

Management

The degree programs and research efforts at NJIT's Martin Tuchman School of Management (MTSM) are directed toward understanding the effects of technology and technological change on business. MTSM's goal is to prepare a new generation of technology-savvy business leaders who are ready for

MTSM is committed to providing a solid foundation in business and management within a hands-on, experiential learning environment. Small class sizes and opportunities to co-op or intern with major corporations throughout the region and to work with startup companies in VentureLink allow students to learn first-hand about entrepreneurship and product innovation. Currently, there are over 1000 students enrolled in the school's undergraduate and graduate programs. In addition, almost 200 students majoring in engineering, computing, social science, and the applied and design sciences are pursuing a business minor. Joint B.S./M.S. or B.S./M.B.A. options allow students in several departments across the university to accelerate their studies and earn a master's degree in management or an M.B.A. in addition to their undergraduate degree.

MTSM offers an undergraduate program leading to the B.S. degree in Business with concentrations in accounting systems, finance, innovation and entrepreneurship, management information systems, and marketing and a B. S. degree in Financial Technology (FinTech). At the master's level, MTSM offers two programs leading to an M.S. degree in management (M.S.M.) with concentrations in Global Project Management, Business Analytics and Financial Technology, and a Master of Business Administration (M.B.A.) with concentrations in MIS, finance, marketing, innovation and entrepreneurship, and a custom concentration. The MBA and MSM programs are available on-campus or online. MTSM also offers a PhD in Business Data Science.

NJIT Faculty

A

Anandarajan, Asokan, Professor

B

Bandera, Cesar, Associate Professor

Bonitsis, Theologos H., Associate Professor

C

Casal, Jose C., Senior University Lecturer

Caudill, Reggie, Professor Emeritus

Chakrabarti, Alok K., Distinguished Professor Emeritus

Chang, Ai Chih, Assistant Professor

Chen, Yi, Professor

Chou, Porchiung B., Senior University Lecturer

Cordero, Rene, Associate Professor Emeritus

E

Egbelu, Pius J., Distinguished Professor

Ehrlich, Michael A., Associate Professor

F

Fjermestad, Jerry L, Professor

Fox, Wayne, Senior University Lecturer

Fresneda Fernandez, Jorge, Assistant Professor

G

Gopalakrishnan, Shanthi, Professor

Gupta, Shubham, Assistant Professor

K

Kudyba, Stephan P., Associate Professor

L

Li, Jixing, Assistant Professor

Liu, Yanguang, Assistant Professor

M

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Mehta, Rajiv, Professor

Micale, Joseph, Assistant Professor

P

Park, Jae, Assistant Professor

Punyatoya, Plavini, Assistant Professor

R

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Roy, Raja, Associate Professor

Rudna, Olena, Senior University Lecturer

S

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Shi, Junmin, Professor

Somers, Mark, Professor

Sylla, Cheickna, Professor

T

Tamke, William, Senior University Lecturer

Tao, Xinyuan, Assistant Professor

Taylor, Ming, Assistant Professor

Thomas, Ellen J., Associate Professor

Tukel, Oya, Professor

U

Uddin, Ajim, Assistant Professor

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Wang, Jinghua, Assistant Professor

Y

Yu, Dantong, Associate Professor

Z

Zhang, Haisu, Associate Professor

Zhang, Xi, Senior University Lecturer

- Business - B.S. (<http://catalog.njit.edu/undergraduate/management/management/business-bs/>)
- Financial Technology - B.S. (<http://catalog.njit.edu/undergraduate/management/management/fintech-bs/>)
- Business Minor (<http://catalog.njit.edu/undergraduate/management/management/business-minor/>)
- Economics Minor (<http://catalog.njit.edu/undergraduate/management/management/economics-minor/>)
- Innovation and Entrepreneurship Minor (<http://catalog.njit.edu/undergraduate/management/management/innovation-entrepreneurship-minor/>)
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Management Courses

ACCT 115. Fundamentals of Financial Accounting. 3 credits, 3 contact hours (3;0;0).

Restrictions: Business and fintech majors except with permission of MTSM undergraduate advisor. This is an introductory-level financial accounting course designed to develop fundamentals of financial accounting. This course will help students develop skills in applying financial accounting principles to record basic economic transactions, summarize and present such transactions in financial statements as well as to analyze reported accounting information from a user's perspective to make informed financial decisions. Students will also learn to appreciate accounting as a dynamic, changing discipline rather than an inflexible set of rules.

ACCT 117. Principles Of Fin Accountng. 3 credits, 3 contact hours (3;0;0).

Restrictions: Non-MTSM majors only. This is an introductory course designed to develop fundamentals of financial accounting-a process of identifying, recording, and communicating economic events of an organization. This course will provide students with an opportunity to develop skills in applying financial accounting principles to record basic economic transactions, summarize and present such transactions in financial statements as well as analyze reported accounting information by using ratios.

ACCT 215. Managerial Accounting I. 3 credits, 3 contact hours (3;0;0).

Prerequisites: ACCT 115 or ACCT 117. This course introduces fundamentals of cost and managerial accounting, including an introduction to job orders and process costing systems, cost allocation, cost behavior, managerial decision models, cost and budgetary planning and control, standard costing, analysis of variance, and responsibility accounting. The course is designed to develop the fundamentals of managerial accounting and provide students with a working knowledge of how accounting data are used by management in planning, decision-making and operational control.

