Business

Stuart School of Business

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Ph.D. in Management Science:
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Business at IIT

IIT Stuart School of Business provides intellectually rigorous business and management education at all levels, from baccalaureate to doctoral. All IIT Stuart programs are designed to educate tomorrow’s global innovators through the unique concept of strategic competitiveness. Constructs including creativity, innovation, entrepreneurship, incisive decision-making, leadership, and sustainability are interwoven throughout coursework and professional development opportunities, offering students thorough preparation for the challenges of the Next Economy.

Established in 1969 with a gift from IIT alumnus and Chicago financier Harold Leonard Stuart, IIT Stuart offers a wide range of challenging business and management programs taught from a practical perspective, with an emphasis on analytic skills and the relation between business, management, and technology. AACSB-accredited programs include the M.B.A., Ph.D., five industry-responsive master’s programs, and one bachelor of science in business program. IIT Stuart also offers a Master of Public Administration (M.P.A.) degree and one co-terminal B.S./M.P.A program.

Stuart faculty, in addition to their scholarly and teaching activities, are consultants to major national and international corporations. Their expertise has been called upon by local and federal government agencies, including the Environmental Protection Agency, National Institute of Standards and Technology, Metropolitan Sanitary District, Department of Housing and Urban Development, and Department of Energy. Many IIT Stuart students are also working professionals from Chicago’s preeminent business, public, and finance communities.

Job placement and career advancement are very important at IIT Stuart. IIT Stuart Student Affairs enables students to find professional success through the Stuart Career Management Center, Stuart Academic Advising, Stuart’s unique Advancing Career and Education (ACE) workplace immersion program, and the Professional Communication Advancement program. IIT Stuart is committed to creating well-rounded students who are not only armed with expert academic knowledge, but who also possess the interpersonal and communication skills that are critical to academic and professional success.

IIT Stuart operates on a semester academic calendar consisting of two semesters beginning in August and January and a summer session beginning in May. Because many Stuart students work full time, graduate classes are regularly offered on weekday evenings as well as being offered during the day.
Degrees Offered

Master of Business Administration (M.B.A.)
Master of Science in Environmental Management and Sustainability
Master of Science in Finance
Master of Public Administration

Master of Science in Marketing Analytics and Communications
Doctor of Philosophy in Management Science

With the Department of Applied Mathematics:
Master of Mathematical Finance

Dual Degree Programs

M.B.A./M.S. in Environmental Management and Sustainability
M.B.A./M.S. in Marketing Analytics and Communication
M.B.A./M.S. in Finance
M.B.A./Master of Public Administration

With the Institute of Design
M.B.A./M.Des.

With the IIT Chicago-Kent College of Law
M.B.A./J.D.
M.S. in Environmental Management and Sustainability/J.D.
M.S. in Finance/J.D.
Master of Public Administration/J.D.

Graduate Certificate Programs

Business Analyst
Compliance and Pollution Prevention
Corporate Finance*
Economic Development and Social Entrepreneurship
Entrepreneurial Finance*
Financial Economics*
Financial Modeling*
Financial Toolbox
Fundamentals of Finance
Innovation and Emerging Enterprises
Investments*
Marketing Management
Nonprofit and Mission-Driven Management
Public Management
Risk Management*
Security, Safety, and Risk Management
Sustainable Enterprise
Trading*

* Post-graduate

Research at Stuart

Faculty at IIT Stuart School of Business engage in dynamic, collaborative research across disciplines. Focus areas include high frequency finance, sustainable enterprise, management science, and marketing analytics. IIT Stuart’s research centers engage with industry partners on research projects and programming to meet the needs of the next economy. For more information about research at IIT Stuart School of Business, contact Siva Balasubramanian at sivakbalas@stuart.iit.edu.

IIT Entrepreneurship Academy

The IIT Entrepreneurship Academy (EA) provides distinctive and relevant education that emphasizes entrepreneurial thinking among students, alumni, and university stakeholders who interact with developing and existing businesses.

The Center for Strategic Competitiveness

The Center for Strategic Competitiveness develops global partnerships to enhance innovation and creativity, and is the foundation for IIT Stuarts strategically competitive curriculum. The Centers mission is to develop Strategic competitiveness into an approach to business that will enhance the ability of individuals, organizations, and governmental units to respond proactively and innovatively to global market challenges in the next economy.

The Center for Financial Innovation

Financial innovation has been vigorously debated since the financial crisis of 2008. The Center for Financial Innovation (CFI) takes a comprehensive and objective look at the history of financial innovation, providing a central location for scholars, practitioners, media, and the general public to explore the many innovations that serve as the foundation for our global financial systems. The Center will provide data, video interviews, and an Encyclopedia of Financial Innovation through the Center’s website. Formerly named the Center for Financial Markets, and established in 1998 as the Center for Law and Financial Markets, the CFI has evolved from the vision of John A. (Jack) Wing, a financial and educational innovator. Jack Wing served as Chairman of Chicago Corp., of ABN AMRO Inc., Trustee of IIT, and the first Director of the Center for Law and Financial Markets.
**Faculty**

Anand, Smriti, Assistant Professor of Management. B.S., Ranchi University (India); M.B.A., Northwestern University; M.S., Ph.D., University of Illinois-Chicago.

Ashton, Weslynne, Assistant Professor of Environmental Management and Sustainability. B.S., Massachusetts Institute of Technology; Master of Environmental Science, Ph.D., Yale University.

Balasubramanian, Siva K., Harold L. Stuart Professor of Marketing, Associate Vice Provost for University Accreditation, and Associate Dean and Ph.D. Program Director for the Stuart School of Business. B.S., M.B.A., Osmania University; Ph.D., State University of New York at Buffalo. Managing innovations/new product diffusion, marketing communications and research methods, social media marketing.

Bariff, Martin L., Associate Professor of Information Systems. B.S., M.A.S., Ph.D., University of Illinois, Urbana-Champaign. Impact of information technology on business strategy, organizational structure, management controls and human decision-making.

Bilson, John, Professor of Finance, Associate Dean, and Director of the Master’s of Finance Program. B.Econ, M.Econ, Monash University-Melbourne, Australia; Ph.D., University of Chicago. International finance, quantitative investment strategies.

Bredine, Sanford, Senior Lecturer of Marketing Communication. B.A., Trinity College; M.B.A., University of Chicago. Marketing and marketing communications.

Cai, Li, Assistant Professor of Finance. B.S., Wuhan University (China); M.Sc., Warwick Business School (England); Ph.D., University of Chicago. Supply chain management, supply chains, inventory and production planning, and capacity and pricing.

Ehrlich, David G., Clinical Professor of Environmental Management and Public Administration. M.A., University of Michigan; M.P.P., Georgetown University; Ph.D., Wayne State University.

Erramilli, Krishna M., Professor of Marketing, Interim Associate Dean, and Director of Graduate Business Programs. M.S., M.B.A., University of Poona, (India); Ph.D., University of Arkansas. International marketing strategy, foreign market-entry strategy, competitive advantages of global firms and growth strategies in emerging markets.

Fang, Yiwei, Assistant Professor of Finance. B.S., Dalian University of Technology (China); M.S., Xi’an Jiaotong University (China); Ph.D., Rensselaer Polytechnic Institute.

Geisler, Eliezer, Distinguished Professor of Organizational Behavior. B.A., M.B.A., Tel Aviv University (Israel); Ph.D., Northwestern University. Organizational behavior, health care technology management, management of information and telecommunication technology, strategic management.


Gorham, Michael J., Industry Professor of Finance and Director of the Center for Financial Markets. B.A., University of Notre Dame; M.S., University of Florida; M.S., Ph.D., University of Wisconsin.

Hassan, M. Zia, Professor of Management Science and Dean Emeritus. B.Sc., University of Punjab (Pakistan); M.S., Ph.D., Illinois Institute of Technology. Effective organizations, strategic and quality issues in organizations.

Kahalas, Harvey, Harold L. Stuart Professor of Management and Economic Development, and Dean of Stuart School of Business. B.S., Boston University; M.B.A., University of Michigan; Ph.D., University of Massachusetts. Economic development, organizational competitiveness.
Kang, Sang Baum, Assistant Professor of Finance. B.A., Yonsei University (Korea); M.S., University of Wisconsin; M.S., Carnegie Mellon University; Ph.D., McGill University.

Khalili, Nasrin R., Associate Professor of Environmental Management. B.Sc., M.S.P.H., Tehran University (Iran); Ph.D., Illinois Institute of Technology. Atmospheric chemistry, environmental impact analysis, environmental system analysis, and waste engineering.

Thomas, Knowles, Professor Emeritus of Management Science and Operations Management. B.S., Purdue University; M.B.A., University of Chicago; Ph.D. University of Chicago.

Ong, Michael K., Professor of Finance. B.S., University of the Philippines; M.A., M.S., Ph.D., State University of New York at Stony Brook. Risk management-market risk, credit risk, operational risk and regulatory issues, international finance and capital markets, financial risk modeling.

Peters, Scott, Senior Lecturer of Public Administration. B.A., Macalester College; J.D., Washington University; Ph.D., University of Illinois-Chicago.

Ramanan, Ram, Industry Associate Professor of Environmental Management. B.Tech., India Institute of Technology (India); M.S., UICT Bombay University (India); M.B.A., University of Texas-Austin; Ph.D., University of Texas-Dallas.

Richardson, David W., Assistant Professor of Entrepreneurship and Marketing. B.A., Rice University; Ph.D., University of Texas-Dallas.

Rokop, Nik, Industry Professor of Entrepreneurship and Special Projects Assistant. B.S., Carnegie Mellon University; B.S., University of Pittsburgh; M.D.M., Illinois Institute of Technology.

Rybak, Michael J., Senior Lecturer of Finance. B.S., Illinois State University; M.B.A., DePaul University.

Sabbaghi, Navid, Assistant Professor of Management Science. B.A., B.S., University of California-Berkeley; M.S., Ph.D., Massachusetts Institute of Technology. Supply contracts and capacity pricing in supply chain management.

Sharma, Priyanka, Visiting Assistant Professor of Economics. B.A., M.A., University of Delhi (India); Ph.D., Texas A&M University.

Sun, Jiong, Assistant Professor of Management. B.Sc., Shanghai Jiao Tong University; M.Eng., National University of Singapore; M.S., Ph.D., Carnegie Mellon University. The interaction of technology, firms, markets, and the environment.

Tourk, Khairy A., Professor of International Business. B.S., University of Alexandria (Egypt); M.A., Vanderbilt University; Ph.D., University of California-Berkeley. Evolution of the Asian enterprise, economics of the newly industrializing Asia.

Twombly, John R., Clinical Professor of Accounting and Finance and Director of Undergraduate Programs in the Stuart School of Business. B.S., University of Pennsylvania; M.B.A., Ph.D., University of Chicago; Certified Public Accountant. Financial and managerial accounting.

Van Vliet, Benjamin, Assistant Professor of Finance. B.A., Calvin College; M.S., Ph.D., Illinois Institute of Technology.

Wagman, Liad, Assistant Professor of Economics. B.A., B.S., University of North Carolina; M.S., Stanford University; M.A., Ph.D., Duke University.

Wang, Haizhi, Assistant Professor of Finance. B.S., Wuhan University (China); M.S., East China Normal University (China); Ph.D., Rensselaer Polytechnic Institute. Corporate Finance, financial institutions, entrepreneurial finance, mergers and acquisition, strategic alliances.

Weiss, Suzanne, Senior Lecturer of Business. B.A., University of Rochester; M.B.A., University of Chicago. Strategic marketing, marketing research, and new product development.

Wu, Tao, Assistant Professor of Finance. B.A., Columbia University; M.A., Ph.D., Wharton School. Asset pricing, investments, derivatives, fixed-income, international/corporate finance.
Graduate Programs
Prospective students are urged to refer to the Stuart website, www.stuart.iit.edu, for the most current description of all programs.

Admission Requirements
Admission to the Stuart School of Business is based on a profile combination of undergraduate GPA, GMAT test scores (some M.S. programs accept GRE scores in place of GMAT scores), and work experience. Applicants to all master’s programs, including the M.B.A., must have, or are expected to complete prior to enrollment, a four year undergraduate degree from an accredited institution. Applications are accepted throughout the year and part-time students may enter most programs at the beginning of any semester. Applicants must submit essays, letters of recommendation, official transcripts, a recent GMAT score report, and a summary of work experience. Applicants from non-English-speaking countries must also submit TOEFL (Test of English as a Foreign Language), PTE (Pearson Test of English), or IELTS (International English Language Testing System) scores, unless they received an undergraduate or graduate degree from an accredited U.S. institution. English language proficiency assessment is required of all international students. Assessment results will determine which, if any, Professional Communication Advancement Courses will be required in addition to the main academic program courses for graduation.

Admission to the Master of Public Administration degree requires an essay, two letters of recommendation, official transcripts and a summary of work experience if applicable. GRE or GMAT scores are not required, but may be submitted. The same requirements as for business programs apply for applicants from non-English speaking countries for TOEFL, PTE, or IELTS.

Applicants to the Ph.D. program in Management Science must have completed a masters degree with a graduate level business core, or a Masters in Finance or equivalent degree. For applicants who have a masters degree but have not completed the business core, some prerequisite courses will be required.

Refer to www.admission.iit.edu/graduate for complete details.
Master of Business Administration (M.B.A.)

The Master of Business Administration requires the successful completion of at least 48 semester credits (16 courses). Full-time students are expected to enroll for at least three courses per semester and can potentially complete their program in two-and-a-half years. Part-time students may enroll in as few as one course per semester and complete their program at a slower pace. The program schedule allows flexibility to students who wish to accelerate their studies. For example, full-time students may graduate in roughly 2 years by taking more courses each semester and attending school during the summers - but this requires careful planning.

Core Courses

BUS 510 Building an Innovative and Sustainable Business
BUS 550 Business Analytics for Competitive Advantage
BUS 590 Business Innovation in the Next Economy (Integrated Capstone Course)
MBA 501 Accounting for Strategic Decision-Making
MBA 502 Emerging Issues in the Global Business Environment
MBA 504 Spreadsheet Modeling
MBA 505 Contemporary Economic Analysis and Game Theory
MBA 506 Leading and Managing Knowledge-Intensive Organizations
MBA 509 Financial Management in a Globalized World
MBA 511 Creating, Communicating, and Delivering Customer Value
MBA 513 Operations and Technology Management

Concentrations

A concentration consists of a minimum of 6 credit hours in one of the following areas:

- Business Analytics
- Business and Society
- China Studies
- Corporate Finance
- Creativity and Innovation
- Emerging Markets
- Investment Mangement
- Management of Nonprofits
- Management of Public Sector
- Risk Management
- Strategy and Leadership
- Sustainability
- Technopreneurship
- Technology and Marketing

Master of Science in Environmental Management and Sustainability

To earn an M.S. in Environmental Management and Sustainability, students must successfully complete 33 credit hours (11 courses). Full-time students are expected to enroll for at least three courses per semester and can complete their degree in two years. Part-time students can enroll for as few as one course per semester and can take up to five years to complete their degree. The program schedule allows flexibility to students who wish to accelerate their studies. For example, full-time students could graduate in roughly a year by starting in Summer of Year 1 and completing their program in Summer of Year 2 - but this requires careful planning.

Required Courses (full semester)

BUS 510 Building an Innovative and Sustainable Business
BUS 550 Business Analytics for Competitive Advantage
BUS 590 Business Innovation in the Next Economy (Integrated Capstone Course)
EMS 501 Environmental Policy in a Competitive World
EMS 502 Contemporary and Emerging Laws Governing the Environment
EMS 503 Environmental Pollution Prevention and Control Strategies
EMS 504 Industrial Ecology and Systems Thinking
EMS 505 Environmental Finance

Elective Courses (choose three)

EMS 511 Solid and Hazardous Waste Management and Remediation
EMS 512 Environmental Risk Assessment and Management
EMS 513 Environmental Economics and Climate Change
EMS 518 Ethics and Corporate Social Responsibility
EMS 525 Environmental Performance Analytics
EMS 529 Social Entrepreneurship
EMS 531 Environmental Advocacy
EMS 532 Environmental and Energy Law Clinic
EMS 541 Managing Energy Technologies
EMS 542 Economics of Energy Systems
Master of Science in Finance

To earn a M.S. in Finance students must successfully complete 33 credit hours (11 courses). The typical program will consist of six core courses and five elective courses. However, students may request that they be allowed to substitute an elective course for a core course if they can demonstrate to the program director that they have already mastered the material in the core course.

**Core Courses**
- MSF 501 Mathematics with Financial Applications
- MSF 502 Statistical Analysis in Financial Markets
- MSF 503 Financial Modeling
- MSF 504 Valuation and Portfolio Management
- MSF 505 Futures, Options, and OTC Derivatives
- MSF 506 Financial Statement Analysis

**Elective Courses**
Elective classes are organized into concentrations. Students who complete two or more courses within a particular concentration will have the concentration recognized on official transcripts.

