The Wesley J. Howe School of Technology Management - III

GRADUATE PROGRAMS

Business success in the 21st century will be increasingly dependent on the strategic development and use of technology. This is a complex challenge since the solutions to many business problems rely on the convergence of a number of technologies and their proper alignment with customer requirements and various other business elements. Therefore, the ability to manage and market technology creatively is essential for enhancing business competitiveness. The Wesley J. Howe School of Technology Management has been designed to meet this need. It features a spectrum of customer-oriented curricula to accommodate gaining expertise and training in important technology management concentrations and research endeavors.

Currently, the School of Technology Management offers many graduate degree programs: The Master of Science in Management, the Master of Science in Information Systems, the Master of Business Administration in Technology Management, the Executive Master of Technology Management, the Executive Master of Business Administration, and the Doctor of Philosophy Degree with concentrations in Information Management, Technology Management, and Telecommunications Management. In addition, the School participates in several interdisciplinary graduate programs: a Master of Science in Telecommunications Management (with the Electrical and Computer Engineering department), a Master of Science in Information Systems with technical interdisciplinary tracks: Computer Science, Quantitative Software Engineering, Information Security, E-commerce (with the Computer Science department), Integrated Information Architecture (with the Electrical and Computer Engineering department), and Systems Engineering (with the Systems Engineering and Engineering Management department).

Stevens Undergraduates in Simultaneous Degree or Deferred Graduate Credit Programs

Undergraduate students with junior or above standing who have at least a 3.0 GPA may obtain permission to take graduate courses by completing a study plan with the Program Director and submitting it to the Registrar's office. Registration into graduate courses requires permission of the course Instructor. Undergraduate students are not permitted in the Master of Science - Information Systems program or courses. Students must obtain a signed certification of standing prior to seeking permissions. This form is available from the Registrar's web site.

MASTER OF SCIENCE

Master of Science - Management

The Master of Science - Management program focuses on the practice of management and is grounded in a variety of analytic and administrative skills drawn from the fields of management, economics, applied psychology and quantitative methods. Knowledge of these techniques alone does not guarantee success as a manager. Rather, it is the steady development of conceptual and integrative skills, and the active blending of these basic areas of knowledge necessary to identify organizational problems, analyze them, synthesize solutions and then implement the decisions that signal the growth of professional competence. All students take a set of common core courses and select additional courses based upon their chosen concentration.

This 12-course, 36-credit program leads to the degree of Master of Science in Management and is designed for working professionals with at least two years of work experience. However, applicants who do not meet this work experience requirement, but have outstanding academic records, will be considered for admission. For these applicants, an interview with a member of the department's Graduate Admissions Committee is suggested. Admission to the program requires a bachelor's degree with at least a "B" average, and two letters of recommendation. Prerequisites may include a semester of microeconomics (Mgt 503 or equivalent) and a semester of introductory calculus. Admissions decisions are made on a rolling basis, so students are encouraged to apply at any time during the year.

Students must discuss their program plans with their advisors, whose names are listed on the Letter of Acceptance. Advisors will be able to recommend appropriate choices and may be able to waive required courses depending on previous educational accomplishment. Upon evidence of satisfactory prior completion of a required course, students may, upon academic advisor approval, substitute an elective.

All international students who are applying who have English as a second language will need a TOEFL score of 550 (210 for computer-based) and must take a Stevens English test upon arrival, which will include both the TOEIC (Test for English for International Communication) and a written essay exam. As a result of these exams, those students who do not become exempt from developmental English will be placed in an appropriate English course offered by Stevens. Following completion of the course(s), the student must take a post-test and pass in order to be exempt from future language courses. Satisfaction of the language skills requirement must occur within the first year of study at Stevens. Either the GRE or GMAT examination is also required for international students.

(Please note that several course numbers have changed. A conversion chart of old Mgt course numbers and new Mgt course numbers is included at the end of this program section.)

Six concentrations are available: General Management, Global Innovation Management, Human Resource Management, Information Management, Project Management and Technology Management. Students considering doctoral study are encouraged to complete a master's thesis as part of their degree.

Common Core Courses for Master of Science in Management

Mgt 600 Managerial Accounting
Mgt 607 Managerial Economics
Mgt 680 Organizational Behavior and Theory (or Mgt 612 for Project Management concentration)
Mgt 690 Organization Theory and Design
Mgt 609 (formerly Mgt 550) Introduction to Project Management
Mgt 620 (formerly Mgt 796) Statistical Models

Additional Core Courses are drawn from the following list and are specified for each concentration.