ACCT 325. Intermediate Accounting I. 3 credits, 3 contact hours (3;0;0).

Prerequisites: ACCT 215. This course provides an in-depth study of generally accepted accounting principles in the classification, presentation and disclosure of assets required by external users of financial statements. Students will learn to complete accounting cycle activities; prepare and evaluate financial statements with data from an accounting information system; apply financial accounting functions and theory to recognize and measure different types of assets; calculate earnings per share; carry out income tax accounting; and understand the nature and effect of accounting errors.

ACCT 335. Managerial Accounting II. 3 credits, 3 contact hours (3;0;0).

Prerequisite: ACCT 215. A study of the concepts and techniques used by cost accountants to assist decision-makers within the organization. In-depth, real-world scenarios will be discussed including process accounting, job-order accounting, measuring quality costs, activity-based costing, and evaluating performance. Students will be introduced to methods currently being used by American businesses, including service firms, as well as manufacturers.

ACCT 340. Accounting Data Analytics and Visualization. 3 credits, 3 contact hours (3;0;0).

Prerequisites: ACCT 115; ACCT 215; MGMT 216. Pre or Corequisites: MIS 385 . The combination of computerization and automation of many accounting tasks as well as the explosion of available data is changing the accounting profession. To address this, accountants are increasingly required to have an analytics mindset to perform their jobs. Building upon the fundamentals of accounting learned in prior courses, ACCT 340 Accounting Data Analytics and Visualization explores accounting concepts through the application of data analytics. This course intends to help students to develop the skills to ask the right questions, to learn how to use tools they may encounter in the workplace such as Excel and Tableau to examine and analyze data, and then to effectively interpret results to make business decisions. This analytics mindset is crucial early in the study of accounting to meet the demands of today's accounting jobs.

ACCT 403. Financial Statement Analysis. 3 credits, 3 contact hours (3;0;0).

Prerequisites: FIN 218; FIN 315. This course offers comprehensive coverage of analysis of financial statements so that students can: a) evaluate the financial position of a firm; b) assess the firm's inherent value and the value of its securities; c) assess the firm's obligations and its ability to meet them; and d) analyze sources and uses of cash.

ACCT 415. Auditing. 3 credits, 3 contact hours (3;0;0).

Prerequisites: ACCT 435. An examination of current auditing theory and practical procedures employed in carrying out an entity's financial statement audit. The course will cover the life cycle of the audit including accepting an audit engagement, evaluating entities' internal control procedures, gathering and testing audit evidence, and preparing an opinion on a company's financial statements. Emphasizes the importance of critical thinking, problem solving, and professional judgment in auditing the financial accounting information of an entity.

ACCT 425. Tax Accounting I. 3 credits, 3 contact hours (3;0;0).

Prerequisite: ACCT 215 or ACCT 116. This course is the first part of the two tax accounting courses, with a focus on federal individual income taxation. It is designed to give the students a comprehensive understanding of personal income tax laws and to able him to prepare personal income tax returns of considerable complexity. Topics covered in this course will include gross income, property transactions, capital gains/losses, itemized deductions employee expenses, depreciation, accounting methods and tax credits, among others.

ACCT 435. Intermediate Accounting II. 3 credits, 3 contact hours (3;0;0).

Prerequisite: ACCT 325. This is the second part of the two intermediate level financial accounting courses designed to review the basic financial required statements and provide accounting students with in-depth study of accounting principles advanced by responsible professional organizations. Topics covered include the classification, presentation and disclosure of assets, liabilities and stockholders' equity for external users of financial information.

ACCT 490. Independent Study in Acct. 3 credits, 3 contact hours (0;0;3).

Prerequisites: ACCT 325 and approval of proposal by the SOM faculty member or lecturer who will supervise the study. Self-paced study on some aspect of managing organizations. Cannot substitute for any required course nor duplicate the coverage of any regularly offered course. Accepted proposals and project results are kept in a file available to all SOM faculty and instructional staff and to students contemplating starting an independent study project.

ECON 201. Economics. 3 credits, 3 contact hours (3;0;0).

The nature of a market economy. Microeconomics, demand theory, production possibilities, cost and price, equilibrium analysis, and applications to decision making in the firm. Macroeconomics, national income accounts, consumption, investment, government monetary and fiscal policy, and problems of employment and price levels. Economic analysis leading to an understanding of current developments in the United States economy and international trade and currency problems. Students who have received credit for ECON 265 or ECON 266 may not subsequently receive credit for ECON 201. Students majoring within Martin Tuchman School of Management are not allowed to register this course.

ECON 265. Microeconomics. 3 credits, 3 contact hours (3;0;0).

Prerequisites: MATH 135 or MATH 138 or MATH 111. The theory of price determination and resource allocation under various market structures. The theory of demand, production, costs, factor and product pricing, income distribution, market failure, implications of government intervention in the market, and comparison of the free enterprise and alternative systems. Students who have received credit for SS 201 may not subsequently receive credit for ECON 265.

ECON 266. Macroeconomics. 3 credits, 3 contact hours (3;0;0).

The theory of national income determination. The determinants of aggregate production, employment and prices, as well as money and banking, business cycles and monetary and fiscal policy. Students who have received credit for ECON 201 may not subsequently receive credit for ECON 266.

ECON 485. Special Topics in Economics. 3 credits, 3 contact hours (3;0;0).