**Alternative Investments**
- MSF 543 Alternative Investments
- MSF 549 Commodities and Managed Futures

**Corporate Finance**
- MSF 534 Corporate Finance
- MSF 535 Investment Banking

**Entrepreneurial Finance**
- MSF 595 Entrepreneurial Finance
- MSF 598 The Venture Capital Process

**Financial Econometrics**
- MSF 566 Time Series Analysis
- MSF 567 Bayesian Econometrics

**Financial Engineering**
- MSF 524 Models for Derivatives
- MSF 525 Term Structure Modeling and Interest Rate Derivatives
- MSF 526 Computational Finance

**Financial Markets**
- MSF 591 Global Financial Markets
- MSF 593 Market Microstructure

**Financial Programming**
- MSF 574 .NET and Database Management
- MSF 575 C++ with Financial Markets

**High Frequency Finance**
- MSF 576 OOP and Algorithmic Trading Systems
- MSF 577 High Frequency Finance

**Investment Management**
- MSF 544 Equity Valuation
- MSF 545 Structured Fixed Income Portfolios
- MSF 546 Quantitative Investment Strategies

**Risk Management**
- MSF 554 Market Risk Management
- MSF 555 Credit Risk Management
- MSC 622 Enterprise Risk Management (PhD level course)

**Trading**
- MSF 584 Equity and Equity Derivatives Trading
- MSF 585 FOREX and Fixed Income Strategies

**Core Requirement**
All M.S. Finance students must complete the six core classes unless they have obtained written permission from their academic advisor to substitute an alternative class for a core class.

**Course Substitutions**
To the extent that students have completed commensurate coursework or professional experience, substitutions to the required curriculum may be permitted, with the approval of the program director. Qualified students may substitute courses from the Master of Mathematical Finance for elective courses in the M.S. Finance program.

**Free Electives**
Up to two graduate level electives may be taken from outside the courses prescribed above. These electives may be taken from other offerings at the Stuart School of Business, the Chicago-Kent College of Law, or Main Campus graduate programs, provided that: (1) they are consistent with the M.S. Finance program objectives; (2) they have been approved, prior to the student’s registration, by the M.S. Finance Program Director or the student’s academic advisor.

Students may also transfer up to two classes from a graduate program at another AACSB accredited university if the student has not used the classes to satisfy the requirements for a degree at the university. Additional classes may be transferred with the permission of the program director.

**Prerequisite Courses**
Some students may be required to take prerequisite courses in mathematics, statistics, or computer programming before being admitted to a graduate course. Undergraduate course offerings, which typically are listed with a primary numeral of four or below (i.e. FM 492) cannot be used as free electives in the M.S. Finance program.
Master of Mathematical Finance
Collaborative Program with IIT College of Science Applied Mathematics Department

33 credit hours

The objective of the MMF program is to provide individuals interested in pursuing careers in financial risk management with advanced education in theoretical, computational, and business aspects of relevant quantitative methodologies. This is a collaborative program between the IIT Stuart School of Business (SSB) and the Applied Mathematics Department (AM) and as such, it gives students the chance to benefit from the strength of both units. Students are required to complete a total of 11 semester courses, including eight core courses and three elective courses.

Core Courses
MSF 505 Futures, Options, and OTC Derivatives
MSF 526 Computational Finance
MSF 575 C++ with Financial Markets
MATH 542 Stochastic Processes
MATH 548 Mathematical Finance I
MATH 565 Monte Carlo Methods in Finance
MATH 582 Mathematical Finance II
MATH 586 Theory and Practice of Fixed Income Modeling

Elective Courses from the Department of Applied Mathematics
CS 522 Data Mining
MATH 512 Partial Differential Equations
MATH 522 Mathematical Modeling
MATH 540 Probability
MATH 543 Stochastic Analysis
MATH 544 Stochastic Dynamics
MATH 545 Stochastic Partial Differential Equations
MATH 546 Introduction to Time Series
MATH 566 Multivariate Analysis
MATH 567 Advanced Design of Experiments
MATH 569 Statistical Learning
MATH 577 Computational Mathematics I
MATH 578 Computational Mathematics II
MATH 579 Complexity of Numerical Problems
MATH 587 Theory and Practice of Modeling Risk and Credit Derivatives
MATH 589 Numerical Methods for Partial Differential Equations
MATH 590 Meshfree Methods

Elective Courses from the Stuart School
MSF 524 Models for Derivatives
MSF 525 Term Structure Modeling and Interest Rate Derivatives
MSF 545 Structured Fixed Income Portfolios
MSF 546 Quantitative Investment Strategies
MSF 554 Market Risk Management
MSF 555 Credit Risk Management
MSF 566 Time Series Analysis
MSF 567 Bayesian Econometrics
MSF 574 .NET and Database Management
MSF 576 OOP and Algorithmic Trading Systems
MSF 577 High Frequency Finance
MSF 584 Equity and Equity Derivatives Trading
MSF 585 FOREX and Fixed Income Strategies

Core Requirement
All Mathematical Finance students must complete the eight core classes unless they have obtained written permission from their program director to substitute an alternative class for a core class.

Course Substitutions
To the extent that students have completed commensurate coursework or professional experience, substitutions to the required curriculum may be permitted, with the approval of the program director.

Electives
At least one elective must be taken in Finance and at least one elective must be taken in Math from the elective options listed above.

Free Electives
One graduate level elective may be taken from outside the courses prescribed above, provided that it is consistent with the MMF program objectives and has been approved by the Program Director prior to the student’s registration.

Students may also transfer up to two classes from a graduate program at another accredited university if the student has not used the classes to satisfy the requirements for a degree at the previous university. Additional classes may be transferred with the permission of the Program Director.

Prerequisite Courses
Some students may be required to take prerequisite courses in mathematics, statistics, or computer programming before being admitted to a graduate course.
Master of Science in Marketing Analytics and Communication

The M.S. in Marketing Analytics and Communication (MAC) requires the successful completion of 33 credits (11 courses). Part-time students can enroll for as few as one course per semester and can take up to five years to complete their degree. Full-time students are expected to enroll for at least three courses per semester and can complete their degree in two years. The program schedule allows flexibility to students who wish to accelerate their studies. For example, full-time students could graduate in roughly a year by starting in Summer of Year 1 and completing their program in Summer Year 2 - but this requires careful planning.

Core Courses

BUS 510 Building an Innovative and Sustainable Business
BUS 550 Business Analytics for Competitive Advantage
BUS 590 Business Innovation in the Next Economy (Integrated Capstone Course)
MAC 501 Insights into the Next Economy Markets
MAC 502 Spreadsheet Modeling
MAC 503 Marketing Research and Engineering
MAC 504 Creating, Communicating, and Delivering Customer Value
MAC 505 Strategic Marketing Management

Concentrations A concentration consists of a minimum of 9 credit hours in each of the following areas:

Marketing Analytics Concentration (take all 3 courses):
MAC 521 Qualitative & Survey Research Methods in Business
MAC 522 Predictive Analytics
MAC 523 Social Media Marketing Analytics

Marketing Communication Concentration
MAC 511 Integrated Marketing Communication Strategy

AND two of the following:
MAC 512 Customer Touch Points
MAC 513 Managing Sustainable Brands
MAC 514 Customer Relationship Management
MAC 515 Database & Direct Marketing
MAC 516 Social Media Marketing Strategy
**Master of Public Administration**

The M.P.A. degree requires a minimum of 33 credit hours (11 courses) of graduate work. The program of study requires completion of the following 8 core courses:

**Required Courses**
- PA 501 Essentials for Public Management in a Complex Society: Processes, Structures, and Values
- PA 502 Leading and Managing Knowledge-Intensive Organizations
- PA 509 Integrative Practicum for Effective Leadership in Public and Nonprofit Organizations
- PA 522 Effective Management of Human Resources in Environments of Scarce Resources
- PA 532 Managing Public Financial Resources in a Changing World
- PA 568 Strategic Competitiveness in the Public Sector
- PA 580 Policy Evaluation Analytics
- PA 581 Policy Design Analytics

In addition to the core courses, students choose 3 elective courses. Elective courses may be selected from courses in public administration or other fields such as architecture, business, city and regional planning, civil engineering, computer science, design, environmental engineering, humanities, psychology, social sciences, or law. Taking a course outside the M.P.A. program requires the permission of the student’s advisor and the M.P.A. Program Director. No more than six credit hours may be taken in IIT courses numbered between 400 and 499. A maximum of nine credits of graduate-level coursework may be transferred from another accredited university if these have not been used toward a degree and upon approval of the student’s advisor and the M.P.A. Program Director.

**M.P.A. with Nonprofit and Mission-Driven Management Specialization**

This specialization is designed for professionals who want to become leaders and managers of nonprofit and other mission driven enterprises. It provides students with the skills needed to enter the nonprofit field, advance their current nonprofit career, or become a nonprofit or mission driven enterprise entrepreneur. Students take the regular M.P.A. core curriculum and three electives from the nonprofit courses offered in the program. This program combines rigorous instruction with a practical orientation toward mission-driven organizational management.

**M.P.A. with Security, Safety, and Risk Management Specialization**

The Security, Safety, and Risk Management Specialization is intended for professionals who want to acquire cutting edge security strategies and leadership techniques to successfully manage public safety and public or private sector emergency preparedness programs. Students take the regular M.P.A. core curriculum and three electives from the Security, Safety and Risk Management courses offered in the program. This program combines rigorous instruction with a practical orientation.

**M.P.A. with Economic Development and Social Entrepreneurship Specialization**

The specialization in Economic Development and Social Entrepreneurship is designed for professionals who want to become Economic Development Leaders of Social Entrepreneurs. They will become managers and entrepreneurs who drive socially responsible economic change in a rapidly changing global environment. These professionals may work in the public sector specializing in developing cutting edge economic development strategies and programs at the local, state, or federal level or they may want to be mission-driven entrepreneurs who organize, manage, or create ventures that utilize social capital to foster local or regional economic development. Students take the regular M.P.A. core curriculum and three electives from the Economic Development and Social Entrepreneurship courses offered in the program.
M.P.A. with Public Works Specialization

The Stuart M.P.A. program cooperates with the IIT Department of Civil, Architectural and Environmental Engineering (CAEE) in that department’s offering of a Master of Public Works (MPW) degree. This program was initiated in 1982 by the Graduate Program in Public Administration in conjunction with the CAEE, the Chicago Metropolitan Chapter of the American Public Works Association (APWA), and the Education Foundation of the APWA.

CAEE students take a total of 11 courses:

Four core courses
- CAE 574 Economic Decision Analysis in Construction
- CAE 575 Systems Analysis in Construction
- PA 501 Essentials for Public Management in a Complex Society: Processes, Structures and Values (offered each semester)
- PA 551 Public Infrastructure Management (offered each spring)

AND four engineering electives
AND two public administration electives
AND one CAEE special problems

Bachelor of Science/Master of Public Administration (B.S./M.P.A.)

The B.S./M.P.A. co-terminal degree program allows students to complete both an undergraduate Business Administration (B.S.B.A.) or Political Science (B.S.P.S.) and a graduate Public Administration degree in five years. This approach enables students to gain greater knowledge in specialized areas while completing fewer credit hours, with better scheduling flexibility than completing the two degrees separately.

Application to and acceptance into the M.P.A. program is open to students who have attained at least junior standing in the B.S. program. Students must maintain a combined 3.0 GPA to be admitted to and remain in a co-terminal degree program.

The application for the B.S./M.P.A. co-terminal program is accessible through the myIIT portal. Under the Academics tab, locate the Graduate Admission-Student channel and then access the link for the co-terminal application.
Doctor of Philosophy in Management Science

IIT Stuart’s Ph.D. in Management Science offers comprehensive coverage on the application of quantitative methods, analytical tools, and computer models to decision-making problems in business, finance, and operations management.

Program Goals

This program prepares students and working professionals for careers in academia as well as executive and management positions in business, government, and consulting sectors. The Ph.D. program emphasizes both analysis and synthesis. The required courses provide the tools to analyze business problems and to develop new systems or new solutions. Once students master these skills, their dissertation work involves structuring a problem, gathering data where appropriate, and solving it. The research methodologies of management science can be applied to any aspect of business. The program’s goal is to facilitate the contribution of new knowledge to the field of business through applied research that addresses important problems in operations and finance.

Program Requirements

Applicants to the Ph.D. program must have completed a master’s degree with a graduate level business core, or a Master’s in Finance or equivalent degree. For applicants who have a master’s degree but have not completed the business core, some prerequisite courses will be required.

This program is selective and small with a high degree of interaction between faculty and students, and a mentor relationship with a faculty advisor. The Ph.D. committee carefully matches the interest of the student with the expertise of the faculty member. The program offers two concentrations, operations and finance.

In order to earn a Ph.D. in Management Science, students are required to complete a total of 64 credit hours beyond the master’s degree, with 16 credits devoted to dissertation research work. Students are required to complete 12 courses in the first two years, including eight Ph.D. core courses and four advanced elective courses in the chosen area of concentration (Operations or Finance).

In the third and fourth year of study, students enroll in four advisor-approved open electives, in addition to registering for dissertation credits to pursue and complete the doctoral dissertation.

Operations Concentration

Operations emphasizes the design and implementation of systems that improve the effectiveness and efficiency of organizations. Student learning focuses on effective optimization of a given firm’s resources (people, technology, finance, and information) in order to secure competitive advantage. Effective operations are critical to any firm engaged in producing products or providing services.

Finance Concentration

The Ph.D. with a finance concentration is offered only as part of the Master of Science in Finance/Ph.D. Dual Degree Program, unless the applicant has earned a graduate degree that is equivalent to the M.S.F. program at IIT Stuart, as determined by the Program Director. Students in this dual degree program may earn both an M.S. in Finance and a Ph.D. in Management Science. Graduates of the Ph.D. program with a concentration in Finance have a wide choice of careers. In addition to a traditional academic career focused on teaching and research, graduates may also work in investment and commercial banking, trading, and risk management. Dissertation research in this area may include a wide range of topics such as risk modeling, financial time series analysis, and investment analysis.

Program Structure

In the first year, full-time students will complete the Ph.D. basic core (a six-course sequence of two courses each in Economics, Statistics, and Optimization areas), before taking the Qualifying exam.

MSC 511 Economics I
MSC 512 Statistics I
MSC 513 Optimization I
MSC 514 Economics II
MSC 515 Statistics II
MSC 516 Optimization II

Qualifying Exam: Students are required to take this exam after completing the six courses listed above. The qualifying exam may be taken only twice.

In the second year, full-time students will complete the Ph.D. advanced core and elective courses (a six course sequence consisting of two Ph.D. advanced core courses and four advanced electives as shown below).

MSC 611 Philosophy of Management
MSC 612 Research Methods

Four Advanced Electives from the Following

MSC 621 Corporate Finance
MSC 622 Enterprise Risk Management
MSC 631 Theory of Finance I
MSC 632 International Finance Theory
MSC 641 Operations I
MSC 642 Operations II
Doctor of Philosophy in Management Science - continued

Comprehensive Exam: After completing all required Ph.D. coursework, usually at the end of the second year of full-time study, a written comprehensive examination is required. This examination is a rigorous review of the level of competency achieved as a result of the entire program of graduate study. The comprehensive exam may be taken only twice.

In the third and fourth year of graduate study, students will take four advisor approved elective courses (or 12 credit hours) and enroll for 16 dissertation credit hours.

Program of Study

IIT Stuart requires that at least two semesters of study be completed on a full-time basis. The semesters need not be consecutive, but must occur within the six years prior to the awarding of the degree. After completion of coursework and qualifying/comprehensive exam requirements, the dissertation research may be done off campus if suitable arrangements for supervision are made.

When a student is ready to begin dissertation research work, the Dean of the Stuart School will appoint a mutually acceptable research advisor to supervise the student’s research. The student will work with the advisor to constitute a dissertation committee (composed of at least four full time faculty members including the advisor, one of whom will be a representative from outside the student’s field) before beginning work on a dissertation project that must be an original investigation of high quality. Students are required to defend a dissertation proposal before the dissertation committee. After the dissertation project is completed, the student will appear before the dissertation committee to defend the dissertation project. Usually, the dissertation proposal defense and the dissertation defense are at least one year apart.

Students may take up to six years to complete the degree. After six years, students may petition for an extension, but they must reapply to the program and may be required to retake a comprehensive examination. A cumulative GPA of 3.0/4.0 in an approved program of study is a requirement for the Ph.D. program.

Students entering the program may transfer up to two courses from a graduate program at another AACSB accredited university if the student has not used the courses to satisfy the requirements for a degree at the university. Additional courses may be transferred with the permission of the Program Director.

Some students may be required to take prerequisite courses in mathematics, statistics, or computer programming before being admitted to a graduate course. Undergraduate course offerings, which typically are listed with a primary numeral of four or below, cannot be used as free electives in the Ph.D. program.
Certificate Programs

Four graduate certificate programs are offered in public administration. These programs provide students with a post-baccalaureate knowledge of an area of specialization with public administration. Students in these programs register as certificate students. Certificate programs require a set of four courses. Students who are admitted to a master’s degree program may apply coursework previously taken in a certificate program toward the requirements for the master’s degree.

Economic Development and Social Entrepreneurship

This certificate is designed for professionals who want to increase their knowledge and skills in economic development and social entrepreneurship but do not currently have the time to pursue an M.P.A. degree.

The student must take one M.P.A. core course.

**Recommended core course**

PA 568 Strategic Competitiveness in the Public Sector

**Three of the following**

- PA 533 Advanced Financial Management for Public and Nonprofit Organizations
- PA 539 Local Government Management
- PA 550 Social Entrepreneurship
- PA 551 Public Infrastructure Management
- PA 555 Introduction to Urban and Regional Planning
- PA 556 Public Management Strategies for the 21st Century
- PA 570 Social Capital and the Community
- PA 578 Planning, Policy-Making and the Built Environment

Additional courses could be taken in the Stuart Environmental Management and Sustainability Program, the Civil, Architectural, and Environmental Engineering Department, and other related programs as permitted by Program Director.

