competitive analysis, context assessment, and customer analytics (e.g. customer profitability and lifetime value, retention and loyalty), (2) Marketing Mix Analytics including test marketing, pricing, segmentation, and response modeling, and (3) Marketing ROI including the impact of marketing decisions and plans on fundamental financial measures such as return on marketing investment and net contribution to profit. The course uses a combination of lectures, cases, and exercises. Prereq: For Master of Supply Chain Management students only.

SCMG 410. Accounting and Financial Management. 3 Units.

This course focuses on learning the language of business, how basic accounting information is reported and analyzed, and how basic financial principles can be applied to understanding how value is created within an enterprise. This course is intended for individuals who have a limited background in accounting, finance and business. Most of the exercises will involve evaluating and building models in Excel. Teaching objectives are fairly straightforward: 1. Provide you with a basic understanding of the key principles of accounting and finance. We will quickly cover material that is typically covered in a three-course sequence (Introductory Accounting and Finance I and II). We will fly at a fairly high level, but we want to make sure you understand the basic concepts. 2. Apply these concepts to real (but straightforward) business situations, to gain a better understanding of how companies utilize accounting and financial information. 3. Time permitting, explore how these concepts can be applied to securities, mergers and acquisitions and leveraged buyout transactions, with a specific emphasis on how these concepts are likely to surface in your role in such transactions. Offered as BUAI 410 and SCMG 410. Prereq: For Master of Supply Chain Management students only.

SCMG 411A. Optimization Analytics for Supply Chain. 1.5 Unit.

The objective of this course is to enable you to use mathematical models to help make better decisions for organizations, which a goal of the Master of Supply Chain Management program. General model building techniques are provided and illustrated with many Supply Chain decision problems. You will also learn to classify your model based on its mathematical properties so that you can identify an appropriate computer package to obtain the solution. Because of their importance, significant time is devoted to formulating linear programming models using a variety of examples. You will see how to obtain and interpret a solution from a computer package in EXCEL and how to use the associated output to answer "What-happens-if" questions that arise after solving the problem. You will also get an introduction to formulating and solving other optimization problems in the areas of integer programming, networks, combinatorial optimization, and nonlinear programming. The art of formulating problems, understanding what is involved in solving them, and obtaining and interpreting the solution from a computer package are shown. A comparison with linear programming problems is provided as a way of understanding the advantages and disadvantages of these other models and their solution procedures. Prereq: For Master of Supply Chain Management students only.

SCMG 420. Experiential Learning with Six Sigma Green Belt. 3 Units.

The Six Sigma process is the standard for quality improvement in organizations around the globe. In this course, we study the details of the five steps in the Six Sigma process: DEFINE, MEASURE, ANALYZE, IMPROVE, and CONTROL (DMAIC). Many tools, concepts, and processes that are often an integral part of Six Sigma projects in companies are included in the course content. They range from the very basic tools of quality (such as cause-and-effect diagrams for brainstorming) to complete processes (such as benchmarking, quality function deployment, failure mode and effects analysis-FMEA). Statistical concepts with software applications that are central to Six Sigma including statistical process control and introduction to design of experiments are also included. Once the Six Sigma process and its various components are understood, we study quality management including quality control, quality planning, quality improvement, strategic quality management, and quality strategy. A major requirement of the course is an action learning component in which the students are assigned in groups to work on unpaid real projects of Six Sigma in local industries. Students meeting the required standards of performance will earn a Green Belt Certification in Six Sigma and Quality Management from the Weatherhead School of Management. Offered as OPMT 420 and SCMG 420. Prereq: SCMG/MSOR 406 and SCMG/MSOR 433 and enrolled in Master of Supply Chain Management program.

SCMG 422. Lean Operations. 3 Units.