The study of new and/or advanced topics in the various fields of business and their application not regularly covered in any other business course. The precise topics to be covered, along with prerequisites, are announced in the semester prior to the offering of the course.

ENTR 210. Introduction to Entrepreneurship. 3 credits, 3 contact hours (3;0;0).

Provides an understanding of the processes with which to bring technological innovation to market through a new venture. Emphasis is on opportunity recognition, business model validation, and the strategic management of new ventures. Students will form virtual companies, learn the protocols of technological innovation concepts including securing funding and intellectual property protection, and engage the regional entrepreneurship ecosystem.

ENTR 320. Financing New Venture. 3 credits, 3 contact hours (3;0;0).

Prerequisite: ENTR 410 or ENTR 210. This course teaches students how to estimate the funding required to bring an innovation to market, how to secure such funding, and how to track the venture's progress through financial metrics. The course covers the entire life cycle of new ventures, from bootstrapping through growth to harvesting.

ENTR 330. Entrepreneurial Strategy. 3 credits, 3 contact hours (3;0;0).

Prerequisite: ENTR 410 or ENTR 210. Integrates knowledge of the different aspects of business learned in previous course work. In addition, provides an understanding of the decisions that guide the overall operations of a business organization and how the organization interacts with its markets, competitors, and suppliers. For the student who is considering starting or managing a small business. Combines classroom instruction in business strategy along with case analysis of small firms.

ENTR 440. Lean Startup Accelerator. 3 credits, 3 contact hours (3;0;0).

This is a hands-on workshop to help students get their new business idea launched. It utilizes the Lean Startup Methodology where students are expected to interview and acquire actual customers during the course.

ENTR 485. ST in Entrepreneurship. 3 credits, 3 contact hours (3;0;0).

The study of new and/or advanced topics in the various fields of innovation and entrepreneurship and their application not regularly covered in any other business or entrepreneurship course. The precise topics to be covered, along with prerequisites, are announced in the semester prior to the offering of the course.

ENTR 490. Independent Study in ENTR. 3 credits, 3 contact hours (0;0;3).

Prerequisites: ENTR 410 and approval of proposal by the SOM faculty member or lecturer who will supervise the study. Self-paced study on some aspect of managing organizations. Cannot substitute for any required course nor duplicate the coverage of any regularly offered course. Accepted proposals and project results are kept in a file available to all SOM faculty and instructional staff and to students contemplating starting an independent study project.

FIN 218. Financial Markets and Institutions. 3 credits, 3 contact hours (3;0;0).

This course provides an overview of the main features of financial markets and institutions in the United States, including interest rates and rates of return and how they are determined. It also covers securities traded on the U.S. financial markets including bonds, stocks, and derivatives and discusses how financial institutions, especially commercial banks work, along with the role of government in regulating financial markets and institutions.

FIN 306. Blockchain Technology for Business. 3 credits, 3 contact hours (3;0;0).

Prerequisites: MGMT 216 and FIN 218. In this course, students will delve into the world of Blockchain Technology (BCT) and the promise it holds for business. In particular, students will study how cryptocurrencies like Bitcoin and Non-Fungible Token (NFT) make use of the Blockchain to facilitate peer-to-peer transactions. With a solid understanding of the BCT principle such as consensus and decentralization, students will discover the challenges that BCT could solve and determine how they can support the business goals. Students will do this by learning about Smart Contract and the most important use cases in DeFi (decentralized finance), Healthcare, Supply Chain Management, Agribusiness, etc. Students will analyze how smart contracts work, how they're used today, how to reason about their capabilities, and what ongoing technical challenges they pose. In the course project, students will come up with their own application and outline the challenges that might exist in BCT adoption.

FIN 310. Data-Driven Financial Modeling. 3 credits, 3 contact hours (3;0;0).

Prerequisites: MGMT 216 and FIN 218 or FIN 315. This course introduces basic and innovative financial modeling techniques, and equips students with new analytic and modeling tools to tackle rapidly changing and dynamic financial markets. In particular, this course delivers modeling frameworks such as regression analysis, forecasting, Monte-Carlo simulation, optimization, and binomial trees; it illustrates how to apply these frameworks in financial contexts such as portfolio management, term-structure estimation, capital budgeting, risk measurement, and risk analysis in discounted cash flow models. The modeling tools will be illustrated by applying them to a variety of real-world financial data that can be obtained directly from Bloomberg Terminals and other sources.

FIN 315. Fundamentals of Corporate Finance. 3 credits, 3 contact hours (3;0;0).

This course focuses on how companies invest in real assets and how they raise the money to pay for those investments. Topics covered include the firm and the financial manager, time value of money, bonds, stocks, and net present value. International finance, risk management, capital structure strategy and case studies of technology-based companies will be introduced.

FIN 320. Fin Data Analytics. 3 credits, 3 contact hours (3;0;0).

Prerequisites: CS 100 or CS 103, MATH 333 or MGMT 216, and FIN 218. This course covers data analytics for common finance applications using popular programming languages, such as Python or R. It consists of two stages: Stage 1 for introducing programming basics; Stage 2 for covering commonly used analytical skills for applications in finance. Two real-data applications will strengthen the students' hands-on experiences. The course provides students with essential analytics training as needed for financial applications.

FIN 401. Securities in Financial Markets. 3 credits, 3 contact hours (3;0;0).

Prerequisites: FIN 218 and FIN 315. This course offers a quantitative approach to evaluating fixed income securities and to managing bond portfolios. Specific topics include: modern theory of bond pricing, pricing of high risk bonds, derivatives, and risk management.