Nonprofit and Mission-Driven Management

This certificate is designed for professionals who want to increase their knowledge and skills in nonprofit and mission-driven management but do not currently have the time to pursue an M.P.A. degree.

The student must take one M.P.A. core course.

**Recommended core course**

PA 502 Leading and Managing Knowledge-Intensive Organizations

**At least three of the following**

- PA 505 The Law and the Nonprofit Sector
- PA 533 Advanced Financial Management for Public and Nonprofit Organizations
- PA 540 Public Sector Dispute Resolution
- PA 541 Performance Measurement in Nonprofit and Public Management
- PA 543 Public Policy, Nonprofits, and Philanthropy
- PA 556 Public Management Strategies for the 21st Century
- PA 565 The Nonprofit Sector
- PA 566 Nonprofits and the Public Sector
- PA 570 Social Capital and the Community
- PA 579 Ethics & Professional Responsibility in Public Service
Public Management

This certificate is designed for professionals who want to increase their knowledge and skills in public management but do not currently have the time to pursue an M.P.A. degree.

To complete the certificate, students will take 12 credit hours (4 courses). It is recommended that they take one M.P.A. core course.

Recommended core courses

PA 501 Essentials for Public Management in a Complex Society: Processes, Structures, and Values
PA 502 Leading and Managing Knowledge-Intensive Organizations
PA 532 Managing Public Financial Resources in a Changing World

At least three of the following

PA 511 Comparative Public Administration
PA 516 Information Technology in Public Administration
PA 522 Effective Management of Human Resources in Environments of Scarce Resources
PA 533 Advanced Financial Management for Public and Nonprofit Sectors
PA 539 Local Government Management
PA 540 Public Sector Dispute Resolution
PA 541 Performance Measurement in Nonprofit and Public Management
PA 551 Public Infrastructure Management
PA 556 Public Management Strategies for the 21st Century
PA 562 Urban and Metropolitan Government
PA 568 Strategic Competitiveness in the Public Sector
PA 578 Planning, Policy Making and the Built Environment
PA 579 Ethics & Professional Responsibility in Public Service
PA 580 Policy Evaluation Analytics

Security, Safety, and Risk Management

This certificate is designed for professionals who want to increase their knowledge and skills in security, safety and risk management but do not currently have the time to pursue an M.P.A. degree.

The student will take one M.P.A. core course.

Recommended core course

PA 502 Leading and Managing Knowledge-Intensive Organizations

Three of the following

PA 536 Strategy and Structure: Homeland Security
PA 537 Crisis Management and Homeland Security
PA 538 Information Systems Security and Cyber-Crime
PA 539 Local Government Management
PA 553 Public Safety Administration
PA 556 Public Management Strategies for the 21st Century
PA 579 Ethics & Professional Responsibility in Public Service
PA 588 Incident Response, Disaster Recovery, and Business Continuity
Dual Degree Programs

Several dual-degree programs are offered, including programs in which enrollees are eligible to earn a law degree from IIT Chicago-Kent College of Law. To help plan a program of study, students will be assigned advisors from both programs in which they are studying. Simultaneous enrollment is required for varying periods of time, depending on the program. Students should consult advisors from both programs for further information. Candidates for a dual-degree program must apply to and be accepted by each program separately. Current LSAT scores are required for admission to Chicago-Kent College of Law. Current GMAT or GRE scores are required by the Stuart School of Business, but current LSAT scores may be substituted in some programs. Interested students should contact program advisors from either program for other specific requirements.

All graduate programs in business are subject to continuous improvements including dual-degree programs. Prospective students are urged to refer to the Stuart home page for the most current description of all programs and degree requirements.

M.B.A./M.P.A.
The Master of Business Administration/Master of Public Administration program is ideal for students who want to work in both public and private sector management, and/or who expect to move between business and government positions in their careers. The curriculum consists of 12 M.B.A. and 9 M.P.A. courses, reducing degree requirements by 6 courses.

M.B.A./M.S. (Choose from M.S. EMS, M.S. Finance, M.S. MAC)Combine your Master of Business Administration with one of our specialized M.S. degree programs in environmental management and sustainability, finance, or marketing analytics and communication. Dual enrollment can reduce degree requirements by up to 6 courses.

M.B.A./J.D.The Master of Business Administration/Juris Doctorate program offers a competitive advantage for legal professionals who need a solid understanding of business practices, especially for corporate attorneys or legal/management consultants. Dual enrollment can reduce degree requirements by as many as 10 courses.

M.P.A./J.D.The Master of Public Administration/Juris Doctorate degree is particularly valuable for administrators who need a greater understanding of legislation, rules, and judicial decisions. Dual enrollment can reduce degree requirements by up to 5 courses.

M.S. Finance/J.D.The Master of Science in Finance/Juris Doctorate degree is designed to prepare students for careers in the legal profession with emphasis on finance. Dual enrollment can reduce degree requirements by up to 9 courses.

M.S. EMS/J.D.The Master of Science in Environmental Management and Sustainability/Juris Doctorate degree is designed to prepare students for careers in the legal profession with emphasis on environmental issues and sustainable business practices. Dual enrollment can reduce degree requirements by up to 9 courses.

M.B.A./M.Des.The Master of Business Administration/Master of Design degree combines advanced methods for exploring new theories of design with an understanding of the business applications of technology and analytic methods. Dual enrollment can reduce degree requirements by up to 9 courses.
Course Descriptions

Numbers in parentheses represent class, lab, and total credit hours, respectively.

Business

BUS 510
Building an Innovative & Sustainable Business
This is an introductory course on the fundamentals of doing business in an increasingly interconnected and hypercompetitive world where rapid information flows, environmental degradation, and societal challenges (e.g., poverty and ethics) can be viewed as both threats and opportunities facing for-profit enterprises. Students will learn that sustainable businesses are also innovative businesses and that sustainability often drives innovation. Students will not only be exposed to the basics of starting, growing, and running a profitable business but also learn how to do so in an environmentally and socially sustainable fashion. They will learn how companies create and capture value and how to analyze the business environment, industry, competitors, and customers. They will be introduced to corporate, business, and functional strategy and learn about different business functions (accounting, finance, operations, marketing, and information management). Students will be introduced to critical challenges of global sustainability and will explore through case studies how leading companies are implementing triple bottom line accounting, sustainable growth, and stakeholder value creation strategies. Finally, they will develop an innovative business idea to start a brand new company that has sustainable growth in its mission statement.

(3-0-3)

BUS 550
Business Analytics for Competitive Advantage
This course covers statistics, optimization, and simulation tools that are critical for managers in enabling their firms to have a competitive advantage. The course covers probability, sampling, estimation, hypothesis testing, linear regression, goodness-of-fit tests, linear optimization models, nonlinear optimization models, and managerial decision-making under uncertainty. The models address problems in finance, marketing, and operations and include applications such as media selection, capital budgeting, portfolio selection, advertising effectiveness, facility location, distribution planning, and production planning. The focus of the course is on using business analytics to build models and using software to aid in decision-making.

(3-0-3)

BUS 590
Business Innovation in the Next Economy
This is a forward-looking and experiential course that helps students understand how companies could successfully compete in the "next economy" through innovation and integrative problem-solving. It aims to integrate all of the key lessons from the M. B. A., M. S. EMS, and M. S. MAC programs to develop innovative solutions to solve real-world problems that actual companies face. The course is heavily project-based. Cross-disciplinary teams of students will act as management consultants to companies to identify and solve problems taking a holistic and integrative perspective. There will be lectures on various aspects of business strategy, sustainability, systems thinking, execution, innovation, and team effectiveness from faculty members and industry experts. Student teams will present their findings to fellow students, faculty members, and client companies. Prerequisite: Students should have successfully completed all of their respective program core courses.

(3-0-3)

Environmental Management and Sustainability

EMS 500
Fundamentals of Environmental Science
This is an introductory course designed to teach students without any background in environmental science the fundamentals of environmental science which is the prerequisite knowledge needed for the EMS core courses. It covers basics of environmental science, calculus, chemistry, and other relevant topics that represent a needed foundation for the other courses in the program. Students with prior education relevant topics that represent a needed foundation for the other courses in the program. Students with prior education in environmental science or related subjects could be waived out of this course with approval from the program director.

(2-0-2)

EMS 501
Environmental Policy in a Competitive World
Environmental policies, the main tools that governments use to achieve environmental goals, cut across a wide swath of pollutants, industries, and stakeholders. Environmental policies affect the daily activities of every citizen and every business. Governments use environmental policy to protect their citizens' health, develop industries, preserve resources, increase national security, and more. This course introduces students to the major rationales for government intervention in environmental affairs, the academic theories on which these interventions are based, the variety of policy approaches that various levels of government often use to address environmental issues, the benefits and drawbacks of various approaches, the political processes involved in the environmental policy-making process, the tools that can be used to evaluate the effectiveness and tradeoffs of policy alternatives, and how these policies may affect government and business competitiveness. In addition, the course examines new directions in environmental policy, both policies gaining popularity and those not yet adopted.

(3-0-3)
EMS 502 Contemporary & Emerging Laws Governing the Environment
This course introduces students to major federal laws that govern the environmental performance of regulated facilities, sites, and activities. The course describes why these laws were enacted, how they are implemented by regulatory agencies, and the practical measures regulated entities must employ to achieve compliance. These laws include the National Environmental Policy Act, the Clean Water Act, the Clean Air Act, the Endangered Species Act, the Resource Conservation and Recovery Act, and the Comprehensive Environmental Response, Compensation, and Recovery Act. The review of these major federal laws will be informed by international and state initiatives that also affect decision making on environmental matters. The course will include a series of case studies and skill development sessions to introduce students to the practical realities of environmental management in a complex regulatory context. (3-0-3)

EMS 503 Environmental Pollution Prevention & Control Strategies
Greening organizations benefit both firms and society as a whole by eliminating/reducing pollution, inventing new processes, and reducing risks. This course focuses on the design and development of environmental management strategies specific to industrial operations and economic development activities in order to make them more competitive and sustainable. Specifically discussed in this course are the techniques and tools for mapping and characterizing industrial operation and economic development activities, identifying sources and types of environmental pollution, and defining steps involved with designing pollution prevention/control strategies and their alternatives (i.e., changing inputs, increasing efficiency, promoting innovation, or adopting new technologies to either prevent emissions or treat residuals). The economics of the pollution prevention/control including cost valuation and cost-benefit analysis are covered in addition to discussing the limitations and risks. Prerequisite(s): [EMS 500] (3-0-3)

EMS 504 Industrial Ecology & Systems Thinking
This course introduces the students to the philosophy of industrial ecology and how this systems-based approach can move society toward a more sustainable future. Industrial ecology is an interdisciplinary field involving technology (science and engineering), public policy and regulatory issues, and business administration. The major goal of this course is to promote creative and comprehensive problem solving as it might be applied to product, business, and systems models. The course introduces tools such as industrial metabolism, input-output analysis, life cycle assessment, and design for the environment. Individual and team projects are a significant part of the learning experience in this course. Prerequisite(s): [EMS 500] (3-0-3)

EMS 505 Environmental Finance
The emerging field of environmental finance provides businesses an opportunity to approach environmental challenges in a financially sustainable and often profitable manner. The course will introduce students to fundamental concepts of microeconomics, macroeconomics, and accounting in order to prepare them for studying finance and other EMS courses. It will explore implications of environmental finance on the financial sector ranging from banking, insurance, investments, financial services, sustainable investing, and social enterprise. The role of hedging devices for pollution and energy and the role of corporate advocacy in environmental policy and standards will be addressed from a corporate competitive business strategy perspective. The interrelationship between financial and environmental performance will be discussed with a focus on corporate risk management and impact on stock and bond ratings. Format will comprise of introduction of basic concepts, discussion of select current publications from corporate and academic thought leaders, and cases or examples that provide hands-on experience. Prerequisite(s): [BUS 510] (3-0-3)

EMS 511 Solid & Hazardous Waste Management & Remediation
The aim of this course is to teach the modern multi-faceted approach of the management of solid waste focusing on the generation, prevention (emphasis is on understanding what waste is, where it comes from, how/why it is generated, and how generation of waste can be reduced), re-use and recycling (once waste is generated, what can be done to make use of those waste components that are of economic interest), treatment (discuss the three most important treatment/disposal methods presently in use both in the less and the more developed world, landfills, incineration, and mechanical/biological treatment), and disposal of waste (examples include analysis and environmental impact assessment of land-filling and incineration). RCRA technical and regulatory points of views are covered, and discussed are evolution of RCRA legislation, components of RCRA, and its interrelationship to other environmental statutes CERCLA, SARA, and DNR hazardous waste permitting. Also discussed are the fundamentals of remedial actions, Brownfield’s redevelopment, and renewable energy. The emphasis would be on the economic, social, and environmental costs of waste generation and prevention (emphasis is on understanding current risk management and mitigation methods and strategies, and (3) design visionary risk management strategies grounded on a framework of operations in line with the principles of sustainable development. Prerequisite(s): [EMS 503] (3-0-3)

EMS 512 Environmental Risk Assessment & Management
The course provides an overview of the tools and techniques used to (1) assess environmental (human health), ecological, and occupational risks associated with exposure to environmental pollutants resulting from natural phenomena, economic development, and industrial growth, (2) examine current risk management and mitigation methods and strategies, and (3) design visionary risk management strategies grounded on a framework of operations in line with the principles of sustainable development. Prerequisite(s): [EMS 503] (3-0-3)
EMS 513
Environmental Economics & Climate Change
An overview of the modeling market process is provided focusing on externalities, environmental problems, and environmental quality. Economic solutions to environmental problems are discussed using a market approach which includes modeling emission charges, modeling a product charge, modeling per unit subsidy on pollution reduction, and modeling pollution permit trading systems and practice. The course examines institutional economic solutions to address environmental problems such as climate change, global warming, and water scarcity.
Prerequisite(s): [(EMS 505)]
(3-0-3)

EMS 518
Ethics & Corporate Social Responsibility
The corporate scandals and implosions of the past decade, climaxing in the recent global financial crisis and environmental disasters, have highlighted how critical ethical, environmental, and socially responsible decision making and leadership are to the long-term survival and success of both individual businesses and society. Concomitantly, the role of business is transforming from meeting a social contract to realizing tangible economic gains by creating shared value. In today's global environment, societal needs are defining markets, and key issues include poverty, hunger, water, sustainability, climate change, and MNC roles in developing economies. Ethical issues include bribery, fraud, and green washing all the way to a culture of corruption. Corporations and leaders have to manage corporate social responsibility not just as a moral obligation or risk/reputation management exercise but as an integration into their global strategy. This course will endeavor to teach students how these issues get integrated in business through strategy and structure and how to build new competencies in managing transparency, accountability, stakeholder engagement, ethics culture, and social innovation that are critical for business success in the next economy.
Prerequisite(s): [(BUS 510)]
(3-0-3)

EMS 525
Environmental Performance Analytics
With increasing focus on sustainability factors from marketplace (regulators, investors, financiers, and consumers), corporate sustainability reporting is shifting from voluntary to vital. Advances in enterprise systems are making it feasible for corporations to track, trend, and transform sustainability performance. Materiality of these seemingly non-economic impacts is the critical link between sustainability and business strategy. This course provides insight into how to determine which environmental metrics are material to them and relevant to their business through application of environmental performance analytics. Format will comprise of introduction of basic concepts, discussion of select current publications from corporate and academic thought leaders, and short cases or examples that provide hands-on experience. Students completing this course will develop a better understanding of the materiality of interrelationships between business and sustainability. In particular, they will equip themselves with the ability to apply data collection, analytics, and quantitative justification to promote select sustainability improvements that are consistent with corporate strategy. This will help them to be better prepared to take on greater responsibilities in a consulting or advisory role to the corporate sector.
Prerequisite(s): [(BUS 550)]
(3-0-3)

EMS 529
Social Entrepreneurship
This course gives students a practical introduction to the exciting and rapidly growing field of social entrepreneurship. The course will begin by introducing students to contemporary understandings of poverty, its causes, and traditional poverty alleviation strategies. It will then turn to key concepts regarding social ventures including entrepreneurship, organizational structure (for-profit, nonprofit and hybrid), financing, marketing, and performance assessment (social and environmental impact). The course will also examine the challenges that are faced in creating and operating social enterprises in different parts of the world. The course includes guest lectures by other Stuart School of Business faculty and social entrepreneurs working in different areas (such as health, education, and environment). Students will gain hands-on experience by either developing a business plan for a social enterprise to address a specific real world problem or assisting an existing social venture in developing a business plan geared towards an expansion of its services; it is expected that the plans can be entered into a variety of social venture competitions. Through the course, students will learn how to do the following: (1) evaluate gaps and opportunities in a given context; (2) develop appropriate objectives and strategies for a social venture; (3) put together a business plan for a social enterprise; and (4) engage others and foster buy-in to their plans.
(3-0-3)

EMS 531
Environmental Advocacy
This course explores how individuals, firms, nonprofits, and others advocate in order to achieve environmental goals using a broad range of advocacy tools in the legislative, regulatory, administrative, political, judicial, and educational arenas. The course examines when, where, and how advocacy can be effective, strategies for framing policies, how to evaluate legal and ethical factors, and how to use traditional as well as grassroots, social networking, and other evolving new media methods to support an advocacy campaign.
Prerequisite(s): [(EMS 501)]
(3-0-3)