Mgt 671 (formerly Mgt 702) Technology and Innovation Management
Mgt 679 (formerly Mgt 771) Management Information Systems

General Management Concentration

The General Management concentration provides students with a basic grounding in the finance and marketing functional areas of management. It also requires students to apply their broad-based understanding of organizations to specific problems of project management and strategic management. In addition to the common core courses, all students who choose the General Management concentration are required to take additional core and concentration courses as follows:

Additional Core Courses

Mgt 671 (formerly Mgt 702) Technology and Innovation Management
Mgt 679 (formerly Mgt 771) Management Information Systems

Concentration Courses

Mgt 623 Financial Management
Mgt 641 Marketing Management
Mgt 725 (formerly Mgt 551) Strategic Management

Electives

Students will choose one elective with the approval of their Academic Advisor.

Global Innovation Management Concentration

In the current era of globalization, firms that depend on innovation as their source of growth often need to create and manage their innovations on a global basis. This emerging trend, with its unique promise and complexity, is the focus of the Global Innovation Management concentration. Students learn the business issues, motivations and processes of doing international and global business, with specific attention given to innovation management in this environment. They also gain awareness of the social impact on host countries.

In addition to the common core courses, students in the Global Innovation Management concentration will also take additional core and concentration courses as follows:

Additional Core Courses

Mgt 671 (formerly Mgt 702) Technology and Innovation Management
Mgt 679 (formerly Mgt 771) Management Information Systems

Concentration Courses

Mgt 630 Global Business and Markets

Mgt 650 International Business Management
Mgt 673 (formerly Mgt 720) Global Innovation Management

Electives

Students will take one elective with the approval of their Academic Advisor. Mgt 641 Marketing Management and Mgt 632 Power and Politics in International Business are recommended.

Human Resource Management Concentration

The HR program operates from a theory of the firm that considers organizations as learning entities rather than collections of assets that can be managed independent of their environments. The philosophy of the coursework is that approaching the study of management and people from the perspective of learning incorporates an attitude that recognizes the desirability of change, the importance of continuous growth and the need for innovative capability in product, service, process and organizational development. It is through people that organizations initiate, carry out, develop and adapt.

In addition to the common core courses, students in the Human Resource Management concentration will also take additional core and concentration courses as follows

Additional Core Courses

Mgt 671 (formerly Mgt 702) Technology and Innovation Management
Mgt 679 (formerly Mgt 771) Management Information Systems

Concentration Courses

Mgt 646 (formerly Mgt 566) HR Processes: Techniques and Applications
Mgt 647 (formerly Mgt 530) Legal & Social Environment of Human Resources
Mgt 654 (formerly Mgt 529) Organizational Change and Development
Students will take one elective with approval of advisor.

Information Management Concentration

The Information Management concentration focuses on management skills and the knowledge required to make efficient use of information in the organization. Today, more than ever, there is a pressing need for information systems that effectively support the strategic objectives of the organization. Consequently, the individuals creating and managing such systems have to be much more familiar with the business aspect of their organization than was necessary in the past. This concentration blends significant aspects of both business management and information systems knowledge, thereby preparing students to specify, develop and manage information systems as a strategic organizational resource.

This program is geared for the business professional seeking an understanding of information management. For those students without an information technology background, the online Web-based course, MIS 501 Information Management, is required for no credit. IT professionals should review the Masters in Information Systems degree.

In addition to the common core requirements, all students who choose the Information Management concentration will take six of the following concentration courses, with the approval of their Academic Advisor

Concentration Courses (choose six)

MIS 620 (formerly Mgt 772) Analysis and Development of Information Systems
MIS 630 (formerly Mgt 773) Data Management
MIS 640 (formerly Mgt 776) Managing Information Networks
MIS 760 (formerly Mgt 780) IT Strategy
MIS 750 (formerly Mgt 781) Management of IT Organizations
MIS 710 (formerly Mgt 783) Enterprise Systems Management
MIS 730 (formerly Mgt 784) Integrating IS Technologies

Project Management Concentration

The Stevens Project Management Concentration provides education and training in project management at the graduate level. While pursuing the MS-Management degree, students can also earn the Graduate Certificate in Project Management (GC/PM) as they prepare to achieve the Project Management Professional (PMP) certification independently administered by the **Project Management Institute (PMI)** .

The Project Management Concentration presents the theory and practice of project management in modern organizations. Generally accepted and innovative practices in project management are presented in a manner that links project planning and execution with the achievement of strategic business goals. The Project Management Concentration teaches new concepts in strategic project management and leadership that were developed by Howe faculty and have achieved international acclaim.

In addition to the core requirements, all students who choose the Project Management concentration take additional core and concentration courses as follows:

Additional Core

Mgt 671 (formerly Mgt 702) Technology and Innovation Management

Concentration Courses

Mgt 618 Engineering Economics and Management Policy or
Mgt 621 (formerly Mgt 795) Management Models
Mgt 610 Project Management Theory and Practice
Mgt 611 Project Planning and Monitoring
Mgt 612 The Human Side of Project Leadership
Mgt 614 Advanced Project Management
Students will choose one elective with the approval of Academic Advisor; Mgt 641 Marketing Management is a recommended elective.