FIN 402. Financial Risk Measurement and Management. 3 credits, 3 contact hours (3;0;0).

Prerequisites: FIN 218 and FIN 315. This course offers an in-depth analysis of the measurement and management of risk in financial markets. Topics include: assessing overall market risk, credit risk, liquidity risk, settlement risk, volatility risk, measuring portfolio risk, and extreme value risk.

FIN 403. Financial Statement Analysis. 3 credits, 3 contact hours (3;0;0).

Prerequisites: FIN 218 and FIN 315. This course offers comprehensive coverage of analysis of financial statements so that students can: a) evaluate the financial position of a firm; b) assess the firm's inherent value and the value of its securities; c) assess the firm's obligations and its ability to meet them; and d) analyze sources and uses of cash.

FIN 410. Data Mining & Machine Learning. 3 credits, 3 contact hours (3;0;0).

Prerequisites: MATH 111 or MATH 135, FIN 310 and FIN 320. FIN 410 provides an in-depth study of data mining and machine learning, with a focus on finance applications. This course is practice-oriented and develops the required skills to apply contemporary analysis tools of data mining & machine learning tools in financial data and facilitate decision making in stock market. Coverage includes data mining and machine learning concepts, processes, methods, and techniques; tools and metrics; and integration with Big Data.

FIN 416. Advanced Corporate Finance. 3 credits, 3 contact hours (3;0;0).

Prerequisites: FIN 218 and FIN 315. Advanced corporate finance with an emphasis on the financial management of technology-based organizations. Case studies are used for comparative analysis. Emphasis is on organizational productivity and profitability.

FIN 417. Investments Management. 3 credits, 3 contact hours (3;0;0).

Pre or Corequisites: FIN 315. The course is intended to introduce students to key concepts, valuation methods and models and practical issues in investments from an investor's perspective. The course has two main components. First, the course will cover the theories of investments where the students will learn the main ideas proposed in academic literature to construct well-diversified portfolios. Second, the course will provide students the necessary tools to put the theoretical concepts covered in this course into practice.

FIN 422. International Finance. 3 credits, 3 contact hours (3;0;0).

Prerequisites: FIN 218 and FIN 315. Introduction to the international financial management of the firm with an emphasis on technology-based organizations. Topics covered include hedging currency risk, capital budgeting internationally, raising funds internationally. Global competitiveness is addressed with comparative analysis of the financial management practices of American, European and Japanese firms.

FIN 423. Risk Analysis. 3 credits, 3 contact hours (3;0;0).

Prerequisite: FIN 315. The management of risk in the business enterprise. Topics include measurement of risk and hedging strategies, sources of liability, property and liability insurance, and insurance administration.

FIN 430. Options and Futures Markets. 3 credits, 3 contact hours (3;0;0).

Prerequisites: FIN 218, FIN 315, MATH 135 (or MATH 138, MATH 111). This course covers options, forward contracts, futures contracts and swaps, and will give students a working knowledge of how these contracts work, how they are used, and how they are priced. Students will learn how corporations and portfolio managers can hedge different kinds of risks or alter the distribution of returns on their portfolios using various techniques.

FIN 485. Special Topics in Finance. 3 credits, 3 contact hours (3;0;0).

The study of new and/or advanced topics in the various fields of business and their application not regularly covered in any other business course. The precise topics to be covered, along with prerequisites, are announced in the semester prior to the offering of the course.

FIN 490. Independent Study in Finance. 3 credits, 3 contact hours (0;0;3).

Prerequisites: FIN 218, FIN 315 and approval of proposal by the SOM faculty member or lecturer who will supervise the study. Self-paced study on some aspect of managing organizations. Cannot substitute for any required course nor duplicate the coverage of any regularly offered course. Accepted proposals and project results are kept in a file available to all SOM faculty and instructional staff and to students contemplating starting an independent study project.

HRM 301. Organizational Behavior. 3 credits, 3 contact hours (3;0;0).

Restrictions: Junior or Senior standing. Organizational behavior (OB) is about how individuals and groups act within organizations and how these actions impact organizational performance. The main objective is to enhance organizational effectiveness. Topics covered include individual characteristics, motivation, reactions to the work experience, group and team dynamics, organizational structure, organizational culture, organizational power and politics, leadership and organizational change. Throughout, where relevant, reference is made to OB in the context of trends and evolving practices in business particularly in relation to technology-based innovation.

HRM 303. Human Resources Management. 3 credits, 3 contact hours (3;0;0).

Covers basic human resources concepts including recruitment, selection, EEO, training, labor relations, and human resources information systems. Human resources management practices in technology-based firms are studied in detail.

HRM 310. Managing Diversity and Inclusion in Organizations. 3 credits, 3 contact hours (3;0;0).

The course analyzes issues that arise in managing a diverse work force and including diverse people in senior positions throughout the organization. Through class discussions, readings, group projects, and talks from outside industry speakers you learn about interpersonal skills and strategies to recruit, train, motivate, promote, and include employees with diverse characteristics. You learn major organizations' best practices in line with federal and state laws and regulations. Students examine the implications of technological developments for including diverse populations in the use of new technologies to include the disabled. By the course's end you should understand how demographic and cultural issues affect organizational performance in a diverse world.

HRM 415. Organizational Design and Development. 3 credits, 3 contact hours (3;0;0).