In this course, students will be taught how to identify inefficiencies associated with overproduction, waiting, transport, extra processing, inventory, motion and defects. One-by-one, areas of inefficiencies are to be identified and improved while educating the workforce towards continual improvement. Similarly, participants will be trained to reduce lead times in areas such as engineering design, order entry, purchasing, order fulfillment, receiving, production, packaging, shipping, invoicing and collection. The above improvements will lead to cost reductions. Students will be trained in costing techniques, target pricing, and cost maintenance. The course will be delivered along the following themes: 1) Mapping the Value Stream (current and future state) 2) Workplace Organization: 5S & Safety, 3) Defect Reduction and Error Proofing, 4) Quick Changeover, 5) Standard Operations, 6) Total Productive Maintenance, 7) Visual management, 8) One-piece flow, 9) Lean Metrics. This course is not oriented toward specialists in operations management. Its goal is to introduce you to the environments and help you appreciate the problems that operations managers are confronted with and the key issues in their management. Offered as OPMT 422 and SCMG 422. Prereq: For Master of Supply Chain Management students only.

SCMG 432A. Spreadsheet and Business Process Simulation - I. 1.5 Unit.

Computer simulation is a process of designing and creating a computer model (video game) that mimics an existing or proposed system so as to better understand the behavior of the system. Many studies have shown that in industry, simulation is most frequently used Operations Research tool due to its ability to deal with complex systems. Another reason for the recent popularity of simulation is the availability of specialized software with animation capabilities. This course is designed to give students basic ideas of simulation methodology with the aid of popular simulation software. The emphasis of the course is in simulating business processes, however, the versatility of the technique will be demonstrated with applications from finance, health care, etc. The main focus of the course is on building simulation models using state of the art software (@RISK and ARENA). The grading is based on weekly homework and final exam. Offered as OPRE 332A, OPRE 432A, and SCMG 432A. Prereq: SCMG 433.

SCMG 432B. Spreadsheet and Business Process Simulation - II. 1.5 Unit.

Computer simulation is a process of designing and creating a computer model (video game) that mimics an existing or proposed system so as to better understand the behavior of the system. Many studies have shown that in industry, simulation is most frequently used Operations Research tool due to its ability to deal with complex systems. Another reason for the recent popularity of simulation is the availability of specialized software with animation capabilities. This course is designed to give students basic ideas of simulation methodology with the aid of popular simulation software. The emphasis of the course is in simulating business processes, however, the versatility of the technique will be demonstrated with applications from finance, health care, etc. This course builds on 332A/432A (where the main emphasis was to build simulation model using @RISK and ARENA) and focuses on statistical ideas and tools needed in building, analyzing and experimenting with these models. Offered as OPRE 332B, OPRE 432B, and SCMG 432B Prereq: SCMG 433 and SCMG 432A.

SCMG 433. Statistical Data Analytics for Supply Chain. 3 Units.

Data of many kinds are typically available in practice, but the challenge is to use those data to make effective professional decisions. This software-intensive course begins with useful descriptions of data and the probability theory foundation on which statistics rests. It continues to statistics, including the central limit theorem, which explains why data often appear to be normally distributed, and the Palm-Khintchine theorem which explains why data often appear to have a Poisson distribution. The remainder of the course focuses on regression and forecasting, including detecting and overcoming some of the deadly sins of regression, and the surprising flexibility of regression models. Recommended preparation: One semester of undergraduate calculus or consent of instructor. Offered as OPRE 433 and SCMG 433. Prereq: For Master of Supply Chain Management students only.

SCMG 435B. Integrated Problem Solving in OR and SC. 1.5 Unit.

This project-oriented course uses a variety of software to involve the student in the complete problem-solving process in OR and OM. This process includes problem definition and formulation, data collection, and storage in a database, connecting the database to the solution algorithm, designing and implementing an appropriate user interface, and presenting the final solution. Offered as OPRE 435B and SCMG 435B Prereq: For Master of Supply Chain Management students only.

SCMG 450. Project Management. 3 Units.

Project management is concerned with the management and control of a group of interrelated tasks required to be completed in an efficient and timely manner for the successful accomplishment of the objectives of the project. Since each project is usually unique in terms of task structure, risk characteristics and objectives, the management of projects is significantly different from the management of repetitive processes designed to produce a series of similar products or outputs. Large-scale projects are characterized by a significant commitment of organizational and economic resources coupled with a high degree of uncertainty. The objective of this course is to enhance the ability of participants to respond to the challenges of large-scale projects so that they can be more effective as project managers. We study in detail up-to-date concepts, models, and techniques useful for the evaluation, analysis, management, and control of projects. Offered as OPMT 350, OPMT 450 and SCMG 450. Coreq: SCMG 433 or Requisites Not Met permission.