Technology Management Concentration

Managing technological resources and processes in organizations is increasingly important as more firms utilize technology to create value or attain strategic goals. The Technology Management concentration focuses on the tools and issues involved in managing these critical resources. Students will develop awareness of the management and strategic implications of technology and innovation processes in product and service firms. They will also gain knowledge of the enterprise as a whole, with particular emphasis on the link between technology and business.

In addition to the core requirements, all students who choose the Technology Management concentration take additional core and concentration courses as follows:

Additional Core

Mgt 671 (formerly Mgt 702) Technology and Innovation Management
Mgt 677 (formerly Mgt 707) Emerging Technologies

Concentration Courses

Mgt 618 Engineering Economics and Management Policy
Mgt 656 (formerly Mgt 750) Total Quality Management

Electives

Students will choose two electives with the approval of their Academic Advisor; Mgt 641 Marketing Management, Mgt 673 (formerly Mgt 720) Global Innovation Management, Mgt 725 (formerly Mgt 551) Strategic Management, are recommended electives.

MASTER OF BUSINESS ADMINISTRATION - TECHNOLOGY MANAGEMENT

Our emphasis on technology management distinguishes a Howe School education from that provided by most other management schools. Our research and educational programs focus on the determinants of real value for the firm - product and process innovation and strategic project management. We also emphasize the development of communication and leadership skills through innovative pedagogical techniques and the maintenance of small class sizes and an intimate relationship between students and faculty members.

The MBA in Technology Management (TM) adds general management skills to the knowledge of technology management provided by our M.S. degree programs. Graduates from the MBA in TM program will be able to use their business, technology management, and people skills to align technology trends with customer needs and to manage their organizations in an increasingly complex and competitive world.

At least 2 years of working experience is preferred for applicants to the MBA in TM program. However, students who do not meet this work experience requirement, but have outstanding academic records, will be considered for admission. Applicants to the MBA in TM program are expected to have a four-year bachelor's degree. All applicants must submit transcripts showing academic achievement in prior studies, two letters of recommendation, a master's thesis or other evidence of writing skills, and their score on either a GMAT or GRE examination. International students must also submit a TOEFL score. Students currently enrolled in one of the Howe School's M.S. degree programs may apply to join the MBA in TM program prior to obtaining their M.S. degree by submitting a written application together with a GMAT or GRE score. Courses taken in the M.S. program may count towards the MBA degree. Similarly, students who are currently enrolled in the MBA in TM program may apply to enroll in one of the Howe School's M.S. degree programs prior to obtaining their MBA in TM degree by submitting a written application.

To obtain the degree of MBA in Technology Management, students must take 20 3-credit courses (60 credits) of course work.

Eight majors are available in the MBA in TM program: Engineering Management, Financial Engineering, Global Technology Management, Information Management, Project Management, Information Technology in the Financial Services Industry, Information Technology in the Pharmaceutical Industry, and Telecommunications Management.

MBA in TM with Engineering Management Major

The Engineering Management (EM) major prepares students for the role of "Engineering Manager" in a technology-based company. Students in this major take eleven MBA core courses, three engineering management courses, two systems courses and three electives. Prerequisites for this major include a semester of microeconomics (Mgt 503 or equivalent) and a semester of introductory calculus.

MBA Core Courses for the EM Major

Mgt 609 (formerly Mgt 550) Introduction to Project Management
Mgt 725 (formerly Mgt 551) Strategic Management
Mgt 600 Managerial Accounting
Mgt 607 Managerial Economics
Mgt 623 Financial Management
Mgt 641 Marketing Management
Mgt 680 Organizational Behavior and Theory
Mgt 690 Organizational Theory and Design
Mgt 671 (formerly Mgt 702) Technology Management
Mgt 657 (formerly Mgt 760) Operations Management
Mgt 679 (formerly Mgt 771) Management Information Systems

Engineering Management Major Requirements

EM 600 Engineering Economics and Cost Analysis
EM 605 Elements of Operational Research
SYS 611 Modeling and Simulation
or SYS 660 Decision and Risk Analysis
SYS 625 Systems Operational Effectiveness and Life-cycle analysis
One Engineering Management Elective

Plus three advisor-approved electives or a master's thesis plus one advisor-approved elective.

MBA in TM with Financial Engineering Major

Less theoretical than competing financial engineering programs, the Financial Engineering (FE) major provides students with both managerial and analytical skills specific to the world of finance. Students in this major take eleven MBA core courses, two preparatory courses in mathematics and probability, six courses specialized to financial engineering, and one elective course. Prerequisites for this major include a semester of microeconomics (Mgt 503 or equivalent) and a semester of introductory calculus.

