Master of Science in Management (MSM)

The MSM program blends technical expertise with fundamental management knowledge.

Concentration Areas:
- Business Analytics
- Global Project Management
- Web Systems and Media
- Financial Technology (FinTech)

Management: The Next Step for Professionals with Technical Backgrounds

At some point in their careers, successful professionals are faced with the prospect of moving into managerial positions as the next logical step in their career progressions. The MSM program is designed to facilitate this transition. It is more focused than is the MBA curriculum through a stronger emphasis on mastery of a clearly defined concentration area.

The MSM is best suited for candidates who wish to have more influence in their organizations by moving into managerial positions, but who also desire to retain their allegiance to an area of technical expertise.

A Fast Tracked Program for Fast Tracked Professionals

The MSM program is delivered with special attention to people on the move. Students can complete the degree requirements in two years of part-time study or in a single year of full-time study. Courses are offered during the evenings to accommodate the schedules of working professionals. In addition, the 15-credit MSM core is available on-line.

MS in Management Curriculum

The Master of Science in Management is a 30 credit program that prepares graduates for managerial roles in organizations. Its emphasis is on melding business fundamentals and technical knowledge within specific areas of concentration including Business Analytics, Global Project Management, and Web Systems and Media, and Financial Technology (FinTech).

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tr>
<td>MGMT 501</td>
<td>Management Foundations</td>
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<tr>
<td>ACCT 615</td>
<td>Management Accounting</td>
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<td>FIN 600</td>
<td>Corporate Finance I</td>
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<td>HRM 601</td>
<td>Organizational Behavior</td>
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<tr>
<td>MIS 645</td>
<td>Information Systems Principles</td>
<td>3</td>
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<tr>
<td>or IS 677</td>
<td>Information System Principles</td>
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<tr>
<td>MRKT 620</td>
<td>Competing in Global Markets</td>
<td>3</td>
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Select 15 credits from one area:

- Global Project Management

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<tr>
<td>ECON 610</td>
<td>Managerial Economics</td>
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<td>or FIN 610</td>
<td>Global Macro Economics</td>
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<td>EM 636</td>
<td>Project Management</td>
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<td>EM 637</td>
<td>Project Control</td>
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<td>EM 691</td>
<td>Cost Estimating for Capital Projects</td>
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<td>IE 618</td>
<td>Engineering Cost and Production Economics</td>
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<td>IE 659</td>
<td>Supply Chain Engineering</td>
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<td>IS 614</td>
<td>Command and Control Systems</td>
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<td>IS 684</td>
<td>Business Process Innovation</td>
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<td>MGMT 641</td>
<td>Global Project Management</td>
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Web Systems and Media

- IS 661 User Experience Design
- IS 664 Customer Discovery
- IS 688 Web Mining
- IS 690 Web Services and Middleware
- MRKT 637 Marketing Communications and Promotions
- PTC 601 Advanced Professional and Technical Communication
- PTC 605 Elements of Visual Design
- PTC 606 Advanced Information Design
- PTC 650 ELearning Design for Mobile

Business Analytics

- CS 634 Data Mining
- IS 631 Enterprise Database Management
- IS 687 Transaction Mining and Fraud Detection
- IS 688 Web Mining
- MATH 661 Applied Statistics
- MGMT 625 Distribution Logistics
- MGMT 630 Decision Analysis
- or MGMT 662
- MGMT 635 Data Mining and Analysis
- MGMT 650 Knowledge Management
- MGMT 710 Forecasting Methods for Business Decisions
- MIS 648 Decision Support Systems for Managers
- MRKT 645 Internet Marketing Strategy

Financial Technology

- FIN 611 Intro to Topics in Fin Tech
- FIN 616 Data Driven Financial Modeling
- FIN 620 Adv Financial Data Analytics
- MGMT 735 Deep Learning in Business
- FIN 641 Derivatives Markets
- FIN 626 Financial Investment Institutions
- FIN 624 Corporate Finance II
- MGMT 635 Data Mining and Analysis

Total Credits: 30

1. One course must be either ECON 610 Managerial Economics or MGMT 641 Global Project Management
2. One course must be MRKT 637 Marketing Communications and Promotions
3. One course must be MGMT 630, MGMT 635, MGMT 710, MIS 648, or MRKT 645.
4. One course must be FIN 611 and two courses must be FIN 616, FIN 620 and MGMT 735

The MSM curriculum puts it all together and prepares managers who know how to use technology to meet strategic objectives; who have business smarts; and who can meet the growing demand for technology savvy leadership.

Curriculum Structure & Content

The MSM curriculum is divided into two modules: the business core and concentration area. The business core comprises one-half (15 credits) of the degree requirements with the remaining 15 credits focusing on the concentration's management knowledge component.