Prerequisite: HRM 301. Focuses on the design of modern organizations with an emphasis on effectively responding to environmental and technological change. Design issues include analyzing organizational structures, understanding the process of organizational learning, and evaluating organizational cultures. Development issues focus on employee empowerment, vertical and horizontal communication in organizations, and self-managed work teams.

HRM 485. Special Topics in Human Resource Management. 3 credits, 3 contact hours (3;0;0).

The study of new and/or advanced topics in the various fields of business and their application not regularly covered in any other business course. The precise topics to be covered, along with prerequisites, are announced in the semester prior to the offering of the course.

MGMT 116. Quantitative Analysis Appl Bus. 4 credits, 5 contact hours (3;2;0).

This course introduces statistical concepts, basic optimization modeling and tools that can be leveraged for business data analytics. The emphasis is on knowing what analytical techniques to use to address specific business questions, on the use of computer software to perform statistical analysis, and on the interpretation and communication of the results of such analysis. The use of Excel and other software tools is emphasized. The course covers statistical techniques that are often used to solve problems in business areas such as finance, marketing, and operations management.

MGMT 190. Introduction to Business. 3 credits, 3 contact hours (3;0;0).

Restriction: Freshman business and fintech majors except with permission of MTSM undergraduate advisor. This course is designed to provide students the theoretical background relevant to key areas of management. Recognition of the complex and emerging business environment requires new insights, new skills and novel approaches for people and companies. Successful completion of this course will provide students the knowledge and confidence to apply theory and management principles to real-world challenges and opportunities. Students will participate in actual case presentations and collaborate with team members to illustrate concepts learned.

MGMT 216. Business Data Analytics. 3 credits, 3 contact hours (3;0;0).

Prerequisites: MGMT 116 or MATH 105. This course introduces statistical concepts and tools that can be leveraged for business data analytics. The emphasis is on knowing what analytical techniques to use to address specific business questions, on the use of computer software to perform business statistical analysis. In particular, it covers descriptive statistics, confidence interval estimation, hypothesis testing, inferential statistics and regression analysis. It ends with a brief introduction to time-series analysis and forecasting.

MGMT 290. Business Law I. 3 credits, 3 contact hours (3;0;0).

The basic principles of common and statutory law applicable to business and professional relationships, emphasizing contracts, negotiable instruments, sales of goods, agency and business organizations.

MGMT 310. Co-op Work Experience I. 3 credits, 3 contact hours (0;0;3).

Prerequisites: Completion of at least 30 credits at NJIT, approval of the school and permission of the Office of Cooperative Education and Internships. Students gain major-related work experience and reinforcement of their academic program. Work assignments facilitated and approved by the co-op office. Mandatory participation in seminars and completion of a report.

MGMT 316. Business Research Methods. 3 credits, 3 contact hours (2;1;0).

Prerequisites: MGMT 216, MIS 245. This course covers business research methodologies with an emphasis on data collection/mining and data analysis. It offers the knowledge skills to conduct research in all applicable fields from the traditional areas of business, such as, marketing, finance, human resources, operations and service management, as well as web-based e-commerce related research applications. Upon completion, students will be able to: (1) understand business research methodologies, (2) conduct business research studies, (3) present the results, analyses and recommendations to management.

MGMT 330. Real Estate Principles. 3 credits, 3 contact hours (3;0;0).

Restrictions: Sophomore standing. The Real Estate Principles course provides an overview of fundamental real estate concepts, terminology, and real estate practices. Specifically, the course will be surveying real estate law, appraisal, marketing, brokerage, management, finance, and investment analysis. As an introductory course, it will provide you with the foundation needed for the other real estate courses that are required for the real estate specialization in the B.S. program.

MGMT 340. Real Estate Information Systems. 3 credits, 3 contact hours (3;0;0).

Restrictions: Sophomore standing. This course will provide a comprehensive overview of the various types of internal (endogenous) information systems used by today's leading real estate companies to operate effectively and efficiently. The course will take a micro approach to the application of technology within a real estate company to support business operations and managerial decision-making. This focus contrasts with taking a macro view of the industry and the role emergent technologies and innovations play in driving competition, new businesses, and new market opportunities. Information systems are used by all functioning departments and are designed to support the property management, construction, acquisition, and tenant lifecycles that real estate companies manage. This is in addition to traditional business processes that take place daily. These systems and their uses will be evaluated to see how they are integrated and used to support various business processes that flow across departments and organizations. Students will learn to identify these various systems, identify the data used, and develop dashboards and processes to aid management decision-making. The focus is on understanding concepts as opposed to implementing the actual computer processes that implement the concepts.

MGMT 345. Real Estate Tech Innovation & Entrepreneurship. 3 credits, 3 contact hours (3;0;0).

Restrictions: Sophomore standing. Course content and exercises are focused on providing a business manager and innovator with understanding of how technology has fundamentally changed real estate economics as an asset class for future real estate professionals and entrepreneurs, whether as investors, developers, operators, brokers, lenders, facility managers, designers, planners or other roles yet to emerge. The topics presented during the semester are designed to spark curiosity and awareness regarding the intersection of technology innovation and entrepreneurship, and its effect on local and international real estate economics.

MGMT 350. Knowledge Management. 3 credits, 3 contact hours (3;0;0).