MBA Core Courses for the FE Major

Mgt 609 (formerly Mgt 550) Introduction to Project Management
Mgt 725 (formerly Mgt 551) Strategic Management
Mgt 600 Managerial Accounting
Mgt 607 Managerial Economics
Mgt 623 Financial Management
Mgt 641 Marketing Management
Mgt 680 Organizational Behavior and Theory
Mgt 690 Organizational Theory and Design
Mgt 671 (formerly Mgt 702) Technology Management
Mgt 657 (formerly Mgt 760) Operations Management
Mgt 679 (formerly Mgt 771) Management Information Systems

Financial Engineering Major Requirements

Ma 505 Introduction to Mathematical Methods (maybe waived by advisor)
Ma 540 Introduction to Probability Theory (maybe waived by advisor)
TM 613 Knowledge Discovery and Data Mining for Telecommunications Managers
Mgt 625 Investments and Capital Markets
Ma/FE 610 Probability and Stochastic Calculus
Ma/FE 620 Pricing and Hedging
Ma/FE 621 Computational Methods in Finance or CS 535 Financial Computing

Ma/FE 630 Portfolio Theory and Risk Management

Plus 1 advisor-approved elective

MBA in TM with Global Technology Management Major

The Global Technology Management (GTM) major provides knowledge of the economic drivers and cultural aspects that must be understood by managers seeking success in rapidly expanding global markets. Students in this major take twelve MBA core courses plus four global technology management courses, a course in macroeconomic analysis, and three elective courses. Prerequisites for this major include a semester of microeconomics (Mgt 503 or equivalent) and a semester of introductory calculus.

MBA Core Courses for the GTM Major

Mgt 609 (formerly Mgt 550) Introduction to Project Management
Mgt 725 (formerly Mgt 551) Strategic Management
Mgt 600 Managerial Accounting
Mgt 607 Managerial Economics
Mgt 623 Financial Management
Mgt 641 Marketing Management
Mgt 680 Organizational Behavior and Theory
Mgt 690 Organizational Theory and Design
Mgt 671 (formerly Mgt 702) Technology Management
Mgt 657 (formerly Mgt 760) Operations Management
Mgt 679 (formerly Mgt 771) Management Information Systems
Mgt 620 (formerly Mgt 796) Statistical Models

Global Technology Management Major Requirements

Mgt 608 Macroeconomic Analysis
Mgt 630 Global Business and Markets
Mgt 632 Power, Politics and Policy in International Business
Mgt 650 International Business Management
Mgt 673 (formerly Mgt 720) Global Innovation Management

Plus 3 advisor-approved electives or a master's thesis plus one advisor-approved elective.

MBA in TM with Information Management (IM) Major

Students taking the MBA in TM Information Management major take a number of general management courses in addition to the courses required for an M.S. in Information Systems degree.

Prerequisites for this major include a semester of introductory undergraduate calculus and MIS 502 Selected Topics in Economics, Statistics, and Accounting for students not having previous coursework in these areas. For people with little or no information systems professional experience, MIS 501 Information Management is a prerequisite.

Core Courses for IM Major

Mgt 609 Introduction to Project Management
Mgt 600 Managerial Accounting
Mgt 607 Managerial Economics
Mgt 623 Financial Management
Mgt 680 Organizational Behavior and Theory
Mgt 690 Organizational Theory and Design
Mgt 657 Operations Management
MIS 661/Mgt 661 Marketing Online
MIS 662/Mgt 662 Legal Issues for the IT Professional
MIS 663/Mgt 663 Entrepreneurship in IT
MIS 760 (formerly Mgt 780) IT Strategy
MIS 750 (formerly Mgt 781) Management of Information Technology Organizations
Mgt 620 Statistical Models

IM Major Requirements

MIS 710 (formerly Mgt 783) Enterprise Systems Management
MIS 730 (formerly Mgt 784) Integrating IS Technologies
MIS 620 (formerly Mgt 772) Analysis and Development of Information Systems
MIS 630 (formerly Mgt 773) Data and Knowledge Management

MIS 640 (formerly Mgt 776) Managing Information Networks
Plus two advisor-approved electives or a thesis

MBA in TM with IT in Financial Services (ITF) Major

Prerequisites include a semester of introductory undergraduate calculus and a semester of microeconomics, i.e. Mgt 503 or equivalent.

Core Courses for ITF Major

Mgt 609 Introduction to Project Management
Mgt 600 Managerial Accounting
Mgt 607 Managerial Economics
Mgt 623 Financial Management
Mgt 680 Organizational Behavior and Theory
Mgt 690 Organizational Theory and Design
Mgt 661 Marketing Online
MIS 662 Legal Issues for IT Professionals
MIS 663 Entrepreneurship in IT
MIS 760 Strategic Management of IT
MIS 750 Management of IT Organizations
Mgt 620 Statistical Models

ITF Major Requirements

MIS 681 Financial Services Trends and Issues
MIS 682 Financial Services Capital Markets
MIS 683 Financial Services Back Office
MIS 684 Financial Services marketing & Sales
MIS 620 Analysis & Development of IS
MIS 630 Data Management
MIS 640 Managing Information Networks
MIS 710 Enterprise Systems Management
MIS 730 Integrated IS Technologies

MBA in TM with IT in Pharmaceutical Industry (ITP) Major

Prerequisites include a semester of introductory undergraduate calculus and a semester of microeconomics, i.e. Mgt 503 or equivalent.