SCMG 460. Supply Chain Strategy. 1.5 Unit.

Have you ever wondered what it takes to manage a successful supply chain? It all comes down to the right strategy. Supply Chain Management Strategy is the indispensable direction for managing a successful supply chain. This course reviews how organizational strategies can inform operations and supply chain strategies. Several cases in various industries are discussed to illustrate how businesses employ various supply chain business models to achieve higher efficiencies, better, quality, faster service, and subsequently promote business objectives. Offered as OPMT 460 and SCMG 460. Prereq: For Master of Supply Chain Management students only.

SCMG 470. Supply Chain Risk Management. 1.5 Unit.

A Supply Chain comprises firms, organizations, and individuals, linked through material, information, and financial flows, and whose activities enable products and services to be created and reach the consumers. Risk Management is the process of identifying risks, forecasting their impact, devising, mitigation strategies, and applying those strategies in anticipation or in response to adverse events. Supply Chain Risk Management (SCRM) is a set of solutions for identifying, measuring, preparing for, and mitigating adverse events in supply chains. As the widespread use of outsourcing is stretching supply chains further geographically and turning supply networks into intricate, global, and fragile webs, supply disruptions happen more frequently than ever and lead to substantial financial losses. A 2015 National Institute of Standards and Technology study concluded that "the likelihood that a manufacturing organization will not experience a supply chain disruption in a twenty-four month period is a mere 2%." According to research, firms that experienced supply glitches have suffered tremendous erosion in the shareholders' value (the abnormal return on stock of these companies was negative 40%). Disruptions are only one example of supply risks. From commodity price fluctuations to product adulteration, from cyber security to patent violations, from regulatory compliance to supplier bankruptcies, supply chains are rife with risks and opportunities if you know how to recognize and take advantage of them. In this course, you will learn the best industry practices and be exposed to the most current academic insights on SCRM. You will know the process for SCRM, a variety of well-known and emerging supply risks, and the unique challenges of managing each one. You will also learn advantages and disadvantages of different risk mitigation tools. You will take away a number of useful analysis tools that you can immediately apply at your job. You will know the terminology of the field, the definitions, and the "state of the art" techniques. By the end of the course, you will be able to evaluate companies' performance with respect to supply risk management, and you will be able to create, contribute to, and run a supply-risk management program at your company. Offered as OPMT 470 and SCMG 470. Prereq: For Master of Supply Chain Management students only.

SCMG 475. Global Supply Chain Logistics. 3 Units.

The course will attempt to achieve two objectives: (1) to develop your skills in solving specific types of logistics/supply chain problems, and (2) to improve your capabilities in dealing with unstructured problems of the type encountered by intermediate and top managers. Skill development is accomplished through lecturers, case studies, homework, and examinations. These skills are valuable for addressing specific problems where the given technology is useful in treating them. On the other hand, broader analytical skills are enhanced using case studies and class discussion, which allow problem solving to be placed in a larger context. Defining a framework for analysis, applying concepts and principles, and commenting on the analysis of others help to achieve the second objective. Of course, these objectives interplay throughout the course of study. Offered as OPMT 475 and SCMG 475. Prereq: SCMG/MSOR 406 and SCMG/MSOR 433 and enrolled in Master of Supply Chain Management program.

SCMG 476A. Strategic Sourcing in Supply Chain. 1.5 Unit.

The primary purpose of the course is to provide a comprehensive introduction to supply issues in manufacturing and service organizations. Procurement and supply management has evolved as a strategic function across various industries. Recent volatility in commodity prices has further enhanced the challenges in procurement. This course explores sourcing strategies in global supply chains to reduce cost and enhance the competitiveness of the firm. This course will provide you with a framework for thinking about strategic sourcing and tools to procure commodities and services efficiently. Offered as OPMT 476A and SCMG 476A. Prereq: For Master of Supply Chain Management students only.

SCMG 477A. Business Forecasting. 1.5 Unit.