Prerequisite: MIS 245. The purpose of this course is to introduce students to Knowledge Management. This term is used to refer to the ways in which organizations create, gather, manage and use the knowledge. Emphasis is placed on the information systems needed to capture and distribute knowledge and how knowledge can be used to gain competitive advantage.

MGMT 360. Business Law II. 3 credits, 3 contact hours (3;0;0).

The course will cover concepts required for the CPA Exam. Current cases will illustrate legal principles and how courts make decisions. Topics include corporate information and termination, agency and employment issues and forms of discrimination, comparisons of U.S. laws with those in other countries, the ethical context for business decisions, insider trading, online securities fraud, and disclosure of financial information on corporate blogs and tweets, including the tax consequences.

MGMT 390. Principles of Business. 3 credits, 3 contact hours (3;0;0).

Restrictions: Non-MTSM majors only. This course explores strategies that allow companies to grow and compete in today's global marketplace, along with skills you will need to turn ideas into action for success in business. You will get an overview of key business processes, and an understanding of how they work together. Learning will be reinforced by real time case studies. A comprehensive project-based learning exercise will allow you to act as a management consultant and relate what you cover in class to a real company.

MGMT 391. International Business. 3 credits, 3 contact hours (3;0;0).

Prerequisites: FIN 315 and (MGMT 190 or MGMT 390 or HRM 301) and ECON 266 or ECON 201. This course provides the framework for understanding international business and trade and focuses on the core concepts and techniques for entering the international marketplace. The course emphasizes the effect of social, cultural, economic, technological, political, and legal environments on foreign trade and managerial decision-making. A variety of topics will illustrate the impact of international business on our daily lives such as the patterns of world trade, currency exchange, the international monetary system, international marketing, international management, and the operating procedures of the multinational enterprise.

MGMT 399. Career Planning. 1 credit, 1 contact hour (1;0;0).

Restrictions: MTSM majors Junior or Senior standing. This one-credit, satisfactory/unsatisfactory course, is designed to equip students with the essential skills and knowledge required to confidently step into the professional arena. Recognizing the critical transition from academia to the workforce, this course offers a targeted, practical approach to ensure students are well-prepared for the challenges and opportunities of this transition. This course meets for 10 weeks in the semester.

MGMT 410. Co-op Work Experience II. 3 credits, 3 contact hours (0;0;3).

Prerequisites: MGMT 310 or equivalent, approval of the school, and permission of the Office of Cooperative Education and Internships. Provides major-related work experience as a co-op/intern. Mandatory participation in seminar and completion of requirements that include a report and/or project.

MGMT 416. Artificial Intelligence for Business Decisions. 3 credits, 3 contact hours (3;0;0).

Prerequisites: MIS 245 and MGMT 216. Every industry is being affected by AI including finance, cybersecurity, manufacturing and services. The course explores common uses of AI in enterprises using Natural Language Processing (NLP), Chatbots (very useful in marketing and customer service), computer vision, and big data. Course content and exercises are focused on providing a business manager with understanding and tools to effectively use Artificial Intelligence systems to solve business problems and aid in decision-making. This course focuses on using AI systems from a manager's perspective.

MGMT 480. Managing Technology and Innovation. 3 credits, 3 contact hours (3;0;0).

Restrictions: Junior standing (57 credits). This course focuses on the strategic management of technology and innovation in firms. It will take the perspectives of various levels of management in studying value creation and value capture through technological innovation, intrapreneurship, and entrepreneurship. Students will examine and analyze how firms effectively manage activities involved in value creation and value capture.

MGMT 485. Special Topics in Management. 3 credits, 3 contact hours (3;0;0).

The study of new and/or advanced topics in the various fields of business and their application not regularly covered in any other business course. The precise topics to be covered, along with prerequisites, are announced in the semester prior to the offering of the course.

MGMT 490. Independent Study in Management. 3 credits, 3 contact hours (0;0;3).

Prerequisites: HRM 301 and approval of proposal by the SOM faculty member or lecturer who will supervise the study. Self-paced study on some aspect of managing organizations. Cannot substitute for any required course nor duplicate the coverage of any regularly offered course. Accepted proposals and project results are kept in a file available to all SOM faculty and instructional staff and to students contemplating starting an independent study project.

MGMT 492. Business Policy. 3 credits, 3 contact hours (3;0;0).

Prerequisite: senior standing. A capstone course in the area of business administration focusing on the integration of concepts taught in various functional courses such as marketing, finance, operations management, accounting, organizational behavior. Issues related to corporate responsibilities and ethical behavior are also incorporated in this course. Emphasis on application of concepts to real life situation is achieved through case discussion and projects. All SOM students need to earn a C or better in MGMT 492 in order to graduate.

MIS 245. Introduction to Management Information Systems. 3 credits, 3 contact hours (3;0;0).

Concepts of information systems, business process, hardware, software, systems analysis, e-commerce, enterprise systems and computer applications in organizations, techniques of systems analysis, systems designs, implementations, and information management (both technical and behavioral) are studied in the organizational context of management information needs.

MIS 363. Project Management for Managers. 3 credits, 3 contact hours (3;0;0).

Prerequisite: Junior standing (57 credits). This course covers theories, tools, and techniques to manage projects in organizations. Students will learn how to put together a project charter, define project goals, and develop project teams, schedules, and budgets. The course will illustrate the key aspects of project lifecycles (initiation, planning, execution, monitor and control, and closing). It will also emphasize aspects of team, performance, risk, and quality management.