Core Courses for ITP Major

Mgt 609 Introduction to Project Management
Mgt 600 Managerial Accounting
Mgt 607 Managerial Economics
Mgt 623 Financial Management
Mgt 680 Organizational Behavior and Theory
Mgt 690 Organizational Theory and Design
Mgt 661 Marketing Online
MIS 662 Legal Issues for IT Professionals
MIS 663 Entrepreneurship in IT
MIS 760 Strategic Management of IT
MIS 750 Management of IT Organizations
Mgt 620 Statistical Models

ITP Major Requirements

Mgt 721 Pharma Industry Trends & Issues
MIS 672 Pharma New Drug Development
MIS 674 Pharma Marketing & Sales
MIS 673 Pharma Supply Chain
MIS 620 Analysis & Development of IS
MIS 630 Data Management
MIS 640 Managing Information Networks
MIS 710 Enterprise Systems Management
MIS 730 Integrated IS Technologies

MBA in TM with Project Management (PM) Major

Students taking the MBA in TM with a PM major take a number of project management courses in addition to the courses required for an M.S. in Management degree.

Prerequisites for this major include a semester of microeconomics (Mgt 503 or equivalent) and a semester of introductory calculus.

Core Courses for PM Major

Mgt 609 Introduction to Project Management
Mgt 725 Strategic Management
Mgt 600 Managerial Accounting
Mgt 607 Managerial Economics
Mgt 680 Organizational Behavior and Theory
Mgt 623 Financial Management
Mgt 641 Marketing Management
Mgt 690 Organizational Theory and Design
Mgt 671 Technology and Innovation Management
Mgt 657 Operations Management
Mgt 679 Management Information Systems
Mgt 620 Statistical Models

PM Major Requirements

Mgt 610 Project Management Theory and Practice
Mgt 611 Project Planning and Monitoring
Mgt 612 The Human Side of Project Leadership
Mgt 618 Engineering Economics and Managerial Policy
Mgt 614 Advanced Project Management
Plus three advisor-approved electives or two electives and a thesis

MBA in TM with Telecommunications Management Major

Students taking the MBA in TM telecommunications management major take a number of general management courses in addition to the courses required for an M.S. in Telecommunications Management degree.

Prerequisites for this major include a semester of undergraduate introductory calculus (TM 500 or equivalent) and a semester of microeconomics (Mgt 503 or equivalent.) Students who lack an introductory telecommunications background may be required to take TM 550 Introduction to Telecommunications Concepts.

MBA in TM Core Courses for Telecommunications Major

Mgt 609 Introduction to Project Management
Mgt 725 Strategic Management
Mgt 600 Managerial Accounting
Mgt 607 Managerial Economics
Mgt 623 Financial Management
Mgt 641 Marketing Management
Mgt 680 Organizational Behavior and Theory
Mgt 690 Organizational Theory and Design
Mgt 671 Technology and Innovation Management
Mgt 710 Risk Management
Mgt 657 Operations Management
Mgt 620 Statistical Models

Telecommunications Management Major Requirements

Mgt 618 Engineering Economics and Managerial Policy
TM 601 Principles of Applied Telecommunications Technology
TM 605 Probability for Telecommunications Managers
TM 610 Business Information Networks
TM 612 Regulation and Policy in the Telecommunications Industry
TM 670 Decision Analysis for Corporate Network Systems
Plus two advisor-approved electives or a thesis

Master of Science-Master of Business Administration in Technology Management

The MS-MBA is a coordinated degree program that requires students to take 24 courses (72 credits) of course work. Students graduate with both a Howe School M.S. degree and an MBA in Technology Management degree.

The combination of M.S. and MBA in TM courses provides in-depth preparation for graduates wishing to assume either general management or technology-related managerial positions in organizations. The program is also designed to allow students to specialize in topic areas that are of special interest to their individual careers.

The application requirements are the same as those listed above for the MBA in TM program. Current M.S. or MBA in TM students must apply in writing before they can be admitted to the MS-MBA degree.

The MS-MBA has the same majors as the MBA program. To satisfy the requirements for the MS-MBA degree, students must satisfy all the requirements listed above to obtain an MBA in TM degree in one of the eight major areas. In addition, students must take an additional four courses approved by an academic advisor.

Master of Science in Information Systems

The Master of Science in Information Systems (MSIS) program evolved from a review by Stevens of industry and student needs. The MSIS Program is designed to provide participants with the requisite management, business, strategic and technical skills needed to help their companies apply information systems technology more efficiently and effectively.

Rapid advancements in technology, dynamic markets and the changing business environment have created increased demand for professionals who can manage and deliver information systems. This demand has been accelerated by new competition, shorter product lifecycles, and more complex and specialized markets. Information systems professionals are required to lead and evolve information resources while partnering with corporate management.