EMS 532
Environmental & Energy Law Clinic
This course provides students with the opportunity to experience the practical realities of being an environmental professional by working on actual cases under the supervision of a faculty member who is an experienced environmental attorney with a Chicago-based practice. The course includes weekly classroom sessions to build the skills of students and faculty supervisor represents non-governmental organizations. The Clinic includes opportunities to participate in site visits, client interactions, a variety of professional meetings, and regulatory and enforcement proceedings. Students will engage in fact gathering, compliance analysis, client communication and case preparation activities, working alongside their faculty supervisor.
Prerequisite(s): [(EMS 502)]
(3-0-3)
EMS 541
Managing Energy Technologies
A significant focus of this course will be on what environmental managers and business managers need to know regarding the technical aspects of energy management – energy efficiency and fossil and renewable energy technologies. The thrust of the course will be in understanding current and emerging technologies in this rapidly growing area of business and industry. However, students will not need to have technical or engineering background to do well in this course.
(3-0-3)

EMS 542
Economics of Energy Systems
Students will see the big picture economics of energy management – cost of production/distribution, financing renewable investments, climate change, etc. Students will understand the economic, strategic, and management issues surrounding energy management and have an opportunity to learn new tools and techniques.
Prerequisite(s): [EMS 500]
(3-0-3)

EMS 595
Special Topics in Environmental Management & Sustainability
This course covers contemporary or cutting edge topics in the EMS field offered on an irregular basis typically in a seminar style. Prerequisite: Instructor permission.
(3-0-3)

EMS 597
Independent Study in Environmental Management & Sustainability
Students can conduct in-depth research, usually on an independent and solo basis, under the guidance of a full-time faculty member. Typically, a student signs up with a faculty member who is willing to supervise his/her independent research on a particular EMS-related topic. The student has to complete the independent study form, develop a one-page proposal outlining the purpose, process, and product (expected outcomes) of the independent research project, get the faculty member's approval, and submit it to the program director for approval. Prerequisite: Instructor and program director approval.
(0-0-3)

Management Science

MSC 511
Economics I
This is the first of a two-semester sequence in advanced-level economics. It offers a rigorous treatment of modern microeconomics theory which includes consumer theory, theory of the firm, decision making under uncertainty, and game theory. The course examines various market settings such as competitive markets, oligopolies, and monopolies. Other topics considered include consumer preferences and production functions, choice under uncertainty, various measures of welfare and efficiency, equilibrium concepts, public goods, externalities, mechanism design, adverse selection, and moral hazard. Focus is on major topics of economic analysis and the tools used to study them. Some mathematics background, particularly calculus, is essential.
(3-0-3)

MSC 512
Statistics I
This course provides a comprehensive introduction to the statistical approach of tackling research problems (random variables; transformations; popular distributions used in management science such as normal, Student T, Chi-square, generalized lambda; sampling methods; parameter estimation, confidence intervals and joint confidence intervals; hypotheses testing, sample size and power, regression and correlation), and statistical modeling. It will focus on the mathematics of differential equations, stationary time series models, conditional heteroscedasticity, non-stationary time series, cointegration and non-linear models. Students will also learn techniques like maximum likelihood estimation, likelihood ratio tests, and generalized method of moments estimation. Students will be introduced to stochastic processes and applied probability, Bayesian statistics, computational inference, extreme value theory, survival analysis, design of control and cohort experimental studies, introduction to SAS statistical software, issues in data-screening/diagnostic testing, model specification and estimation issues and empirical analyses involving large databases.
(3-0-3)

MSC 513
Optimization I
This course introduces optimization techniques with a focus on linear and integer optimization problems. Topics include: the simplex method and its variants, interior point methods, duality algorithms, dual and sensitivity analysis, integer linear programming, cutting plane method, branch and bound method, Lagrangian relaxation methods, model formulation with integer variables, large scale optimization, and network flow problems.
(3-0-3)

MSC 514
Economics II
This is the second course in the two course economics core sequence. It provides a basic introduction to game theory and explores its use in modern economics and business through examinations of classic and current papers. It covers the nature and existence of equilibrium in static and dynamic games, repeated games, and implications of asymmetric information including signaling, adverse selection and moral hazard and there application to modern business problems in finance, operations research and marketing. It also introduces students to models used in modern macroeconomics.
Prerequisite(s): [MSC 511]
(3-0-3)

MSC 515
Statistics II
This course focuses on econometrics with a special emphasis on regression analysis. It begins with the classical linear regression model and variations based upon non-linearity, non-normality, heteroscedasticity and autocorrelation. The course also includes a discussion of cross-section data, systems of regression equations, dynamic regressions, and models with discrete dependent variables. The course emphasizes in-sample and post-sample forecasting and hypothesis testing. The course is heavily project-oriented and students will be expected to work with modern statistical packages like R, SAS, SPSS, and RATS. Projects will be drawn from financial and business applications.
Prerequisite(s): [MSC 512]
(3-0-3)
**MSC 516**

**Optimization II**

This course introduces dynamic programming and applications of dynamic programming to deterministic and stochastic decision problems. The course also introduces the theory and computation methods of nonlinear programming, convex analysis, and unconstrained methods; Kuhn-Tucker theory, saddle points and duality, quadratic linearly constrained and nonlinear constrained problems, and penalty and barrier methods.

Prerequisite(s): [(MSC 513)]

(3-0-3)

**MSC 597**

**Special Problems**

Subject matter will vary according to the research interest and background of both the student and the instructor. Research or study problems may be assigned from different areas within management science. Graduate course work in the problem subject matter.

(Credit: Variable)

**MSC 611**

**Philosophy of Management**

This course introduces doctoral students to the history and evolution of thinking in the management discipline. It focuses attention on theories of leadership and innovation, and showcase contributions of influential thought leaders in management. It also includes epistemological perspectives with substantial potential for enhancing business research. Finally, it will address fundamental approaches and criteria for successful theory development.

(3-0-3)

**MSC 612**

**Research Methods**

This course is a required course for all PhD students at the Stuart School of Business. It offers a comprehensive overview of the General Linear Model at both univariate and multivariate research levels. The course will review measurement issues (reliability, types of validity), multiple regression analysis, ANOVA, MANOVA, step-down analysis, factor analysis, structural equation models (exploratory and confirmatory factor analysis), discriminant analysis, redundancy analysis, canonical correlation analysis, repeated measures analysis, categorical data analysis, contingent valuation method, conjoint analysis, cluster analysis, multidimensional scaling, correspondence analysis, choice models, and relatively new areas such as multi-level analysis,meta-analysis, data warehousing, data mining, and neural networks. Additionally, nonlinear models will also be discussed.

Prerequisite(s): [(MSC 601, MSC 602, MSC 603, MSC 604, MSC 605, and MSC 606)]

(3-0-3)

**MSC 621**

**Corporate Finance**

This course describes how corporations use financial decisions to create shareholder value. Topics include net present value calculations, real options theory, equilibrium models of required rates of return, capital structure, and dividend policy. The course also covers the use of financial theories in organization structure through mechanisms like economic value added, enterprise risk management, and mergers and acquisitions. This course offers a more formal mathematical presentation of corporate finance than is found in similar courses in master level programs.

Prerequisite(s): [(MSC 601)]

(3-0-3)

**MSC 622**

**Enterprise Risk Management**

This course focuses on the two main silos of risk in the financial industry, namely, credit risk and operational risk. The course will also discuss asset and liability management, interest rate risk management, integration of credit risk and market risk, regulatory and compliance issues and performance measurement and capital management. The quantitative aspects of the course include: volatility and correlation modeling, Monte Carlo simulation, stress-testing scenarios analysis, and extreme and tail events modeling.

Prerequisite(s): [(MSC 602 and MSC 631)]

(3-0-3)

**MSC 631**

**Theory of Finance I**

This course is intended as an in depth review of the following areas of finance: (1) utility theory and expected utility valuation techniques; (2) the Markowitz portfolio problem and the CAPM model; (3) the APT theory and general linear arbitrage factor model; (4) single period consumption-based asset pricing models; (5) state preference theoretic approaches; (6) multi-period discrete time utility based models and associated mathematical techniques; (7) equilibrium and price bubbles in the preceding model (the ?Lucas? model); (8) basic binomial derivative pricing; and (9) Ito’s Lemma, Black-Scholes, and related models.

(3-0-3)

**MSC 632**

**International Finance Theory**

International Finance Theory.

Prerequisite(s): [(MSC 605 and MSC 631)]

(3-0-3)

**MSC 633**

**Theory of Finance II**

This course is intended as an in depth review of the following areas of finance: (1) continuous time risk neutral pricing; (2) jump diffusion models; (3) continuous time utility optimization modeling (with dynamic programming); (4) consumption CAPM modeling; (5) non-time seperable utility modeling; and (6) behavioral finance.

(3-0-3)

**MSC 641**

**Operations I**

This elective course will focus on special topics in the Operations area that are best aligned with the research interests of the instructor(s). More specifically, these may address the management of quality and related aspects such as the economics of quality (returns to investment in quality) and the management of customer satisfaction.

Prerequisite(s): [(MSC 601, MSC 602, and MSC 603)]

(3-0-3)

**MSC 642**

**Operations II**

This elective course will focus on special topics in the Operations area that are best aligned with the research interests of the instructor(s). More specifically, this course addresses supply chain management and related inventory management issues.

Prerequisite(s): [(MSC 601, MSC 602, and MSC 641)]

(3-0-3)
MSC 643
Investment & Market Entry Under Uncertainty
How should firms decide whether and when to adopt new technology, develop a new product, enter a new market, or invest in new capital equipment? The literature in management science discusses approaches that recognize the value of waiting for better (but never complete) information and the value of investing early. The topic stresses the irreversibility of investment decisions and the ongoing uncertainty of the economic environment. Investment-related decisions include when to invest or wait for more information, what an optimal portfolio of technologies/equipment is, how to position the product, and how much capacity to invest in. The theory can be applied to a wide variety of business problems characterized by irreversible investment costs and stochastic environments such as new product development, timing of product introduction, market entry and deterrence, and new venture creation.
Prerequisite(s): [(MSC 511, MSC 512, MSC 513, MSC 514, MSC 515, and MSC 516)]
(3-0-3)

MSC 691
Research & Thesis PhD
(Credit: Variable)

Marketing Analytics and Communications
MAC 501
Insights into the Next Economy Markets
This course analyzes competitors, industries, and customers in the emerging global business environment. Understanding the demographics and psychographics of target audiences is essential to an effective marketing communication strategy. From data to information to insightful strategic marketing, this course covers what’s important to know to make more effective marketing decisions. Social, cultural, psychological, and attitudinal factors are explored with particular attention to motivation, how attitudes are shaped and altered, how information is processed, and the role of learning in the formation of purchasing decisions. Theories and models of consumer behavior are examined to develop incisive insight into consumer behavior that can build strong brands. In addition to customer behavior, the course also covers tools and techniques to identify and analyze competitors and their strengths and weaknesses. Students will also learn a framework to analyze the relative attractiveness of industries and the techniques to analyze the threats and opportunities in the macro environment.
(3-0-3)

MAC 502
Spreadsheet Modeling
Spreadsheets are a popular model-building environment for managers. Add-ins and enhancements to Excel have made powerful decision-making tools available to the manager. This course covers how to use the spreadsheet to develop and utilize some of these decision-making aids. Visual Basic for Excel allows the nonprogrammer to create modules for functions, subroutines, and procedures. Topics include forecasting (both regression and time series), decision-making under uncertainty and decision trees, using SOLVER for optimization, and probabilistic simulation using @RISK.
(3-0-3)

MAC 503
Marketing Research & Engineering
The course is roughly divided into thirds which track the standard market research process: define the problem and design a research plan; develop appropriate primary research tools (primarily survey design and implementation); and execute an analysis and presentation. Marketing engineering focuses on specific data-driven marketing tools, regression, cluster analysis, conjoint, etc., and their application to specific marketing problems (segmentation and targeting, new product design, and forecasting). The market research process will be taught backwards from analysis to data acquisition with the aim that students will have a working understanding of their analytical goals by the time they begin their projects and can therefore establish sensible research objectives with an eye to expected use for the data.
Prerequisite(s): [(MAC 501)]
(3-0-3)

MAC 504
Creating, Communicating, & Delivering Customer Value
This course provides an introduction to the practice and strategy of marketing. Marketing activities are those processes and functions that enable managers and policy-makers to identify and serve the values and needs of a customer given the capacities of the company, activities of competitors, and inherent constraints in the business environment. Marketers typically refer to these concepts as the "four C's." Based on their understanding of the "four C's," students will then learn how to implement strategy by applying the levers of the marketing mix. These elements are known as the four P's (product, price, place/channels of distribution, and promotion). The treatment of marketing constraints and marketing mix will be motivated by essential foundations from economics, sociology, and consumer behavior. Over the course of the semester, students are expected to transition from thinking about these concepts in isolation to a dynamic, integrative framework. This process includes using the marketing strategy framework to assess business and policy problems from a "multiple objective" perspective: that is, the student will be asked to think about how marketing activities along with those of competitors and collaborators will affect the profitability, sustainability, social, and ethical standing of the firm. The synthesis of these concepts will be carried out through the use of case studies, problem sets, classroom lectures, discussions, and a field project. There will also be a midterm and final exam. The pedagogical style of the course emphasizes the students’ role in applying the concepts discussed in the lectures to the situations at hand. The role of the instructor is to provide tools to structure thinking and to stimulate and facilitate analysis of the cases.
Prerequisite(s): [(BUS 510 and MAC 501)]
(3-0-3)
MAC 505
Strategic Marketing Management
In this course, we will emphasize both marketing strategy formulation and execution and the management of the marketing function. This includes the integration of marketing mix decisions, the longer-term effects of marketing mix decisions, and changes in the mix over time. For example: "Price" becomes "Price Policy", value-in-use, and price discrimination; "Product" becomes product line breadth and variety and product life cycle choices; "Place" becomes the design and control of single or multiple channels of distribution; and "Promotion" becomes communications, customer loyalty, and brand equity. The course will emphasize segmentation of the market, positioning the marketing mix to meet the needs of the market segment, sustaining an 'integrated' marketing mix over the product life cycle, and organizing the 'Strategic Business Unit' to implement the strategy. In addition to the development of a marketing strategy, students will learn to measure consumer insights. Based on this analysis, the other half of the course will be a team consulting project for an external client.
Prerequisite(s): [(MAC 504)]
(3-0-3)

MAC 511
Integrated Marketing Communication Strategy
In this course, students learn how to identify and evaluate the full gamut of competitive strategic alternatives in both business-to-business and business-to-consumer marketing using a wide variety of analytic tools to develop and analyze consumer insights. Based on this analysis, the major elements of a communication plan are put in place: media, message, target audiences, testable objectives, and budgets. Students learn to measure consumer and business target audiences by their demographic, psychographic, and attitudinal characteristics and to analyze the style and appeal of messages within campaigns. Students also learn how to develop a balanced marketing communication plan utilizing the multitude of vehicles available to reach a target audience using the latest technological tools and media.
Prerequisite(s): [(MAC 504)]
(3-0-3)

MAC 512
Customer Touch Points
This course focuses on the massive transformations based on new technologies that are occurring in today's communication environment and the wide variety of consumer contact points it generates. Students will develop an understanding of how the industry is organized and how marketing communications flow from the source company to the target audience. The course examines the major aspects of developing and evaluating media plans beginning with the development of media strategies that flow from overall marketing communication goals. The course analyzes various media from the perspectives of cost, targeting, audience characteristics, and the nature of product/service.
Prerequisite(s): [(MAC 511)]
(3-0-3)

MAC 513
Managing Sustainable Brands
This is a traditional brand management course applied to green or sustainable brands which are becoming more and more important in the global economy. The most valuable assets that a company has are the brands that it has developed and invested over time. Students will explore the components of a brand, its equity, and emotional benefits and gain an understanding of how to develop a meaningful brand relationship with the customer or prospect to optimize the brand or brand portfolio. The class will also explore the various aspects required to champion a new product or service from development to launch by optimizing the execution through all the marketing efforts of the firm. Students will address positioning, channel strategies, trade promotion, budgeting as a part of the planning process, new product development, packaging and merchandising, and the management of agency relationships. Like people, brands have unique personalities that differentiate them and drive their ability to grow or limit their ability to expand.
Prerequisite(s): [(MAC 511)]
(3-0-3)

MAC 514
Customer Relationship Management
In a world where it costs five times as much to acquire a new customer as it does to keep an existing relationship, companies are learning that they must manage those current customer relationships in order to survive. Around this insight, a new discipline has emerged, using some of the tools of database management and some of the new tactics of digital communication to reduce attrition and to maximize the lifetime value of a customer. Customer relationship management (CRM) is making fundamental changes in the way companies operate. It is a critical point of merger where e-business becomes a part of all business. This course will engage the student in the diagnosis of CRM issues, the building of CRM plans, the measurement of their effectiveness, and the new tools available to get all these things done economically in internet time.
Prerequisite(s): [(MAC 511)]
(3-0-3)