MIS 385. Database Systems for Managers. 3 credits, 3 contact hours (3;0;0).

Prerequisites: CS 103 or CS 100 and MIS 245. This course introduces fundamentals of database systems for business applications. The course will also introduce the concepts of database evaluation, assessment and governance issues for business needs, as well as, database privacy, security and visualization for managerial applications. Students will gain hands-on experience on database systems management through course assignments.

MIS 423. Sports Management and Analytics with Python Application. 3 credits, 3 contact hours (3;0;0).

Prerequisites: MGMT 116 and MGMT 216. This course concentrates on the world of sports performance management through the lens of business intelligence, including descriptive and predictive analytics, and related support technologies and tools, such as Python programming and Jupyter Notebooks to analyze, and manage performance data in sport. Overall, this course focuses on teaching knowledge and analytics skills to better manage sport data and sport related enterprises. The course materials focus on three fundamental aspects of sport management, including: (1) collection, assessment and forecasting performance data of players and teams, (2) decision analysis and strategic planning of sport-related organizations, and (3) statistical forecasting in sports betting. In addition, the course offers students opportunities to collect sport relevant datasets, and to produce their own results using a hands-on approach in a fast-moving and highly stochastic ecosystem of sports. Thus, students will gain practical skills in data management and analytics skills to support informed decision making for sports management and coaching.

MIS 445. Dec Supprt Tool & Tech Mngrs. 3 credits, 3 contact hours (3;0;0).

Prerequisites: MIS 245 and OM 375. This course covers computer-based systems used to inform decisions in an organization or a business. A particular focus is given to data-driven systems capable of extracting useful information from large volumes of data. Students will be exposed to different data-driven tools and techniques through hands-on assignments, and learn how to use them to draw conclusions, make determinations, and recommend courses of action to address different business problems.

MIS 485. Special Topics in Management Information Systems. 3 credits, 3 contact hours (3;0;0).

The study of new and/or advanced topics in the various fields of business and their application not regularly covered in any other business course. The precise topics to be covered, along with prerequisites, are announced in the semester prior to the offering of the course.

MIS 490. Independent Study in MIS. 3 credits, 3 contact hours (0;0;3).

Prerequisites: MIS 245 and approval of proposal by the SOM faculty member or lecturer who will supervise the study. Self-paced study on some aspect of managing organizations. Cannot substitute for any required course nor duplicate the coverage of any regularly offered course. Accepted proposals and project results are kept in a file available to all SOM faculty and instructional staff and to students contemplating starting an independent study project.

MRKT 330. Principles of Marketing. 3 credits, 3 contact hours (3;0;0).

Prerequisites: MGMT 190 or MGMT 390 or departmental approval. Provides an understanding of how environmental factors (political, legal, economy, competition, socio-cultural, and technology) influence the design of product, pricing, promotion and distribution strategies. Topics discussed include strategies to satisfy target markets, market segmentation, buyer behavior, marketing ethics, and an introduction to global marketing issues. Fundamentals of marketing are integrated using cases, videos, and class projects.

MRKT 331. Customer Insights. 3 credits, 3 contact hours (3;0;0).

Prerequisites: MATH 105 or MGMT 116 and MRKT 330. Provides coverage of frameworks, concepts, tools, and techniques to discover and communicate business-relevant customer insights. Included are strategies for understanding the customer journey to gain insights from customer behavior (including Business to Business, Business to Customer, and Business to Me [individual]), and from experiences that allow marketers to understand buyer propensity and behavior.

MRKT 332. Advertis Theory & Techn. 3 credits, 3 contact hours (3;0;0).

Prerequisite: MRKT 330 This course addresses the total marketing communications function. It discusses the importance of integrated marketing communications (IMC) and provides coverage of advertising, sales promotion, public relations/publicity, direct response, interactive advertising and personal selling.

MRKT 338. New Product Design and Development. 3 credits, 3 contact hours (3;0;0).

Prerequisite: MRKT 330. The course focuses on the marketing aspects of designing and launching new products. It covers key activities carried out by product managers: product positioning, market opportunity identification, demand and growth forecasting, marketing research for testing and improving new products, product launch management, and product portfolio decisions. This course should also be useful in providing a marketing perspective to students planning an entrepreneurial career.

MRKT 339. Selling. 3 credits, 3 contact hours (3;0;0).

Prerequisite: MRKT 330. Provides an understanding of multifaceted roles salespeople play and prepares students for sales careers in business-to-business firms. Discusses the personal selling process that include prospecting and qualifying, sales call planning, approaching prospects, giving sales demonstrations and presentations, negotiating sales resistance, confirming and closing "win-win" agreements. Places emphasis on building customer relationships and partnerships by providing customer service and to ensure satisfaction and build customer loyalty.

MRKT 360. Digital Marketing. 3 credits, 3 contact hours (3;0;0).

Prerequisite: MRKT 330. Provides an overview of fundamental principles of digital marketing for the contemporary business environment. Topics include digital marketing fundamentals and digital user behavior, online market research, digital marketing strategies, digital marketing plan, and development of digital marketing programs.

MRKT 378. Marketing Analytics. 3 credits, 3 contact hours (3;0;0).

Prerequisites: MRKT 330, MGMT 216 and MGMT 316. The goal of this course is to immerse students in the technical challenges associated with contemporary marketing analytics as applied to business processes and data-driven decision making. To achieve this mission, the course will introduce modules covering the state-of-the-art in R programming applied to data analysis for marketing problems.