The Stevens MSIS program teaches IT professionals how to help their organizations achieve success through alignment and deployment of business and IT strategies. The program is an interdisciplinary combination of twelve courses, typically taken over a two-year period. It is a practical program that is more like an apprenticeship where students work on real business problems.

Classes combine lectures, cases, individual and team projects, and participant presentations. Many projects will be applicable directly to the participant's sponsoring organization's business needs. Instructors are nationally/internationally recognized experts in information technology, technology management and business strategy. Instructors generally have substantial corporate experience and academic qualifications. Emphasis is placed on providing practical experience that can be applied immediately.

Stevens offers a multi-track M.S. program to help you achieve your Information Technology career objectives. Students choose one of the following 14 career tracks to complete the MSIS degree:

Management Tracks

Entrepreneurial IT	(weeknights or Saturdays for students sponsored by their company)
Global Innovation Management	(weeknights or Saturdays for students sponsored by their company)
Human Resource Management	(weeknights or Saturdays for students sponsored by their company)
Information Management	(weeknights or Saturdays for students sponsored by their company)
IT in Financial Services	(Saturdays)
IT in Pharmaceutical	(Saturdays)
Project Management	(weeknights or Saturdays for students sponsored by their company)

Technical Tracks

Quantitative Software Engineering	(weeknights or Saturdays for students sponsored by their company)
Systems Engineering	(weeknights or Saturdays for students sponsored by their company)
Information Security	(weeknights only)
Integrated Information Architecture	(weeknights or Saturdays for students sponsored by their company)
Computer Science	(weeknights only)
E-Commerce	(weeknights only)
Telecommunications Management	(weeknights only)

In addition to strong, practical, real-world IT and management skills, graduates of the program leave with improved communication, interpersonal and team skills. The MSIS is a professional degree that integrates information and organizational cultures with emphasis on IT professionals who can contribute to the business.

To ensure quality and continuous improvement, participants are asked to appraise their courses twice each semester. These results are reviewed by the faculty and are made available to both participants and their sponsoring organizations.

Degree Requirements:

- Twelve graduate courses (36 credits) with a minimum GPA of 3.0 for the degree of Master of Science.
- Bachelor's degree in Information Systems, Management, Computer Science, and/or equivalent experience. Students without programming experience must take a programming course.

- For people with little or no information systems professional experience, Mgt 501 Information Management is a prerequisite for all MSIS courses.

Students considering doctoral study are required to complete a master's thesis as part of their degree.

Required Core Courses:

Mgt 609 Introduction to Project Management
Mgt 623 Financial Management
Mgt 680 Organizational Behavior and Theory
MIS 760 (formerly Mgt 780) IT Strategy
MIS 750 (formerly Mgt 781) Managing the IT Resource
MIS 710 (formerly Mgt 783) Enterprise Systems Management
MIS 730 (formerly Mgt 784) Integrating IS Technologies

Management Concentrations

Information Management Track - Concentration Courses
MIS 620 (formerly Mgt 772) Analysis and Development of Information Systems
MIS 630 (formerly Mgt 773) Data and Knowledge Management
MIS 640 (formerly Mgt 776) Managing Information Networks

Students will also choose two electives or write a thesis with the approval of their Academic Advisor.
The typical admission profile includes career advancement in general management, nontechnical information technology leadership, technology leadership or consulting, 3+ years information technology/business experience and a Bachelor's in business/management, sciences or liberal arts.

Entrepreneurial IT Management Track - Concentration Courses
MIS 640 (formerly Mgt 776) Managing Information Networks
MIS 661/Mgt 661 Marketing Online
MIS 662/Mgt 662 Legal Issues for the IT Professional
MIS 663/Mgt 663 Entrepreneurship in IT
MIS 620 (formerly Mgt 772) Analysis and Development of Information Systems

Typical admission profile includes career advancement in information technology e-related business, general management in e-business, entrepreneurship or consulting, 3+ years information technology/business experience.

IT in the Pharmaceutical Industry - Concentration Courses
MIS 671 (formerly Mgt 721) Pharmaceutical Services Industry Trends and Issues
MIS 672 New Drug Development
MIS 674 Pharmaceutical Marketing & Sales
MIS 673 (formerly Mgt 724) Pharmaceutical Supply Chain
Select one from:
MIS 620 (formerly Mgt 772) Analysis and Development of Information Systems
MIS 630 (formerly Mgt 773) Data and Knowledge Management
MIS 640 (formerly Mgt 776) Managing Information Networks

Typical admission profile includes nontechnical information technology leadership in a pharmaceutical corporate environment, 3+ years information technology/business experience and a Bachelor's in business, information systems, political science or international relations.