MAC 515
Database & Direct Marketing
This course introduces students to the critical nature of information gathered in real time directly from important constituencies of third party sources. It explores the ability of data-based marketing to match consumers with products based on behaviors. Students learn to access and analyze database information as well as develop programs to elicit a direct and immediate response using a variety of direct-to-consumer/direct-to-business tools including electronic marketing.
Prerequisite(s): [(MAC 511)]
(3-0-3)
MAC 516  
Social Media Marketing Strategy  
The area of online marketing continues to develop at a rapid pace. Social media (including tools like Facebook, Twitter, LinkedIn, blogs, websites, e-mail, etc.) is no longer a passing fad but an essential component of the marketing mix. As the platforms evolve and expand, so do the strategies required to leverage them properly. The increased demand for this specialized knowledge creates abundant opportunities for career development, heightened visibility, and market leadership. Companies that fail to capitalize on social media to attract quality people, penetrate new markets, and engage with customers on a meaningful level will most certainly be left out in the cold. This class will explore the core strategies used by companies today to leverage the marketing power of social media to grow their businesses. Students will learn what makes each platform unique and how they contribute to an overall social media campaign.  
(3-0-3)

MAC 521  
Qualitative & Survey Research Methods in Business  
This is an introductory course in qualitative and survey methods relevant to basic and applied research problems in businesses (with a focus on marketing). Although this is an introductory course, students should be prepared to engage seriously in how qualitative research is conceived, conducted, implemented, and interpreted in business contexts. The course does not emphasize statistical methods, and ability to quickly acquire working knowledge of basic statistics is assumed. The instructor will make an effort to work with students to cover essentials. Students will also require a good understanding of substantive business contexts. In short, while the course accomplishes several objectives, it will focus on the skills required to design and conduct research studies using qualitative and/or survey methods.  
Prerequisite(s): [(BUS 550)]  
(3-0-3)

MAC 522  
Predictive Analytics  
The digital enterprise captures significantly more data about its customers, suppliers, and partners. The challenge, however, is to transform this vast data repository into actionable business intelligence. Both the structure and content of information from databases and data warehouses will be studied. Basic skills for designing and retrieving information from a database (e.g., MS Access) will be mastered. Data mining and predictive analytics can provide valuable business insights. A leading data mining tool, e.g., IBM/SPSS Modeler, will be used to investigate hypotheses and discover patterns in enterprise data repositories. Analysis tools include decision trees, neural networks, market basket analysis, time series, and discriminant analysis. Both data cleaning and analyses will be discussed and applied to sample data. Applications of data mining in a variety of industries will be discussed. Software exercises, case studies, and a major project will prepare the students to use these tools effectively during their careers.  
Prerequisite(s): [(BUS 550)]  
(3-0-3)

MAC 523  
Social Media Marketing Analytics  
The pervasive adoption of internet technology has created an enormous opportunity to capture and analyze digital content exchanges from social media within and external to organizations. These analyses can provide valuable insights for improving the following: sales; customer service and loyalty; product quality, branding and development; employee satisfaction; and supply chain partner effectiveness. Data mining methods and analyses for websites, search engine results, and social media, e.g., Twitter, Facebook, and blogs, will be addressed. Text mining, GIS, speech analytics, and sentiment analyses will be studied. Both desktop and mobile device tools will be used to conduct these analyses.  
Prerequisite(s): [(BUS 550)]  
(3-0-3)

MAC 597  
Independent Study in Marketing Analytics & Communication  
Students can conduct in-depth research, usually on an independent and solo basis, under the guidance of a full-time faculty member. Typically, a student signs up with a faculty member who is willing to supervise his/her independent research on a particular MAC-related topic. The student has to complete the independent study form, develop a one-page proposal outlining the purpose, process, and product (expected outcomes) of the independent research project, and submit it to the program director and instructor for approval.  
(0-0-3)

MBA Business

MBA 501  
Accounting for Strategic Decision-Making  
This course is an introduction to the basic financial and managerial accounting topics (GAAP, the major financial statements, accrual accounting, financial reporting alternatives, professional ethics, financial statement analysis, cost behavior, cost systems, short-and long-term decision-making with strategic considerations, and product costing) and a review of environmental accounting.  
(3-0-3)

MBA 502  
Emerging Issues in the Global Business Environment  
The course helps students understand the complexities of the globally-interconnected world of business they will be joining after graduation. It will set the background and context for their entire graduate business education. It will focus on emerging trends happening in six major components of the global business environment: political, economic, socio-cultural, technological, legal, and the natural environment. Special focus will be on ethical considerations in a cross-cultural setting. Students will be exposed to a mix of theories and managerial tools that will help them analyze the opportunities and threats within the global business environment and draw managerial insights.  
(3-0-3)
MBA 504
Spreadsheet Modeling

Spreadsheets are a popular model-building environment for managers. Add-ins and enhancements to Excel have made powerful decision-making tools available to the manager. This course covers how to use the spreadsheet to develop and utilize some of these decision-making aids. Visual Basic for Excel allows the nonprogrammer to create modules for functions, subroutines, and procedures. Topics include forecasting (both regression and time series), decision-making under uncertainty and decision trees, using SOLVER for optimization, and probabilistic simulation using @RISK. (3-0-3)

MBA 505
Contemporary Economic Analysis & Game Theory

This course applies economic principles to key decisions with organizations and solidifies intuition for understanding the business environments in which organizations operate. A key objective of the course is to develop tools useful in other Stuart courses. Economics is a key foundation for much of what is taught in finance, marketing, business strategy, environmental management, and virtually every other course in the graduate program. Economics is a way of thinking about problems, issues, and decisions that managers face in each of the functional areas of their organization. It stresses the importance of incentives in impacting human decision making and emphasizes the consideration of costs and benefits when making decisions. The course introduces and develops concepts in areas of microeconomics such as competition and market structure, incentive contracts, and pricing. Topics covered range from the most basic demand and supply models to principal-agent models and economics of information. The course will also touch on some of the primary macroeconomic topics (including GDP, inflation, and unemployment), topics in game theory (simultaneous and sequential games), and issues of ethics in economic policy-making pertaining to competitive and oligopolistic markets, pricing, and trade. (3-0-3)

MBA 506
Leading & Managing Knowledge-Intensive Organizations

This course builds awareness and understanding of the behavior of individuals and groups in organizations, preparing managers to be more effective within their organizational contexts. Topics include individual differences in motivation, perception, culture, and learning style, group and organizational dynamics, and the impact of organizational structure and design on behavior. Leadership techniques for influencing other organizational members, creative problem-solving, and decision-making, ethics, and values-based managing are covered. This course helps students relate basic theories, concepts, and techniques to real-world situations through the extensive use of case studies. Prerequisite(s): [(BUS 510)] (3-0-3)

MBA 509
Financial Management in a Globalized World

In this course, the student will learn the concepts and processes that underlie enlightened financial decision making in a global world. Students will explore how to raise debt and equity capital, how to think about what portion of earnings to retain and reinvest and whether to share some earnings with stockholders via dividend payments or repurchase of shares, how to value stocks and bonds, how to distinguish good from bad financial decision rules, how to decide which projects a firm should engage in, how to use futures, options and swaps to manage firm risk, how to ensure good corporate governance, why sustainability can be profitable while still protecting future generations, and how to manage the financial decisions required to effectively operate in a global setting. Prerequisite(s): [(BUS 510 and MBA 501)] (3-0-3)

MBA 511
Creating, Communicating, & Delivering Customer Value

This course provides an introduction to the practice and strategy of marketing. Marketing activities are those processes and functions that enable managers and policymakers to identify and serve the values and needs of a customer given the capacities of the company, activities of competitors, and inherent constraints in the business environment. Marketers typically refer to these concepts as the "four C's." Based on their understanding of the "four C's," students will then learn how to implement strategy by applying the levers of the marketing mix. These elements are known as the four P's (product, price, place/ channels of distribution, and promotion). The treatment of marketing constraints and marketing mix will be motivated by essential foundations from economics, sociology, and consumer behavior. Over the course of the semester, students are expected to transition from thinking about these concepts in isolation to a dynamic, integrative framework. This process includes using the marketing strategy framework to assess business and policy problems from a "multiple objective" perspective; that is, the student will be asked to think about how marketing activities along with those of competitors and collaborators will affect the profitability, sustainability, social, and ethical standing of the firm. The synthesis of these concepts will be carried out through the use of case studies, problem sets, classroom lectures, discussions, and a field project. There will also be a midterm and final exam. The pedagogical style of the course emphasizes the students' role in applying the concepts discussed in the lectures to the situations at hand. The role of the instructor is to provide tools to structure thinking and to stimulate and facilitate analysis of the cases. Prerequisite(s): [(BUS 510)] (3-0-3)
MBA 513
Operations & Technology Management
The course seeks to help the student develop an understanding of the concepts and skills needed for the design and control of operations in both services and manufacturing organizations. Students will take a strategic and general management approach to the design of an operating system and its supporting organizational structure and infrastructure including information systems, human resource management, and financial policies. The focus is on the strategic role of operations and technology decisions as a source of competitive advantage for the firm with an emphasis on the integration of R & D/Design/Engineering, operations and marketing within the context of the business unit’s strategy, and the organizational structure and skills needed to execute and manage the operating system. The overall goal is to create, achieve, and sustain operational effectiveness. The course will emphasize the analytical tools and techniques that are useful in making decisions about projection facilities and capacity, choices of technology and equipment, task and process design, organizational architecture, human resources policies, and the physical and managerial control of operations. Students will gain an understanding of the economics of operations including trade-offs between fixed and variable costs, marginal/incremental analysis to identify relevant versus sunk costs, optimization, and productivity measurements for both capital and labor. Case studies will provide opportunities for students to develop their skills in process design and choice, process mapping, critical thinking, identification of problems versus symptoms, process improvement, and capacity measurement in the context of the business strategy while the simulations will provide an opportunity to practice the management of a particular operating system. Students will also gain an understanding of how human behavior and organizational design, along with quantitative optimization, forms the theoretical underpinning of operations management. Prerequisite(s): [BUS 510]
(3-0-3)

MBA 518
Ethics & Corporate Social Responsibility
The corporate scandals and implosions of the past decade, climaxing in the global financial crisis of 2008, have highlighted how critical ethical and socially-responsible decision-making and leadership are to the long-term survival and success of both individual businesses and society. This course will endeavor to teach students why ethics and corporate social responsibility are not just feel-good exercises but are essential for business success in the Next Economy.
(3-0-3)

MBA 522
The General Manager
This course is about general management, general managers, and the challenges of creating and sustaining competitive advantage by maintaining the fit between industry competitive structure, strategy, organization structure, tactics, and activities (execution) at both the corporate and the business unit levels. Students will be concerned with both the problem of choosing what businesses the firm wants to engage in (the portfolio and diversification of risks) and the task of maximizing profits in the specific businesses the corporation has chosen to enter. In some of the case discussions and the CAPSIM game, students will take the choice of business as a given and focus on how to create a strategy and the network of activities or value chain that implements/executes the strategy of the strategic business unit (SBU), taking into account the interactions and trade-offs among marketing, production, finance, engineering, and human resources decisions as the industry structure changes over time and in the context of active competitors. Students will also be looking at the corporate level choices of entering, growing, or exiting various businesses/markets, the tactics/activities used to execute corporate strategy, the organization structure issues of very large multi-business firms, and the relationships among SBUs and between corporate headquarters and the strategic business units. Completion of program core or instructor permission is required.

MBA 523
Negotiations & Strategic Decision Making
This course is designed to foster an understanding of incentives and strategic decision-making as they apply to negotiations. The course has both theoretical and applied components with the objective of addressing both theory and skills as they apply to dyadic and multiparty negotiations, to buyer-seller transactions, to competitors’ interactions, to the resolution of disputes, and to the development of negotiation strategies. The theoretical component is focused on an analytical study of strategic interactions using game theory while the applied component is based on a series of simulated negotiations in a variety of contexts including one-on-one, multiparty, and team negotiations. The objectives of the course are to provide an analytical foundation, to show where practice and theory diverge, and to provide a forum where negotiation tools in a variety of business-oriented settings can be actively applied. Instructor permission is required.
(3-0-3)

MBA 524
Leadership in Multicultural Organizations
Managerial leadership is one of the primary drivers of an organization’s success. Not surprisingly, organizations are demanding effective leadership skills from managers at all levels. This course is designed to enhance students’ understanding of leadership in contemporary organizations. Students will develop a conceptual framework of effective leadership in multinational organizations. Besides discussing leadership skills and traits, particular attention will be devoted to exploring the influence of organizational and societal context on leadership. This course will be taught with an experiential learning approach. Through self-assessments, case analyses, and a variety of other exercises, students will augment their leadership skills.
Prerequisite(s): [(MBA 506)]
(3-0-3)
MBA 526
Sustainable Supply Chain Management
We will present models and practices that minimize supply-demand mismatch and therefore maximize companies’ own profitability as well as models and practices of collaboration with other companies in a supply chain that minimize risk and environmental costs and therefore maximize the supply chain’s sustainability. This course will have an emphasis on the integration of business and technology aspects. We will first introduce an integrated view of the production and logistics functions in organizations such as capacity analysis, inventory management, and logistics management. The course then discusses topics involved in the interaction of a firm with others in a supply chain such as valve of information, supply contracts, and risk sharing. Finally, the course will introduce models/tools enabling sustainability actions plans, for example, reducing waste in the supply chain, both upstream and downstream.
(3-0-3)

MBA 528
Healthcare Management, Technology, & Innovation
Healthcare is one of the most fundamental human problems around the world. Besides food and water, every one of the seven billion people on earth needs healthcare. Yet, the current systems of healthcare delivery have inadequacies in providing quality care to all. In this respect, technological innovations have begun to contribute creative solutions to the many problems that healthcare delivery systems face with access to care, affordability of care, and consistent quality of care. This course focuses on how the management of technology and innovation and business and strategy principles can converge to understand the trends, problems, and potential solutions to the American healthcare delivery system and to other systems around the world. The course aims to address social and economic issues and the role of business in the structure of the healthcare delivery system. The healthcare sector has unique characteristics as both a social and business enterprise where private and public organizations and enormous resources are involved. The student will gain knowledge about the structure of the healthcare delivery system and how technology and innovation are contributing to some solutions to its most pressing problems of access, affordability, and quality of care. The student will also gain knowledge about the key technology dimensions and forces that shape the industry.
Prerequisite(s): [(BUS 510)]
(3-0-3)

MBA 529
Social Entrepreneurship
This course gives students a practical introduction to the exciting and rapidly growing field of social entrepreneurship. The course will begin by introducing students to contemporary understandings of poverty, its causes, and traditional poverty alleviation strategies. It will then turn to key concepts regarding social ventures including entrepreneurial, organizational structures (for-profit, non-profit, and hybrid), financing, marketing, and performance assessment (social and environmental impact). We will also examine the challenges that are faced in creating and operating social enterprises in different parts of the world. The course includes guest lectures by other Stuart School of Business faculty and social entrepreneurs working in different areas (such as health, education and environment). Students will gain hands-on experience by either developing a business plan for a social enterprise to address a specific real world problem or assisting an existing social venture in developing a business plan geared towards an expansion of its services. It is expected that the plans can be entered into a variety of social venture competitions.
(3-0-3)

MBA 554
Project Management
This course addresses both analytical and behavioral skills for effective project management. You will learn how to select a project portfolio, develop a work breakdown structure, estimate task times and costs, allocate and level resources, prepare Critical Path and PERT analyses, and assess earned value project performance. A leading project management tool, e.g. MS Project, will be used for project management exercises. Much of the course content will be drawn from the Project Management Institute common body of knowledge and certification program. Management of project risks, structure, team building, and conflict will be addressed. A project management simulation game provides an opportunity to apply your team-based skills. A variety of project management cases across industries will be studied.
Prerequisite(s): [(BUS 510)]
(3-0-3)

MBA 564
Competing in Emerging Markets
For Western MNCs, some of the most intriguing growth opportunities in the Next Economy exist in low-income segments, the so-called markets at the bottom of the income pyramid, in emerging and underdeveloped countries of the world. Historically, MNCs targeted the customers at the top of the pyramid in these countries because their business models worked well for them. But as these bottom-of-the-pyramid markets become more economically profitable, MNCs need to make a serious attempt to evaluate and target them. In order to successfully compete for customers in these markets, MNCs should design innovative business models that could represent a radical departure from the way they do business in more advanced countries. This course is about such business model innovation. Students will learn tools of international market opportunity analysis, foreign market entry strategies, the social, economical, and ethical factors affecting decisions to serve low income customers, the stringent requirements of the customers at the bottom of the pyramid, and business models to profitably serve these customers.
Prerequisite(s): [(BUS 510)]
(3-0-3)

MBA 566
Understanding China: History, Politics & Economics
While the 21st century may or may not be called the Chinese century, there is no doubt that China has become a dominant political, economic, and business force on the global stage. The fastest and the largest markets for many products and services are located in China. The supply chains for most manufacturing industries pass China. Increasingly, China is becoming the base for high value-added activities, such as research and development. The center of economic gravity is shifting to China, and every aspiring business executive needs to understand China and how to do business with it. In this course, students learn about China’s history, politics, and economics. Instructor permission is required.
(3-0-3)

MBA 567
Chinese Language & Culture
The course provides non-Chinese business people an understanding of the Chinese language, culture, ethnic diversity, and traditions. Understanding culture is an essential first step to understanding business practices and customs. So the ultimate objective of this course is to help non-Chinese business people understand how to effectively deal with Chinese customers, suppliers, and business partners.
(3-0-3)
MBA 569  
**Competitiveness of Asian & Western Enterprises**  
This course helps students understand the economic context within which Asian enterprises and Western enterprises evolved and how they tend to compete on very different factors. While many business principles are universal, the key drivers of competitiveness differ substantially between Asian and Western enterprises. More importantly, within these groups there could be significant nationality-based differences. The course provides an insightful comparative study of companies based in opposite ends of the world and helps students understand why they employ different sets of strategies to compete and succeed on the global stage. Instructor permission is required.  
(3-0-3)