MRKT 420. Product & Brand Management. 3 credits, 3 contact hours (3;0;0).

Pre-requisite: MRKT 330. The aim of the course is to equip students with theoretical and practical knowledge necessary for the successful and efficient management of products and brands. It provides the framework for the analysis of the main factors determining success of a brand in the market and introduces techniques and tools necessary for management of products and brands. This course will provide a fundamental understanding of how to build, measure, and manage a brand. The course will also provide an understanding of the role of product management/manager.

MRKT 430. Marketing Research. 3 credits, 3 contact hours (3;0;0).

Prerequisite: MRKT 330. The process of marketing research is studied in detail from study design through report preparation. A hands-on, experiential approach is taken with an emphasis on primary and secondary data and multivariate statistical methods such as regression and ANOVA. Data are analyzed using SAS or SPSS.

MRKT 432. Sales Management. 3 credits, 3 contact hours (3;0;0).

Prerequisite: MRKT 339. This course helps the student to understand the various sales management activities that sales managers are responsible for in their important role as revenue generation managers. Key topics that are discussed within the realm of organizing, managing and controlling the sales force include sales forecasting, budgeting, sales force organization, time and territory management, recruitment, selection and training the salespeople, leadership, motivation, compensation, and sales force performance evaluation. Sales ethics and customer relationship management issues are also addressed.

MRKT 433. Marketing Channel Management. 3 credits, 3 contact hours (3;0;0).

Prerequisite: MRKT 330. This course develops a managerial framework to the field of marketing. Theory, research and practice are integrated to discuss distribution channel decision making implications. Students will understand the role played by the distribution system or network of alliances among agents, wholesalers, distributors and retailers to attain a firm's distribution of objectives. The course discusses the flow of goods through a distribution channel from the producer to the final consumer. Key topics include marketing channel strategy, channel design, channel management as well as selecting, motivating, and evaluating the performance of marketing intermediaries. It also discusses the importance of electronic channels that have become prominent in the distribution process.

MRKT 434. Business to Business Marketing. 3 credits, 3 contact hours (3;0;0).

Prerequisite: MRKT 330. Industrial or business-to-business (B2B) markets account for more than half the economic activity in the US. They differ from consumer markets in characteristics such as number and size of buyers, demand, buying patterns, and processes. Thus understanding the distinction between business markets and consumer markets and the impact these differences have will be discussed during the course. Various industrial contexts and ethical issues are also discussed as are other course concepts using cases, videos and role playing.

MRKT 435. International Marketing. 3 credits, 3 contact hours (3;0;0).

Prerequisite: MRKT 330. This course will help students understand how the product, pricing, promotion and distribution elements of the marketing mix are influenced by international forces (cultural, political-legal, economic, competitive, and technological environment). Topics discussed include global market segmentation, marketing ethics, standardization or adaptation of the marketing mix as well as global information systems and market research, segmentation, targeting, and foreign market entry strategies (importing, exporting, licensing, and strategic alliances). Course concepts are integrated using cases, videos, and class projects.

MRKT 470. Data-driven Marketing Decision Making. 3 credits, 3 contact hours (3;0;0).

Prerequisites: MRKT 330 or departmental approval. This course focuses on using data-rich findings to make marketing-related decisions. Students will learn how to use results derived from data analytics to make a variety of strategic and tactical decisions, such as marketing mix, market segmentation, new product design, and customer value assessment. This course aims to help students integrate knowledge of marketing concepts with analytical problem solving.

MRKT 485. Special Topics in Marketing. 3 credits, 3 contact hours (3;0;0).

The study of new and/or advanced topics in the various fields of business and their application not regularly covered in any other business course. The precise topics to be covered, along with prerequisites, are announced in the semester prior to the offering of the course.

MRKT 490. Independent Study in Marketing. 3 credits, 3 contact hours (0;0;3).

Prerequisites: MRKT 330 and approval of proposal by the SOM faculty member or lecturer who will supervise the study. Self-paced study on some aspect of managing organizations. Cannot substitute for any required course nor duplicate the coverage of any regularly offered course. Accepted proposals and project results are kept in a file available to all SOM faculty and instructional staff and to students contemplating starting an independent study project.

OM 375. Business Operations Management and Analytics. 3 credits, 3 contact hours (3;0;0).

Prerequisite: MGMT 216. The course emphasizes decision modeling and how to apply modeling and process simulation techniques to solving various classes of problems that arise in operational functions in business settings. It covers decision modeling techniques that range from deterministic to probabilistic models. It also emphasizes the ability to recognize what modeling skills and techniques to use to answer specific business operation and process questions, the use of computer tools and process simulation techniques to solve problems, and on the interpretation and communication of model solutions.

OM 470. Supply Chain Management and Analytics. 3 credits, 3 contact hours (3;0;0).

Prerequisites: MGMT 316 and OM 375. This course provides knowledge of the supply chain management and analytics while exploring the operations, logistics, transportation, forecasting, resource allocation, demand and production planning, inventory management, sustainability, risk and resiliency, and other functions in the context of SCM. Students will learn what data are needed and how to leverage data to measure supply chain performance. They will also learn to apply various tools and methods to analyze trends, extract knowledge and business intelligence, and make decisions. Through the analysis and discussion of industrial practice, they will get useful insights on how to optimize the performance of supply chain processes and operations, to streamline the goals and to design flexible and resilient supply chains.