The Business Core: The business core provides the fundamental business knowledge needed to evaluate business models and to assume managerial positions. Coursework includes key functional areas in business: accounting, finance, marketing, information systems, leadership and organizational behavior.

Management Concentration Area: Each student selects a management area with a technical focus for in-depth study. Concentration courses are designed to complement the concepts offered in the 15 credit business core. Current concentration areas include: Business Analytics, Global Project Management, and Web Systems and Media, and Financial Technology (FinTech).
Management Concentrations

Each student must select an area of concentration. The concentration consists of 5 classes for a total of 15 credits.

Global Project Management

What is Global Project Management about?

The Global Project Management specialization is focused on Manufacturing, Construction, Supply Chain, and Business Process Management. The areas include the expertise of the engineering resource planning function such as Production Planning, Global Project Planning, Engineering Management, and Construction Planning and Control.

Who is it for?

Professionals who are interested in the field of complex Project Management, relationship facilitation and coordination between project teams and customers, and harmonizing the demands among project scope, time, expenditures and quality of the end product. Many students who select Global Project Management have undergraduate degrees in International Business, Civil Engineering, and Architecture, and are seeking a career focused more on corporate and project management fields.

Where Can It Take Me?

Career tracks begin with managing focused projects and leading to work on larger international and national projects. Global Project Management professionals would then transition into managerial roles and run Operations departments. Sustained career progress tracks to the COO position.

Business Analytics

What is Business Analytics?

The Business Analytics specialization is focused on business development, solutions, product development and analysis of the customer requirements. Prized skills include expertise in business forecasting, project costing and accounting, business development, and structured solutions to customer complex business problems.

Who is it for?

Candidates who are interested in business solutions, consultation, business development and strategies, and infrastructure and planning management. Many students who select business analytics have undergraduate degrees in Engineering, Technology, and Applied Science and are seeking a career focused on business solutions development and management.

Where Can It Take Me?

The career track begins with managing focused projects as business analysts with technological, solution provider, governmental, and non-profit organizations. Business analysts then transition into managerial roles and lead business development teams. Sustained career progress tracks to the director of operations, COO and CTO.

Web Systems and Media

What is Web Systems and Media?

The Web Systems and Media specialization is focused on the development of a revolutionized way of web applications and social media applications. They include expertise in marketing strategies, front end – user experience analysis, SEO (Search Engine Optimization) management, and working closely with development teams for final product design.

Who is it for?

Candidates who are interested in web development, graphics development, media and journalism, and online marketing strategy development. Many students who select Web Systems and Media have undergraduate degrees in Information Technology, Computer Science, Journalism, Graphic design, and professional and technical communications.

Where Can It Take Me?

The career track begins with work on focused projects as front end developer or content developer supporting web development teams. Web Systems and Media professionals then move into managerial roles, leading project development teams. Sustained career progress tracks to project lead and CTO.
Financial Technology

What is Financial Technology?

Financial Technology (FinTech) is a rapidly growing subsector of the financial services industry, which involves the application of new technologies including software tools, networking, user experience and interface platforms, and modern modeling and analytical techniques to improve the efficiency and deployment of traditional financial services. The rapid increase in the quantity, variety, and availability of new data and information sources has fundamentally changed legacy business practices in the financial services industry. Big data creates an increasing market need for talents who utilize new technologies and innovations to understand hidden patterns in investor habits and market behaviors as well as assist managers in making informed data-driven decisions. The requisite skillset required to process and analyze such information has resulted in considerable demand for staff with software development, mathematical and statistical modeling, and practical problem solving expertise. New financial technologies include, but are not limited to, crypto-currencies (e.g., bitcoin), blockchain, cloud computing, retail banking automation, machine learning and deep learning, automated investment advisement, algorithmic trading, and risk management framework development and associated visualization tools.

Who is it for?

Students who are interested in applying modern tools to improve financial activities, design new applications, processes, products or business models related to financial services. Typically, students who undertake the FinTech concentration have obtained undergraduate degrees in Engineering, Technology, Finance or the applied sciences and are seeking a career focused on applying technical tools for the development of new financial services.

What are Potential Career Prospects in FinTech?

There are various career paths one may pursue after completing the FinTech concentration. In particular, careers in finance, technology, and entrepreneurship such as investment banking, international finance, commercial banking, sales and trading, information technology, social entrepreneurship, etc. are vocations within the scope of this program. Graduates may work for FinTech startups as well which concentrate in cryptocurrency management and trading, blockchain technologies including smart contracts, open banking, insurtech, Robo-advisement, machine learning and data mining applications and cybersecurity. Some may work for traditional financial services companies, which are in need of staff with technical skillsets to improve existing business practices and/or develop new processes related to technological innovations.