MBA 570  
**Business Study Mission to China**  
China has become a major business destination for companies around the world. The success of managers and entrepreneurs around the world today may depend on how well they do business with Chinese customers, suppliers, and partners. One of the best ways to understand this is through immersion. This course involves a business study mission trip to some of the epicenters of Chinese business, such as Shanghai. Students will be able to visit foreign and local manufacturing and service companies located in China, listen to business leaders and government officials, and enjoy the cultural immersion experiences. Students will attend several briefing sessions prior to the visit and a debriefing session following the visit. Instructor permission is required.  
(3-0-3)

MBA 575  
**Creativity & Contemporary Entrepreneurial Opportunities**  
Entrepreneurship focuses on the concepts, skills, know-how, information, attitudes, and alternatives that are relevant for start-up and early-stage entrepreneurs, entrepreneurial managers, and the relevant stakeholders. Specifically, this course provides an introductory overview of the knowledge and skills needed for the identification, evaluation, and exploitation of opportunities in a variety of circumstances and environments. It concentrates on the study of various innovative thinking in strategy, identifying and screening a business opportunity, developing business models, preparing business plans, securing financing, and managing high-growth firms. It integrates knowledge gained from the prior core business courses (i.e., management, marketing, finance, and accounting) to sharpen the student’s ability to think strategically, innovatively, and entrepreneurially and to form new ventures. Further, it is a course that mixes theory with practice covering industries such as computer, cell phone, biotech, and wireless, to name just a few. Students will be challenged to apply principles, concepts, and frameworks to real world situations, culminating in a formal business plan. Prerequisite(s): [BUS 510]  
(3-0-3)

MBA 576  
**Creating & Financing New Technology Ventures**  
The course concentrates on the study of entrepreneurship, preparation of business plans, methods for evaluating and screening new venture ideas, formulation and implementation of business strategies for new ventures, development of a business plan, the financing of new ventures, and venture growth strategies and exits. It integrates knowledge gained from the prior core business courses (i.e., management, marketing, finance, and accounting) to sharpen the student’s ability to think entrepreneurially and form new ventures. The course will also focus on identifying, examining, and evaluating various sources of original and growth capital. Emphasis will be on legal, financial, and tax issues related to capital formation as well as specific problems experienced by the small-to-medium-sized firm undergoing rapid growth in the high technology space. Topics discussed will include venture valuation, financing startups, financial planning and strategy, going public, selling out, and bankruptcy. A formal proposal for capital acquisition developed through field research will be required of each student. Prerequisite(s): [BUS 510]  
(3-0-3)

MBA 577  
**Got Creativity?: Strategies & Tools for the Next Economy**  
This class will look at creativity from three broad perspectives: personal creativity (how to think about this as a personal skill to be enhanced and trained); organizational creativity (why it is job #1 for EVERY organization and how we can systematically enhance the innovation outputs of the enterprises we work for); and civic creativity (how to lift creativity and innovation into sustainable policies for our cities and regions). We will mix presentations with performances. We will have experts visit the class. We will get up on their feet and do small group work and creativity exercises. We will visit creativity hot spots around Chicago and learn first-hand from our leaders on how to make environments that nourish innovation. We will learn about and work on 13 distinct personal creativity competencies. Finally, we will work in teams on special projects and present.  
(3-0-3)

MBA 581  
**Marketing Research & Engineering**  
The course is roughly divided into thirds which track the standard market research process: define the problem and design a research plan; develop appropriate primary research tools (primarily survey design and implementation); and analysis and presentation. Marketing engineering focuses on specific data driven marketing tools, regression, cluster analysis, conjoint, etc., and their application to specific marketing problems (segmentation and targeting, new product design, and forecasting). The market research process will be taught backwards from analysis to data acquisition with the aim that students will have a working understanding of their analytical goals by the time they begin their projects and can therefore establish sensible research objectives with an eye to expected use for the data. Prerequisite(s): [MBA 511]  
(3-0-3)
MBA 586
Strategic Marketing Management
In this course we will emphasize both marketing strategy formulation and execution and the management of the marketing function. This includes the integration of marketing mix decisions, the longer-term effects of marketing mix decisions, and changes in the mix over time. For example: "Price" becomes price policy, value-in-use, and price discrimination; "Product" becomes product line breadth and variety and product life cycle choices; "Place" becomes the design and control of single or multiple channels of distribution; and "Promotion" becomes communications, customer loyalty, and brand equity. The course will emphasize segmentation of the market, positioning the marketing mix to meet the needs of the market segment, sustaining an integrated marketing mix over the product life cycle, and organizing the strategic business unit to implement the strategy. In addition to the development of a marketing strategy that positions the product/service to the needs of one or more target markets (segmentation), the execution of a marketing strategy will require a marketing plan that includes the economic and financial analysis of the costs and potential profits of the strategy and an implementation plan, including an organizational structure. This will often be an iterative process to find an optimal combination of costs, pricing, and volume to maximize profits. This course will use readings, simulations, and cases for about half its content. The other half of the course will be a team consulting project for an external client.
Prerequisite(s): [(MBA 511)]
(3-0-3)

MBA 587
Nonprofits & the Public Sector
Provides an overview of the complex and important relationship between government and non-profits. This course includes a review of the history, funding schemes, the differences between grant and contract funding, recent trends, and much more.
(3-0-3)

MBA 588
The Nonprofit Sector
Considers the role played by the nonprofit sector in the larger American society and economy. Topics include major organizational forms, financial management, human resource policies, leadership, board-executive relations, and private-public connections.
(3-0-3)

MBA 589
Regulatory Politics & Contemporary Business
Regulatory activity remains government’s major point of interaction with both business and citizens. Government regulation affects a myriad of activities and is the primary function of public administration. Regulation is a key variable of American economic activity, an issue of global concern, and an expanding field of modern jurisprudence. This course is intended to provide an understanding of regulatory activity as influenced by changing social, technological, and economic conditions within a context of dynamic political culture. It will familiarize students with a range of concepts concerning the role of positive government and the growth of the American administrative state. The course will present regulation as a process and examine the role of government, business, and citizen interest group in regulatory development. It will present various types of regulatory activity and review federal, state, and local regulatory networks and responsibilities. The course will also examine the evolution of constitutional interpretation and the subsequent adaptations of American law to facilitate changing and regulatory actions.
(3-0-3)

MBA 595
Special Topics: MBA Program
Special topics in business administration.
(3-0-3)

MBA 597
Independent Study in Business Administration
Independent study in business administration.
(Credit: Variable)

Master of Science in Finance
MSF 501
Mathematics with Financial Applications
This course provides a systematic exposition of the primary mathematical methods used in financial economics. Mathematical concepts and methods include logarithmic and exponential functions, algebra, mean-variance analysis, summations, matrix algebra, differential and integral calculus, and optimization. The course will include a variety of financial applications including compound interest, present and future value, term structure of interest rates, asset pricing, expected return, risk and measures of risk aversion, capital asset pricing model (CAPM), portfolio optimization, expected utility, and consumption capital asset pricing (CCAPM).
(3-0-3)

MSF 502
Statistical Analysis in Financial Markets
This course presents the major conclusions of the econometric techniques used in finance. Ordinary least squares, maximum likelihood, generalized method of moments, and simulation methods are covered. These tools are presented through computer simulation of the various models, followed by detailed analysis of the distributions of estimators. Hypothesis testing is covered in detail. Particular attention is placed on the properties of various estimators when model assumptions do not hold. For students who qualify, a final project applying econometrics to a financial modeling problem may be chosen. Students not familiar with matrix algebra and elementary statistics should plan to make up the deficit early in the course. Additional lectures will be provided for these students.
(3-0-3)
MSF 503
Financial Modeling
This course presents the major conclusions of the econometric techniques used in Finance. Ordinary least squares, maximum likelihood, generalized method of moments, and simulation methods are covered. These tools are presented through computer simulations of the various models, followed by detailed analysis of the distributions of estimators. Hypothesis testing is covered in detail. Particular attention is placed on the properties of various estimators when model assumptions do not hold. For students who qualify, a final project applying econometrics to a financial modeling problem may be chosen. Students not familiar with matrix algebra and elementary statistics should plan to make up the deficit early in the course. Additional lectures will be provided for these students.
(3-0-3)

MSF 504
Valuation & Portfolio Management
The course is a survey of asset pricing theory. The fundamentals of bond and option pricing are covered as well as the CAPM, APT, and the Fama-French models. Excel spreadsheet modeling is used to illustrate and understand the concepts of Markowitz’s Mean Variance Optimization, equity valuation, option pricing, and utility theory. The course places a special emphasis on the relationship between macroeconomic conditions and investment opportunities.
Prerequisite(s): [(MSF 501, MSF 502, and MSF 503)]
(3-0-3)

MSF 505
Futures, Options, & OTC Derivatives
This course provides the foundation for understanding the price and risk management of derivative securities. The course starts with simple derivatives, e.g., forwards and futures, and develops the concept of arbitrage-free pricing and hedging. Based upon the work of Black, Scholes, and Merton, the course extends their pricing model through the use of lattices, Monte Carlo simulation methods, and more advanced strategies. Mathematical tools in stochastic processes are gradually introduced throughout the course. Particular emphasis is given to the pricing of interest rate derivatives, e.g., FRAs, swaps, bond options, caps, collars, and floors.
Prerequisite(s): [(MSF 501, MSF 502, and MSF 503)]
(3-0-3)

MSF 506
Financial Statement Analysis
After reviewing the content of the major financial statements, the course examines ratios, inventories, long-lived assets, income taxes, debt, leases, and pensions, among other topics. U.S. practices are compared to practices in other major countries. This course is intended for those who will examine financial statements of outside organizations.
Prerequisite(s): [(MSF 501, MSF 502, and MSF 503)]
(3-0-3)

MSF 524
Models for Derivatives
The practice of financial engineering requires skill in financial theory and practice, mathematics and programming. This course includes instruction in all of these areas. In this class, students will learn mathematical and computational methods that are applicable to the pricing and risk management of derivatives. The class provides an introduction to options pricing theory, covering stochastic calculus, the Black-Scholes partial differential equation, risk-neutral valuation and hedging portfolio replication. The course will focus on important numerical techniques used in finance, including variance reduction techniques in Monte Carlo Simulation and finite difference methods applied to partial differential equations. These methods will be applied to the pricing of exotic options. In this class, students will learn to program and implement financial models in Matlab.
Prerequisite(s): [(MSF 504 and MSF 505)]
(3-0-3)

MSF 525
Term Structure Modeling & Interest Rate Derivatives
Upon completion of this course, students should know the strengths, weaknesses, appropriate uses, and ways of implementing the major term structure models that are in common use. The course will begin with bootstrapping of forward curves, principal component analysis, and a review of basic fixed income derivatives (swaps, swaptions, caps, and floors). We will then implement short rate models, such as Ho-Lee, Black-Derman and Toy, and extended Vasicek/Hull-White, followed by the Heath-Jarrow-Morton model and market rate models. Students will implement these term structure models in Excel/VBA and Matlab.
Prerequisite(s): [(MSF 504 and MSF 505)]
(3-0-3)

MSF 526
Computational Finance
Computational finance.
Prerequisite(s): [(MSF 504 and MSF 505)]
(3-0-3)

MSF 534
Corporate Finance
This course is an advanced introduction to modern corporate finance. Topics include cash flow forecasting, optimal dividend policies, mergers and acquisitions, structured finance, capital at risk, and the risk of adjusted return on capital. The philosophical foundation of the course is the concept of shareholder value added. Students will learn how financial decisions can contribute to the value of a modern corporation.
Prerequisite(s): [(MSF 504, MSF 505, and MSF 506)]
(3-0-3)
MSF 535  
**Investment Banking**  
This course covers the financing and formation process of private companies from product concept and angel investors to the Initial Public Offering. Exit strategies for private investments are discussed, including IPOs, mergers and acquisitions. Strategic and financial buyers play a key role in the valuation of a newly public or recently acquired firm. All of the players are discussed, including venture capitalists, entrepreneurs, investment bankers, attorneys, public shareholders, merger partners, institutional investors and private equity/buyout firms. Students will discuss business models, construct staffing and compensation schemes; practice valuation analysis; compare and contrast alternative financial sources; structure business plans; review the types of securities to offer; examine private placement processes; analyze negotiation strategies; and review the implications of financing terms and the role of venture capital and private equity investment in institutional portfolios. The challenges of completing mergers and integrating merged companies are also discussed. Sarbanes-Oxley, anti-trust requirements and other regulatory issues will be presented.  
Prerequisite(s): [(MSF 504 and MSF 505)]  
(3-0-3)

MSF 543  
**Alternative Investments**  
Alternative investments include real estate, hedge funds, managed futures, and emerging markets. They are attractive to institutional investors because they exhibit a low correlation with traditional investments in stocks and bonds. However, they must be approached cautiously because of specific difficulties in valuing these assets. This course will explore a variety of alternative investments and their role in investment strategies.  
Prerequisite(s): [(MSF 504, MSF 505, and MSF 506)]  
(3-0-3)

MSF 544  
**Equity Valuation**  
This course covers the various models available for equity valuation. It includes discussions of the dividend discount model, Porter analysis, DuPont decomposition of ROE, sustainable growth rates, earnings quality, and accounting fraud. It also covers relative valuation measures such as price/earnings and price/sales ratios. The valuation techniques taught in the course will be applied to the valuation of equity shares, corporate bonds, and derivatives such as stock options and convertible bonds. Completion of a comprehensive analysis of a public company is a requirement for the course. This course is recommended for students who are planning on sitting for Certified Financial Analyst (CFA) qualification.  
Prerequisite(s): [(MSF 504, MSF 505, and MSF 506)]  
(3-0-3)

MSF 545  
**Structured Fixed Income Portfolios**  
This course will cover the characteristics, valuation and risk management of fixed income instruments. These instruments include bonds, repos, interest rate derivatives, inflation indexed securities, mortgage-backed and asset-backed securities, CDOs and default swaps. The focus will be on understanding how these instruments are structured and used. Term structure modeling and hedging techniques will be presented, with a minimum of mathematics.  
Prerequisite(s): [(MSF 504 and MSF 505)]  
(3-0-3)

MSF 546  
**Quantitative Investment Strategies**  
This course develops the primary quantitative tools used in the portfolio selection process. The applied focus of the course centers on the process of moving from a data set of historical information to the formulation of a forecasting model, the estimation of mean-variance efficient portfolios, and the testing of efficiency hypotheses within an in-sample and post-sample setting. The course covers the estimation of efficient portfolios, factor models, forecasting models, and risk analysis.  
Prerequisite(s): [(MSF 504 and MSF 505)]  
(3-0-3)

MSF 549  
**Commodities & Managed Futures**  
Commodity markets have experienced dramatic growth and increased institutional investment in recent years. This course explores cash and futures markets in energy, grains, metals and soft commodities, as well as equity investments in commodity related firms. Students will explore the role of hedgers, speculators and institutional investors in commodity markets. The value of commodities in the institutional portfolio will be presented, which may allow hedging against inflation and the risks of declining stock and bond prices. Commodity trading advisers, commodity pool operators and the managed futures industry will be discussed. These fund managers initiate both long and short positions in futures markets, typically constructing portfolios from either a systematic or discretionary perspective.  
Prerequisite(s): [(MSF 504 and MSF 505)]  
(3-0-3)

MSF 554  
**Market Risk Management**  
This course introduces the importance of financial risk management by developing practical risk measurement tools. The risk measurement aspect of the course begins with the development of the Value-at-Risk (VaR) methodology for financial instruments traded in open markets including equities, bonds, foreign currencies and their derivatives. The course develops analytic VaR models for instruments with non-linear payoffs and non-normal distributions and it also develops simulation methodologies for risk analysis. Statistical tools in volatility forecasting, tail events, and expected shortfall are introduced as appropriate. The emphasis of the course is on market risk, but in addition to the traditional analysis of trading rooms, the course also considers regulatory and compliance risk, corporate risk and risk analysis for investment managers.  
Prerequisite(s): [(MSF 504, MSF 505, and MSF 506)]  
(3-0-3)

MSF 555  
**Credit Risk Management**  
The extensive use of leverage by individuals, corporations, hedge funds and private equity managers has led to a significant increase in the demand for models that analyze credit risk exposures. For many users, the credit risk function has evolved from models used to analyze the quality of an individual borrower to models that aggregate exposure across borrowers, industries and geographic regions. This course provides an extended overview of the exciting and rapidly developing field of credit risk analysis.  
Prerequisite(s): [(MSF 554)]  
(3-0-3)
MSF 556

Enterprise Risk Management
This course follows up on FIN 581 (Market Risk Management). It focuses on the other two main silos of risk in the financial industry, namely, credit risk and operational risk. The course will also discuss asset and liability management, interest risk management, integration of credit risk and market risk, regulatory and compliance issues, and performance measurement and capital management. The quantitative aspects of the course include: volatility and correlation modeling, Monte Carlo simulation, stress-testing and scenarios analysis, extreme and tail events modeling.