This course introduces nonmathematical managers to the major quantitative models designed for sound demand and system forecasting in today's complex and increasingly uncertain supply chains. Topics will also include reliability of historical data sets to forecast future patterns. The course will also cover non-quantitative tools to forecast demand for new products, services and technologies when historical data are not readily available. Emphasis is placed on a general understanding of theory, mechanics, application potential, available software packages, and templates. Offered as OPMT 377A, OPMT 477A and SCMG 477A. Prereq: SCMG 411A and SCMG 433 and enrolled in Master of Supply Chain Management program.

SCMG 477B. Enterprise Resource Planning in the Supply Chain. 1.5 Unit.

Enterprise resource planning is the dominant system by which companies translate the needs from their customers into the detailed plans that the company must perform to meet the customer needs, and the resulting support the company will need from its suppliers. As such, it is a central player in the process of supply chain management. In this course, we study both the quantitative and qualitative concepts and techniques to help manage a company's operations to perform these important translation and planning tasks in order to help the company be successful. A major emphasis during the course is the design of processes and procedures (algorithms) for solving very complex (wicked) problems as a part of both class discussions and while working on case studies, as well as critiquing the designs so as to clearly understand their limitations. Offered as OPMT 377B, OPMT 477B, and SCMG 477B. Prereq: SCMG 477A and enrolled in Master of Supply Chain Management program.

SCMG 478. Operational Excellence. 3 Units.

This course focuses on the essence, principles, and practices of total quality management (TQM) and Operational Excellence. Students learn management issues of identifying, analyzing, and implementing improvement projects in organizations. Topics are mostly non-quantitative with a focus on challenging aspects of quality management that students need to know beyond green belt certification such as learning to see processes better, defining quality ethically, analyzing side effects of change, and leading Kaizen, benchmarking, and brainstorming sessions. The course involves a rigorous real-world project of continuous improvement. Students will also have an opportunity to visit a local plant to get hands on experience with a real Kaizen event. Several guest talks are also scheduled to invite Black Belt professionals to discuss their experiences with quality management in Supply Chain. Offered as OPMT 478 and SCMG 478. Prereq: For Master of Supply Chain Management students only.

SCMG 480. Blockchain Technology in Supply Chain Management. 1.5 Unit.

This course is intended to provide students with a grounding in blockchain basic concepts to enable them to understand potential applications within the supply chain. As the technology continues to develop and evolve, new use cases will emerge. Supply chain leaders need to know the capabilities offered by blockchain along with the potential risks and challenges associated with blockchain's use and implementation. Students will connect with real world organizations that are pushing ahead with the technology as a way to show its potential. Offered as OPMT 480 and SCMG 480. Prereq: For Master of Supply Chain Management students only.

SCMG 491. Revenue Management. 3 Units.

This course will focus on the theories and applications of data techniques to analyze demand models, and use optimization techniques to inform strategic decision making upon pricing and revenue management problems. The key ingredients of the class include the use of sophisticated data and optimization tools towards: - Mastering static and dynamic demand models - Understanding consumer choice behaviors - Understanding and formulating firm policies based on price response - Creating optimization toolkits for organizational decision making - Understanding and formulating competitive response The course is "tools agnostic" - you are welcome to use any of the available software packages (like MS Excel, Stata, SPSS) and programming languages (like R, Python or Matlab). Offered as OPMT 491 and SCMG 491. Prereq: SCMG 433 and SCMG 411A.

SCMG 492. Foundations of Python Programming. 1.5 Unit.

Python is an object-oriented programming language that can interact with the world wide web as well as Excel and other programming languages like VBA. As such, Python has gained popularity and is becoming an industry standard in many areas, including supply chain management. In addition to assignment, if/then, and for/while statements, in this course you will learn about object-oriented programming and how to implement those ideas with appropriate data structures. You will also learn how to use libraries that others have created, such as Numpy for numerical calculations (like working with vectors, matrices, and solving systems of linear equations). In addition to individual homeworks, you will solve an assigned project in groups and make a final presentation to the class with PowerPoint. Being able to communicate your model and results is part of learning to work effectively with others in an organization, which is a goal of the supply chain program. All of this is designed to enable you to build and solve models that help organizations make good decisions. Offered as BUAI 492 and SCMG 492. Prereq: For Master of Supply Chain Management students only.