IT in Financial Services Industry - Concentration Courses
MIS 681 (formerly Mgt 761) Financial Services Industry Trends and Issues
MIS 682 (formerly Mgt 762) Capital Markets
MIS 683 (formerly Mgt 763) Back Office
MIS 684 (formerly Mgt 764) Financial Services Market & Sales
Select one from:
MIS 620 (formerly Mgt 772) Analysis and Development of Information Systems
MIS 630 (formerly Mgt 773) Data and Knowledge Management
MIS 640 (formerly Mgt 776) Managing Information Networks

Typical admission profile includes nontechnical information technology leadership in a financial services corporate environment, 3+ years information technology/business experience and a Bachelor's in business, information systems political science or international relations.

Global Innovation Management Track - Concentration Courses

MIS 630 (formerly Mgt 773) Data and Knowledge Management
Mgt 630 Global Business and Markets
Mgt 650 International Business Management
Mgt 673 Global Innovation Management
MIS 620 (formerly Mgt 772) Analysis and Development of Information Systems

Typical admission profile includes nontechnical information technology leadership in a global environment, 3+ years information technology/business experience and a Bachelor's in business, information systems, political science or international relations.

Human Resource Management Track - Concentration Courses

MIS 630 (formerly Mgt 773) Data and Knowledge Management
Mgt 646 Human Resource Processes: Techniques and Applications
Mgt 647 Legal and Social Environment of Human Resources
Mgt 654 Organizational Change and Development
MIS 620 (formerly Mgt 772) Analysis and Development of Information Systems

Typical admission profile includes IT human resource management/staff career advancement, information technology leadership, 3+ years information technology/business experience and a Bachelor's in business, information systems or human resources.

Project Management Track - Concentration Courses

Mgt 610 Project Management Theory and Practice
Mgt 612 The Human Side of Project Leadership
Mgt 614 Advanced Project Management
MIS 620 (formerly Mgt 772) Analysis and Development of Information Systems
MIS 630 (formerly Mgt 773) Data and Knowledge Management

Typical admission profile includes career advancement as information technology project leader or functional area project leader, 3+ years information technology/business experience and a Bachelor's in information systems, computer science, business/management, sciences or liberal arts.

Technical Concentrations

Computer Science Track - Recommended Concentration Courses (Interdisciplinary)

CS 561 Database Management Systems I
CS 551 Software Engineering and Practice I
CS 552 Software Engineering and Practice II
CS 666 Information Networks I
Plus, one computer science elective.

Students will develop a plan of study with the approval of their Academic Advisor. Typical admission profile includes information systems technical career advancement and 3+ years information technology experience. A strong mathematics and technical background is recommended.

Information Security - Concentration Courses (Interdisciplinary)

Choose four courses
MIS 645 CyberSecurity Principles for Managers
MIS 646 Enterprise Architecture for Information Security
MIS 647 Information Security and the Law
CS 573 Fundamentals of Computer Security
CS 694 E-Business Security & Information Assurance
Select one from:
- MIS 620 (formerly Mgt 772) Analysis and Development of Information Systems
- MIS 630 (formerly Mgt 773) Data and Knowledge Management
- MIS 640 (formerly Mgt 776) Managing Information Networks

Typical admission profile includes technical management and leadership or consulting, 3+ years information technology or networking experience and a Bachelor's in information systems or computer science. A strong mathematics and technical background is recommended.

E-Commerce Technical Track - Concentration Courses (Interdisciplinary)

Select two from
MIS 620 (formerly Mgt 772) Analysis and Development of Information Systems
MIS 640 (formerly Mgt 776) Managing Information Networks
MIS 661/Mgt 661 Marketing Online

MIS 662/Mgt 662 Legal Issues for IT Professionals
MIS 663/Mgt 663 Entrepreneurial IT
And, select three from the following:
CS 561 Database Management Systems I
CS 537 Interactive Computer Graphics I
CS 533 Cost Estimation and Metrics
CpE 636 Integrated Services - Multimedia
TM 619 E-Commerce Technologies

Typical admission profile includes E-commerce technical career advancement and 3+ years information technology. A strong mathematics and technical background is recommended.

Integrated Information Architecture Track - Concentration Courses (Interdisciplinary)
NIS 560 Introduction to Networked Information Systems
CS 561 Database Management Systems I
NIS 611 Digital Communications Engineering I
MIS 630 (formerly Mgt 773) Data and Knowledge Management
And, select one from the following:
CpE 654 Design and Analysis of Network Systems
CpE 592 Multimedia Network Security
CpE 636 Integrated Services - Multimedia
CpE 678 Information Networks I

Typical admission profile includes technical management and leadership in systems architecture, 3+ years information technology experience and a Bachelor's in information systems or computer science. A strong mathematics and technical background is recommended.

Quantitative Software Engineering Track - Concentration Courses (Interdisciplinary)
CS 540 Fundamentals of Quantitative Software Engineering
CS 564 Software Requirements Acquisition and Analysis
CS 565 Software Architecture and Component-Based Design
CS 533 Cost Estimation and Metrics
MIS 630 (formerly Mgt 773) Data and Knowledge Management

Typical admission profile includes application systems analysis or testing career advancement, 3+ years information technology experience and a Bachelor's in information systems or computer science. A strong mathematics and technical background is recommended.