(3-0-3)

MSF 564

Financial Theory
This course covers the foundations of financial economics and the theoretical underpinnings of contemporary asset pricing models. We will explore the many uses and extensions of the fundamental pricing equation: \( P_t = E_t \{ P_{t+1} | I_t \} \), where \( P_t \) is the current price, \( E_t \) is the pricing kernel or stochastic discount factor, and \( I_t \) is a future random payoff. The ?art? of asset pricing is in how one specifies the functional form of the pricing kernel. With different assumptions yields the Capital Asset Pricing Model, the Consumption-CAPM, the Black-Scholes-Merton option-pricing model, and many popular term structure models. The Consumption-CAPM does not fair well in the empirical literature motivating the study a promising group of next-generation risk/return models. The latter part of the course will be devoted to continuous-time asset pricing of options and the modeling of the term structure. The emphasis will be on risk-neutral, Martingale pricing methods, rather than solving partial differential equations. This material is a theoretical complement to the Computational Finance and Financial Modeling sequences.

(3-0-3)

MSF 565

International Finance Theory
This course will focus on the determination of prices, interest rates and exchange rates within the context of neo-classical equilibrium models. The theoretical foundations of the course will be supplemented by extensive exercises in econometric testing of maintained hypotheses and exercises in real time trading.

(3-0-3)

MSF 566

Time Series Analysis
This course develops a portfolio of techniques for the analysis of financial time series. Distribution theory covers the normal, student \( T \), chi-squared, and mixture of normal models. Technical analysis covers a variety of trading rules including filters, moving averages, channels, and other systems. The first two topics are then combined into an analysis of non-linear time series models for the mean. The course concludes with a review of volatility models including GARCH, E-Garch and stochastic volatility models.

Prerequisite(s): [(MSF 504 and MSF 505)]

(3-0-3)

MSF 567

Bayesian Econometrics
Most statistical applications in finance require that the forecasting models be revised in response to the arrival of new information. This course develops the Dynamic Linear Model (DLM) as an updating model based upon Bayesian decision theory. Applications of the DLM including regressions, autoregressions, and exponential trend models will be covered. Special emphasis will be given to the development of intervention and monitoring systems and the use of simulation methodologies. Students not familiar with matrix algebra and elementary statistics should plan to make up the deficiency early in the course.

Prerequisite(s): [(MSF 504 and MSF 505)]

(3-0-3)

MSF 574

.NET & Database Management
The course provides students with a comprehensive knowledge of .NET (VB and C#) programming, relational database design and SQL as they apply to quant finance and real-time trading. Specifically, topics covered include the .NET framework and libraries, ADO.NET, OOP, generics, market data feeds, XML and the Unified Modeling Language, as well as an overview of the hardware and network infrastructure necessary to enable electronic trading.

Prerequisite(s): [(MSF 504 and MSF 505)]

(3-0-3)

MSF 575

C++ with Financial Markets
This course presents the C/C++ programming language. Students learn the language from the ground up, from data types, to functions, arrays, classes, dynamic memory management, data structures and the Standard Template Library. Object-oriented programming is also discussed, including a review of commonly used design patterns. The focus is to understand C/C++ as it applies to financial mathematics and several practical examples from computational finance are presented.

Prerequisite(s): [(MSF 504 and MSF 505)]

(3-0-3)

MSF 576

OOP & Algorithmic Trading Systems
In this course, students learn advanced programming topics in .NET for real-time financial applications and automated trading systems, including multithreading, sockets, APIs, synchronization, the FIX and FAST protocols, and object oriented design for event-driven applications. Also, project management and software quality are covered in depth. Lastly, topics related to latency in real-time financial applications and alternative network architectures are also discussed. Students are expected to propose, design, document and develop an original project combining concepts from quantitative finance and trading strategy (presented in other courses) into a working software application.

Prerequisite(s): [(MSF 504 and MSF 505)]

(3-0-3)

MSF 577

High Frequency Finance
High frequency trading is concerned with the development of robotic trading algorithms within a real time market environment. This course will be concerned with the development of high frequency models and the assessment of their performance.

Prerequisite(s): [(MSF 504 and MSF 505)]

(3-0-3)
MSF 584
Equity & Equity Derivatives Trading
This course will provide students with an opportunity to learn the latest Equity Trading Strategies used by large banks, brokerages and hedge funds. The instructor will present strategies on equity option trading, pairs trading, program and basket trading, risk arbitrage trading, structured product trading, and dispersion trading (time permitting). Equity trading theory and practical examples will be discussed. Students will be required to structure and adapt equity trading positions based on a range of actual and theoretical market conditions. In addition, students will collaborate with each other and the course instructor to analyze and evaluate the implementation of the above-mentioned strategies.
Prerequisite(s): [(MSF 504 and MSF 505)]
(3-0-3)

MSF 585
FOREX & Fixed Income Strategies
This course will present basic trading concepts related to fixed income instruments. Also covered will be the analysis of repos and fixed income derivatives such as forwards and futures, options, and swaps. Trading strategies will be discussed including yield curve strategies, basis trading, and various types of spread trading using many different instrument types. Students will make trading decisions and modify their portfolios in order to familiarize themselves with the instruments and techniques introduced. Swaps, swaptions, caps, and floors may be introduced.
Prerequisite(s): [(MSF 504 and MSF 505)]
(3-0-3)

MSF 591
Global Financial Markets
This course will enable the student to understand the basics of financial markets and how they function in the global arena. The student will learn how the equities market, the bond market, the money market, the foreign exchange market and the derivatives market are set up and operate. We will focus on the instruments, the players, the jargon, the details of the trade, and the institutional framework for each market. We cover both OTC and exchange-traded markets, and explore the dramatic transformation of these markets. The student will learn how each of these markets operate in the US, but will also learn how practices differ in Europe, Asia and Latin America.
Prerequisite(s): [(MSF 504 and MSF 505)]
(3-0-3)

MSF 593
Market Microstructure
Market microstructure is one of the youngest but most rapidly growing areas of finance. It focuses on the organization of traded markets, including those for equities, bonds, money market instruments, foreign exchange and derivatives (including futures, options and swaps). It explores the concepts of liquidity, transparency, the information content of bids, offers and trades, information asymmetries, order flow externalities, principal-agent problems, the design of markets, the rules of markets, the volatility of markets, the failure of markets, the regulation of markets and the costs of trading. Empirical work in this area typically involves huge datasets. Students will leave this course with a thorough understanding of the structure of the markets in which they will likely spend their careers.
Prerequisite(s): [(MSF 504 and MSF 505)]
(3-0-3)

MSF 595
Entrepreneurial Finance
Most new ventures are not created by financial analysts. However, the success of a new venture is vitally dependent upon the strength of its financial controls. Knowledge of finance is also an important determinant of an entrepreneur’s ability to convey information about his company to banks, regulators, and potential investors. This course provides entrepreneurs with the financial knowledge that they require to create successful new ventures.
Prerequisite(s): [(MSF 504, MSF 505, and MSF 506)]
(3-0-3)

MSF 596
Research Seminar in Finance
The primary focus of this advanced seminar course is on the analysis of credit risk in the financial industry. Credit risk management will cover both corporate banking and investment banking. The course will also review industry applications of credit risk methodology through a review of technical documents and research papers. The course will discuss important and timely classes of credit risk models, e.g., Metron’s structural form, reduced form, actuarial, and scoring, in addition to rating techniques provided by the rating agencies. In addition, regulatory guidance and banks’ own development in internal ratings systems and credit risk models (expected loss, unexpected loss, default correlation, and loss distributions) will be examined in depth. Students are expected to present recent research and classic papers in the field.
Prerequisite(s): [(ACCT 501) OR (MSF 532)] AND [(MSF 521 and MSF 551)]
(3-0-3)

MSF 597
Independent Study in Finance
Independent study in finance.
(Credit: Variable)

MSF 598
The Venture Capital Process
Venture Capitalists are involved with the funding of new enterprises. The funding process begins with the review of a business plan submitted by the enterprise. If the business plan is accepted, the venture capitalist must then decide on the form of financing, the participation in the enterprise, and the compensation structure for the new enterprise. The course will introduce students to the process of venture capital financing and will allow them to participate in the process by reviewing actual business plans submitted by the entrepreneurs. Students will be required to evaluate the business plans and determine the type and quantity of financing to be provided.
Prerequisite(s): [(MSF 504, MSF 505, and MSF 506)]
(3-3-3)

MSF 599
Special Topics in Finance
Special topics in finance.
(3-0-3)
Professional Communication Advancement

**PCA 500**
Professional Communication
Professional communication.
(3-0-3)

**PCA 510**
Communication Essentials
This course will prepare students to communicate effectively with native speakers in a variety of settings by teaching language strategies, phrases, linguistic structures, and vocabulary in English. The course will focus on initiating, maintaining, and ending basic conversations. Understanding cultural context and responding appropriately will be emphasized. Prerequisite: Department approval only; determined by assessments.
(1.5-0-1.5)

**PCA 515**
Strategies for Effective Communication
Students will incorporate subject material learned in PCA 510 and use the knowledge gained to develop higher communicative fluency in order to discuss topics with more competency. This course will focus on developing students’ ability to build and sustain communication across a variety of settings with an emphasis on asking for and providing information, expressing feelings, asking for and giving advice, and asking for and giving opinions. Prerequisite: Department approval only; determined by assessments.
(1.5-0-1.5)

**PCA 520**
Advanced Communication Skills
Students in this course will learn higher-level communication strategies necessary to communicate in various settings and for a wide range of purposes – academic, business, and social. Students will learn language and cultural strategies for effectively working as a team. Prerequisite: Department approval only; determined by assessments.
(1.5-0-1.5)

**PCA 525**
Advanced Presentation Skills
Students will incorporate course material learned in PCA 520 to practice speaking and presenting on a wide variety of topics including subject matter currently being learned and discussed in their business classes. By the end, students will present complex and detailed presentations working on sophisticated vocabulary and advanced communication skills. Prerequisite: Department approval only; determined by assessments.
(1.5-0-1.5)

**PCA 527**
Foundations of Academic Writing
Students will learn to write effective, organized, and coherent paragraphs and a variety of writing assignments following the deductive organizational structure used in academic English. Students will learn how to use standard academic vocabulary and appropriate word forms to express their ideas effectively in writing. The following topics will be taught in the course: vocabulary expansion; editing skills; unity and coherence in writing; and paragraph structure. Prerequisite: Department approval only; determined by assessments.
(1.5-0-1.5)

**PCA 530**
Academic Writing I
Students will learn to write effective, organized, and coherent academic paragraphs and essays in English. Students will learn and practice ways to express themselves clearly in writing. The following topics will be taught: brainstorming and planning; topic sentences and thesis statements; transitional words and phrases; the American organization style; grammar; proofreading; and editing. Prerequisite: Department approval only; determined by assessments.
(1.5-0-1.5)

**PCA 540**
Academic Writing II
In this course, students will build on paragraph development to write essays with greater complexity and logical organization of outside support. Students will learn to develop critical and analytical skills through the essay writing process using proper reference and citation techniques. This course includes a review and refinement of English grammar to produce clear, concise, and polished academic writing. Prerequisite: Department approval only; determined by assessments.
(1.5-0-1.5)

**PCA 550**
Business Writing
Students in this course will learn the higher-level business writing tasks and writing skills needed to effectively communicate using various business formats. Students will learn and practice appropriate language structures, phrases, and vocabulary commonly used in American business writing. Prerequisite: Department approval only; determined by assessments.
(1.5-0-1.5)

**PCA 560**
Prof Commn Adv - Presentation
Presentation.
(1.5-0-1.5)

**PCA 570**
Pronunciation
1.5 credit hours. Students will learn pronunciation strategies to communicate more effectively with others in English. There are many individual components necessary for good English pronunciation including vowel and consonant sounds, word stress and rhythm, sounds in connected speech, and intonation. Students will learn what these components are and be taught strategies for using them in their everyday communication. Students will be responsible for practicing these strategies in and out of class. Prerequisite: Department approval only; determined by assessments.
(1.5-0-1.5)

**PCA 594**
Professional Communication Advancement Independent Study
Full or half-semester course. Independent study to meet the special English communication needs of Stuart graduate students. Subject matter will vary with the backgrounds and skill levels of students. Requires written consent of the instructor.
Public Administration

PA 501  Essentials for Public Management in a Complex Society: Processes, Structures, & Values
This course provides an understanding of the fundamental theories, key practices, and underlying issues that provide the framework for contemporary American public administration. It will discuss the political and administrative values affecting the theory and practice of public administration in the United States; review the historical development of American public administrative systems and processes; examine key issues facing public administrators in the light of both traditional and contemporary values and views; critically evaluate administrative approaches to public service delivery; and explore contemporary strategies to address critical problems in a rapidly changing world, such as new public management, public private partnerships, and strategic competitiveness. (3-0-3)

PA 502  Leading & Managing Knowledge-Intensive Organizations
PA 502 builds awareness and understanding of the behavior of individuals and groups in organizations, preparing managers to be more effective within their organizational contexts. Topics include individual differences in motivation, perception, culture and learning style, group organizational dynamics, and the impact of organizational structure and culture on behavior. Leadership techniques for influencing other organizational members, creative problem-solving and decision-making, ethics and values-based managing are covered. This course helps students relate basic theories, concepts, and techniques to real-world situations through the extensive use of case studies. Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently. (3-0-3)

PA 503  Administration Law
This course considers the role of statutes, case law, and administrative law in the establishment, operation, and control of public agencies. It also examines how legislation and administrative procedures direct and constrain the exercise of discretion by public managers and how they ensure accountability and the fair treatment of the public. Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently. (3-0-3)

PA 505  The Law & the Nonprofit Sector
This course is an examination of local, state, and federal law as it pertains to the nonprofit sector. This includes such things as the IRS, lobbying, human resources, property, and contracts. Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently. (3-0-3)

PA 506  Managerial Economics
This course examines the behavior of firms and households and the determination of prices and resource allocation in market economy. Topics include empirical demand, production and cost functions, monopoly, oligopoly, and pricing practices. (3-0-3)

PA 507  Contemporary Issues in International Business
To operate in the complex environment of a globalized world, managers must develop an in-depth understanding of current events. The international business professional must develop an appreciation for topics such as the OPEC oil cartel, international risk analysis, technological advances as a driver of global markets, major international strategies, cross-cultural competence, the political economy of modernization, collaborative ventures, and international acquisitions. The course also provides rigorous economic analysis of the modern theory of trade as well as government trade policies. It deals with the factors that determine the exchange rate systems. Furthermore, the course analyzes the crises in emerging markets and the need to revamp the international financial system. In the areas of trade, topics covered include: the Doha round, economic integration (i.e. the EU, free trade areas), and the meteoric rise of sovereign wealth funds (SWF). (3-0-3)

PA 509  Integrative Practicum for Effective Leadership in Public & Nonprofit Organizations
PA 509 is a capstone course where students apply concepts and theories they have studied to analyze an organizational or policy problem and deliver a report that normally specifies the problem or task, defines alternatives, and proposes recommended course of action. The recommendation will be supported by reasons and evidence. PA 509 should be taken in the student’s last semester. Prerequisite(s): [(PA 580*)] An asterisk (*) designates a course which may be taken concurrently. (3-0-3)

PA 510  Managerial Communications
This course provides hands-on training and practice in the styles of writing and related communications skills needed by all public managers, including memoranda, letters, and formal reports. Emphasis is placed on learning and practicing effective writing and communication related to real-world administrative and managerial situations relevant to the student’s particular current or chosen professional position. Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently. (3-0-3)

PA 511  Comparative Public Administration
This course provides an introduction to comparative analysis of systems of public administration in selected nations, including Great Britain, Japan, China, and major non-governmental organizations such as the European Union and the United Nations. The nations and organizations discussed will be compared to each other and to the United States. Areas explored will include: the historical antecedents of current national administrative systems (including the development of the nation-state), public administration models and structure in both developed and developing nations, the relationship between bureaucracies and political systems, the rise of the international nongovernmental organization, and the impact of corruption on public administration. (3-0-3) Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently. (3-0-3)
PA 512
**Public Advocacy**
The goal of this course is to assist students functioning as strong advocates in their future careers and to help them prepare for their thesis or final project presentation. This is an advanced research and writing course. Public Advocacy is the study of effective argument. The course is designed to allow students to focus their prior learning experiences through problem analysis and advocacy. Using individual topics, students will address the problems of advocacy including different types of advocacy situations requiring different information, analyses, and presentations. Substantive topics of current interest and controversy will be discussed in the context of developing and advocating a particular position.

(3-0-3)

PA 514
**Government Management & Information Systems**
A practical introduction to database management programs. Demonstrates the use of a variety of other office automation software tools (including graphics, desktop publishing, telecommunications/file transfer, bibliographic text retrieval, computer-aided instruction, and expert systems). Considers issues relating to effective computer management, including computer ethics, security, needs assessment and training. Prior working knowledge of personal computer operating systems, word processing, and spreadsheet programs is needed.

Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently.

(3-0-3)

PA 516
**Information Technology in Public Administration**
The course has the learning objective of becoming aware of the general management challenges that the use of information technology presents for governments and to be able to develop appropriate policies that address these challenges. Upon completion, students should be able to apply best practices to the management of computer hardware, software, networking, and other technologies in government and appreciate how the use of electronic government technology can transform government and be able to help governments develop and manage effective programs of e-government use.

Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently.

(3-0-3)

PA 522
**Effective Management of Human Resources in Environments of Scarce Resources**
This course focuses on human resource planning, recruitment, examination, and promotion of procedure. It familiarizes students with the key human resources management factors involved in supervising employees as well as collective bargaining, affirmative action, and employee productivity and performance evaluation. It is directed towards practical applications in dealing with these topics as managers and employees working in their teams or individually and covers employee professional responsibility and behavior. Students in this class will learn to utilize human resource planning, recruiting, interviewing and selection processes to improve organizational outcomes; analyze the legal/cultural aspects of personnel when making organizational decisions; identify the key components of performance management to improve themselves and their direct reports; develop specific solutions to solve critical workplace personnel issues; and apply a variety of motivation and team performance techniques in current and future organizational settings.

Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently.

(3-0-3)

PA 532
**Managing Public Financial Resources in a Changing World**
Managing Public Financial Resources in a Changing World exposes students to fundamental concepts and strategies of public financial resource management in a rapidly changing fiscal environment. It provides students with the concepts and skills needed to evaluate budget processes and documents, understand the role of politics and planning in financial management, and to evaluate the financial condition of governments. Emphasizing best practice models and case studies, the course will focus primarily on local government finance with some reference to state government policies and practices. Some references also will be made to nonprofit budgeting accounting practices.

Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently.

(3-0-3)

PA 533
**Advanced Financial Management for Public & Nonprofit Sectors**
An advanced course focusing on the application of techniques used by financial managers to evaluate government financial condition and performance. Students will conduct case studies in which they apply tools such as performance measurement, budget analysis, priority setting, and financial indicator analysis to evaluate core public financial documents including budgets, capital improvement plans, and audited financial statements.

Prerequisite(s): [(PA 532*)] An asterisk (*) designates a course which may be taken concurrently.

(3-0-3)

PA 534
**Financial Management in the Nonprofit Sector**
Nonprofits are business organized on many of the same principle as for-profits, but there are differences including financial reporting to boards of directors, donation accounting, reporting to government funding sources, tax reporting, and even investment strategies (for example program related investing). This course will equip a nonprofit manager to responsibly guide the complex financial life of a modern nonprofit.

Prerequisite(s): [(PA 532)]

(3-0-3)
PA 535 Resource Development in the Nonprofit Sector
Resource Development in the Nonprofit Sector provides insight and learning into fundraising, marketing, and strategic planning in the nonprofit sector. This course offers an in-depth look into finding and securing the resources necessary to the success of nonprofit organizations. Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently. (3-0-3)

PA 536 Strategy & Structure: Homeland Security
This course introduces the student to the National Strategy for Homeland Security and describes the structure under which it was originally designed, the events that have affected the original concept and the various changes that is has undergone since the events of 09/11/2001. The student will become intimately acquainted with the key legal parameters affecting HS and the government components involved in HS operations, enforcement and intelligence. An emphasis on the overall integration of state, local, tribal, and private sectors will enable the student to apply the tenets of HS to their own individual situations. Other topics will include an understanding of how to conduct Threat Assessments as well as a cursory understanding of the Intelligence Cycle. Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently. (3-0-3)

PA 537 Crisis Management & Homeland Security
This course is taught by experts from various disciplines and provides a basic overview of homeland security including a brief history of terrorism. Specifically, the course is intended to provide the issues related to homeland security, awareness on the types of threats (damage to building processing plants, public facilities, etc.), and the type of risks involved. Other relevant aspects include types of weapons used by modern terrorists; how one goes about estimating risk and threat to a facility; how buildings and people respond when subjected to blast and fires; the role of search and rescue operation; weapon effect; building security; facility analysis to identify vulnerable areas given a threat; procedures for minimizing vulnerability; effective fire safety; contingency plans, etc. At the conclusion of this course the student will know how to estimate the risk and threat to a given facility, prepare a basic security audit; develop a basic contingency plan, develop passive/active security system for a given facility and develop post event search and rescue operations. Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently. (3-0-3)

PA 538 Information Systems Security & Cyber Crime
Provides an introduction to information systems security, an in-depth review of topics in cyber-crime issues in the public safety field and identifies methods of preventing cyber-crime in organizations. It includes issues involved with policy and legal issues of enforcement of cyber-crime laws, as well as tools used for network security. Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently. (3-0-3)

PA 539 Local Government Management
This course examines the governmental structure in which public safety administrators work and studies the interrelationship of public safety administrators with the rest of the organization. The leadership and management roles of public safety officials, finances & budgeting in local government, and ethics in the profession will be examined. Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently. (3-0-3)

PA 540 Public Sector Dispute Resolution
This course will introduce you to the formally accepted varieties of resolving disputes without going to court: negotiation, mediation, fact-finding, mini-trials, court sponsored settlement procedures, and arbitration. We will focus on process: what each term means; how the different processes work and compare with one another; when they can and cannot be used more effectively and how; and what considerations, techniques and/or factors make each kind of process work best. This is a survey course to give a general idea of the different kinds of alternative dispute resolution methods. Although simulations are used it is not equivalent to a full skills training program. Note: This course is also applicable to the nonprofit sector. (3-0-3)

PA 541 Performance Measurement in Nonprofit & Public Management
Performance management is a process of measuring progress toward specific organizational goals and objectives through the use of quantitative indicators of efficiency, effectiveness and quality. It is an essential tool that can help nonprofit and government leaders and staff plan and manage the programs and services they offer to customers, clients, and the public. This is an applied course which will help students understand performance management concepts, develop specific performance measures, and apply performance management techniques to solve real world problems in both the nonprofit and public sectors. Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently. (3-0-3)

PA 543 Public Policy, Nonprofits, & Philanthropy
This course examines the long history of charitable giving across the globe with special emphasis on the United States. In particular this course will focus on the philosophical roots of philanthropy, organized giving, and the role philanthropy has played in the development of modern public policy as it pertains to health and human services. Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently. (3-0-3)
PA 550  
Social Entrepreneurship  
This course gives students a practical introduction to the exciting and rapidly growing field of social entrepreneurship. The course will begin by introducing students to contemporary understandings of poverty, its causes, and traditional poverty alleviation strategies. It will then turn to key concepts regarding social ventures including entrepreneurship, organizational structures (for profit, nonprofit, and hybrid), financing, marketing, and performance assessment (social and environmental impact). We will also examine the challenges that are faced in creating and operating social enterprises in different parts of the world. The course includes guest lectures by the Stuart School of Business faculty and social entrepreneurs working in different areas (such as health, education, and environment). Students will gain hands-on experience by either developing a business plan for a social enterprise to address a specific real world problem or assisting an existing social venture in developing a business plan geared towards an expansion of its services. It is expected that the plans can be entered into a variety of social venture competitions.  
(3-0-3)  

PA 551  
Public Infrastructure Management  
This course considers the status and operation of public infrastructure facilities in the United States generally and in the Chicago metropolitan area, with particular attention to the responsibilities and roles of the public works manager. Explores the relationship between the engineering, administrative, and political aspects of public works management. Focuses on critical infrastructure issues through case studies.  
Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently.  
(3-0-3)  

PA 552  
Human Services Policy & Administration  
This course examines the major issues associated with the administration and operation of social welfare and health services in the United States by governments and nonprofit organizations. It is designed for students who work in such agencies and for those who have regular contact with them or their clientele. Structure, funding, staffing and other operating characteristics are examined.  
Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently.  
(3-0-3)  

PA 553  
Public Safety Administration  
This course deals with contemporary public safety and security management in communities for public safety professionals, public administrators, and law enforcement officials who deal with public safety issues existing in post-9/11 American society. Examines the relationship between police/public safety policy, operations, and administration. Addresses various current problems and issues through case studies. Focuses mainly on the City of Chicago and surrounding metropolitan area.  
Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently.  
(3-0-3)  

PA 555  
Introduction to Urban & Regional Planning  
The subject of this course is governmental and private sector activities that influence the maintenance and development of the built environment. Students learn both quantitative and qualitative analysis and are introduced to planning systems incorporating fiscal analysis, social analysis, transportation analysis, and demographic and economic analysis. They will also learn about various processes providing participation and citizen input to the development of plans for the built environment. Regulatory tools covered include zoning, comprehensive plans, neighborhood planning, and subdivision regulation.  
Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently.  
(3-0-3)  

PA 556  
Public Management Strategies for the 21st Century  
In the United States, an increasing proportion of the goods and services traditionally provided by governmental employees in the context of a governmental bureaucracy are now provided by outside contractors, or through indirect means such as social, economic regulation, tax policy, loan guarantees, vouchers, and manipulation of incentives for the private sector. This course is intended to provide students with an understanding of various tools used by governments throughout the West as the traditional rule-based bureaucracy is replaced by other types of institutions and other means to provide goods and services traditionally provided by government.  
Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently.  
(3-0-3)  

PA 557  
Urban & Regional Development  
This course covers materials on infrastructure management and the interrelationship of infrastructure management to urban and regional development. The course acquaints students with the increasing role of the private sector in infrastructure maintenance, development, and management. Students learn various analytic techniques useful for officials responsible for urban and regional development (including development of new infrastructure) and for the continuing maintenance and management of existing infrastructure. Students learn analytic techniques relating to management and planning.  
Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently.  
(3-0-3)  

PA 558  
Energy & Environmental Policy  
This course requires successful completion of at least one other course marked with a satisfaction of IIT's Basic Writing Proficiency Requirement. This course places energy and environmental policy in domestic and global contexts. It also traces the economic and political implications of dependence on fossil fuels and the attempt to develop alternate energy sources and promote conservation. It assesses the environmental effects of resource consumption and the effort to control these effects by increased efficiency and regulation of pollution, and explores such problems such as nuclear waste, acid rain, global warming, and deforestation. Finally, it examines national and international attempts at economic, political, and technological solutions.  
Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently.  
(3-0-3)
PA 559  
**Issues in Globalization**  
Globalization has become a powerful buzzword in social science and in popular discourse. This course utilizes a sociological perspective to examine the economic, socio-political, and cultural aspects of globalization within the context of contemporary debates about the phenomenon.  
Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently.  
(3-0-3)

PA 560  
**Political Economy**  
This course is an introduction to political economy exploring the relationship between economy and government or political system. Role of the state, role of the market, and impact of economic ideologies on political and economic systems will be examined. Structure of political and economic interests and the mediating effects of institutions on political and economic outcomes will be examined. Normative issues connected to ideal political and economic institutions and appropriate political and economic institutions and outcomes will be examined. The impact of the political and economic institutions on the problems of public administration at both the national and state level will be covered as well as the appropriate role for administrators, elected officials, and private sector leaders in the formulation of political and economic policy.  
Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently.  
(3-0-3)

PA 561  
**The Political Process & Administration**  
This course addresses the relationship between democratic institutions and processes of American politics and the administrative agencies of government. It also examines obligations of citizenship, influence of private interests (especially economic) on public purposes, and effects of demographic, economic, and technological change on self-government.  
Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently.  
(3-0-3)

PA 562  
**Urban & Metropolitan Government**  
This course analyzes the decision-making process in urban and metropolitan government. It is designed to emphasize the role of elected and appointed officials, business, organized labor, community organizations, and the electorate. It also focuses on the major problems of city-suburban relations.  
Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently.  
(3-0-3)

PA 565  
**The Nonprofit Sector**  
This course considers the role played by the nonprofit sector in the larger American society and economy. Topics include major organizational forms, financial management, human resource policies, leadership, board-executive relations, and private-public connections.  
Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently.  
(3-0-3)

PA 566  
**Nonprofits & the Public Sector**  
Nonprofits and the Public Sector provides an overview of the complex and important relationship between government and nonprofits. This course includes a review of the history, funding schemes, the differences between grant and contract funding, recent trends, and more.  
Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently.  
(3-0-3)

PA 567  
**Regulatory Policy & Politics**  
This course examines the changing role of government regulation of private and public activities from a political and administrative perspective. It also explores the reasons for growth and reform of economic and social regulation and investigates the regulatory process including standards for rule-making and the involvement of organized groups and the courts.  
Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently.  
(3-0-3)

PA 568  
**Strategic Competitiveness in the Public Sector**  
This course is a strategy, competitiveness, and leadership laboratory for public sector managers and leaders of the 21st century. Students will gain an understanding of IIT Stuart’s unique core concept of strategic competitiveness as well as frameworks from theories of entrepreneurial government, strategic management, and economic competitiveness. Students will critically analyze conventional frameworks for relevance to various contexts across the public sector in the rapidly changing Next Economy. Cases discussing the public sector’s efforts to transform its management processes to meet the challenges of the Next Economy and to successfully interact with the business community are emphasized. The course employs a dynamic classroom environment using case method, class discussions, and group projects. Students will appreciate the challenges, complexities, and characteristics needed to effectively lead and be successful in the competitive global economy by delving into questions such as: How do countries, regions, states, and cities compete in the global economy? How do public leaders create innovative economic development strategies by influencing firms’ strategic decisions regarding investment and trade? How can public leaders enhance the competitiveness of their business environment by adopting entrepreneurial government strategies? What are best practices for economic development in the Next Economy?  
Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently.  
(3-0-3)

PA 570  
**Social Capital & the Community**  
The 21st century confronts the public sector with new challenges and opportunities. Many of these challenges and opportunities will take place on the community level, and many of those challenges and opportunities will be centered on the notion of social capital and the community. Social capital is the building of and use of community assets – those resources available to the community through its residents or citizens, association, institutions, and economic life. Using an asset-based community development approach, the objective of this course is to help the student understand and use the concepts of asset-based approaches to social capital and community as it relates to public administration.  
Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently.  
(3-0-3)
PA 577  
Topics in Public Management  
This reading and seminar will focus on a contemporary topic in public administration or policy. Subject matter will change in successive offerings of the seminar.  
Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently.  
(Credit: Variable)

PA 578  
Planning, Policy-Making, & the Built Environment  
This course introduces students to governmental planning, policy-making, and their impact on the built environment. Using Chicago and nearby municipal areas as examples, the course acquaints students with the basic theories of urban and regional planning and development, and the regulatory tools and techniques used by government to impact the built environment. The course also includes material on housing, environmental protection, brownfields, historic preservation, new-urbanism and growth management, and various policy-making processes that determine governmental policies intended to influence the built environment.  
(3-0-3)

PA 579  
Ethics & Professional Responsibility in Public Service  
This course focuses on the ethical problems and issues faced by individuals in public service organizations. It also examines questions related to corruption, abuse of power, financial impropriety, ethics codes and standards in government and professional fields, whistle-blowing, and other topics related to front-page concerns and individual problems of conscience and judgment. The course traces the growth of concern about the standards of ethical behavior in government in the U.S.  
Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently.  
(3-0-3)

PA 580  
Policy Evaluation Analytics  
This course will present a variety of tools and techniques to evaluate existing programs and policies to determine and measure their most important elements, and to give policy-makers the necessary information to fund, improve or terminate programs based on empirical evidence regarding factors such as cost/benefit, efficiency, effectiveness, equity, and other important characteristics. Evaluation can also allow policy-makers and staff to focus budgets and efforts to best achieve policy or program goals.  
(3-0-3)

PA 581  
Policy Design Analytics  
This course is designed to present practical, cost-effective techniques that can be used to make better decisions regarding the allocation of scarce resources. Topics covered include problem identification, goal development, data needs and collection, generation of alternative solutions, projecting impacts, goals-oriented evaluation, and strategies for implementation.  
Prerequisite(s): [(PA 501)]  
(3-0-3)

PA 588  
Incident Response, Disaster Recovery, & Business Continuity  
Students learn to design and manage key business information security functions including incident response plans and incident response teams; disaster recovery plans; business continuity plans; and crisis management teams and plans. Reporting, response planning, and budgeting are all addressed. Students working in teams will prepare an incident response, disaster recovery, business continuity, or crisis management plan for a real world organization such as a business or a government body or agency.  
Prerequisite(s): [(PA 501*)] An asterisk (*) designates a course which may be taken concurrently.  
(3-0-3)

PA 590  
Internship in Public Administration  
This course provides practical experience in public administration and may be taken only by students lacking extensive work experience in governmental administration.  
Prerequisite(s): [(PA 501)]  
(Credit: Variable)

PA 592  
Directed Readings in Public Administration  
This course consists of independent reading and analysis centered on particular problems and supervised by a member of the public administration faculty.  
(Credit: Variable)

PA 597  
Special Problems  
The subject matter of this course will vary with the interests and the background of the students and the instructor, and the course may be taken more than once. Instructor permission is required.  
(3-0-3)

PA 600  
Continuation of Residence  
Continuation of residence.  
(0-0-1)

Stuart School of Business

SSB 510  
ACE Seminar  
The two-semester Advancing Career and Education is a graduation requirement that complements the graduate business student’s academic experience and prepares the student for professional internship placement and the post-graduation job market. The first semester course (SSB 510) explores personal development topics communication skills, acculturation, competitive job search skills, and self-awareness. This course also builds skills and self-awareness. This course also builds an awareness related to the workplace including resume development, communication, workplace etiquette, presentation skills, teamwork and motivation, and workplace relationships. During the first semester students are assigned to a partner organization where they will begin completion of the 100 project hours required at the end of their second semester in the program.  
(0-0-0)
SSB 511
Advancing Career & Education II
The two-semester Advancing Career and Education seminar is a graduation requirement that complements the graduate business student’s academic experience and prepares the student for professional internship placement and the post-graduation job market. The second semester course (SSB 511) focuses on internship search and interviewing skills including how to leverage relational or “soft” skills, internship strategies and tools, networking and informational interviewing, and employer expectations. Additional topics covered include workplace themes such as organizational structure, personal influence, and conflict negotiation. Students must complete 100 project hours at their partner organization by the end of the semester in order to pass the course.

SSB 520
Service Learning-Sem II
Service learning.

(0-0-0)