Systems Engineering Track - Concentration Courses (Interdisciplinary)
SYS 625 Systems Operational Effectiveness and Life-cycle Analysis
SYS 650 System Architecture and Design
SYS 611 Modeling and Simulation
SYS 660 Decision Risk Analysis
MIS 620 (formerly Mgt 772) Analysis and Development of Information Systems

Typical admission profile includes technical management and leadership or consulting, 3+ years information technology experience and a Bachelor's in information systems or computer science. A strong mathematics and technical background is recommended.

Telecommunications Management Track - Concentration Courses
TM 601 Principles of Applied Telecommunications Technology
TM 605 Probability for Telecommunications Managers
TM 610 Business Information Networks
TM 612 Regulation and Policy
MIS 630 (formerly Mgt 773) Data and Knowledge Management

Typical admission profile includes general management in telecommunications industry or telecommunications management, 3+ years information technology/network experience and a Bachelor's in information systems or computer science. A strong mathematics and technical background is recommended.

Master of Science - Telecommunications Management

The Telecommunications Management Graduate Program (M.S. and Ph.D.) is an interdepartmental program involving the Wesley J. Howe School of Technology Management and the Electrical and Computer Engineering Department of the Charles V. Schaefer, Jr. School of Engineering. The Wesley J. Howe School of Technology Management administers this program. The MS in Telecommunications Management is also offered in Beijing, China in partnership with Beijing Institute of Technology.

The Telecommunications Management curriculum addresses the demanding requirements of the telecommunications industry, businesses and government for technical expertise combined with business skills. The program provides students with advanced technical knowledge of applied telecommunications integrated with business management. Admission to the program requires a bachelor's degree with at least a "B" average, including a semester of calculus. For students who lack this prerequisite, Stevens offers a non-credit calculus course for telecommunications management (e.g., TM 500). International students need a TOEFL score of 550 (210 for computer-based).

A student in this program is likely to be an individual who is, or aspires to be, a manager or supervisor in a corporation's or government agency's communications department. The student will typically be responsible for various aspects of planning, implementation and management of the systems that satisfy the corporate requirements for voice, video and data communications. The goal of this student is to become a management professional responsible for the management of communications planning and resources, including people, networks and systems, and for decisions involving planning and budgeting for annual expenditures for acquisition, installation and maintenance, of products and services. Each sector of industry (government, regulatory, common carrier, financial, equipment vendor, consultant, R&D) will have corresponding profiles of professionals who need such technical expertise and management skills. This degree program builds an advanced foundation for more specialized study while enabling professionals from all industry sectors to understand and interact with customers and communications professionals who make the decisions on how businesses will implement telecommunications.

Specialized courses are available in the areas of management of wireless networks, network management and evaluation, global innovation management, communications security and project management. Students who wish to continue beyond their master's degree may pursue the Ph.D. program in Technology Management with a specialization in Telecommunications Management.

In addition to a number of off-campus (corporate-sponsored) programs, Telecommunications Management is offered on campus, weekdays and on Saturdays. Courses are offered year-round, in three terms.

Core Courses - Telecommunications Management

TM 601 Principles of Applied Telecommunications Technology
TM 605 Probability for Telecommunications Managers
TM 610 Business Information Networks
TM 612 Regulation and Policy in the Telecommunications Industry
TM 670 Decision Analysis for Corporate Network Systems
Mgt 609 Introduction to Project Management
Mgt 600 Managerial Accounting
Mgt 618 Engineering Economics and Management Policy

Concentration and Elective Courses

In designing a study plan with an advisor, students may choose any four courses from the tracks, or on-campus students may choose a concentration in a focused area of study and take the elective courses listed within the concentration.

Business Management Track (choose four)

Mgt 641 Marketing Management
Mgt 680 Organizational Behavior and Theory
Mgt 690 Organization Theory and Design
Mgt 671 Technology and Innovation Management
Mgt 710 Risk Management: Methods and Applications
Mgt 656 Total Quality Management
MIS 661/Mgt 661 Marketing Online
MIS 662/Mgt 662 Legal Issues for the IT Professional
MIS 663/Mgt 663 Entrepreneurship in IT
MIS 640 (formerly Mgt 776) Managing Information Networks
TM 616 Global Wireless Industry
TM 765 Selected Topics in Telecommunications Management

Technical Management Track Courses (choose four)

TM 611 Emerging Technologies
TM 613 Knowledge Discovery and Data Mining for Telecommunications Managers
TM 614 Principles of Traffic Engineering and Performance Analysis
TM 615 Wireless Communications and Mobile Computing
TM 617 Next Generation Wireless Networks
TM 619 E-Commerce Technologies
TM 621 Telecommunications Switching and Signaling
TM 624 Network Management
TM 694 E-Business Security and Information Assurance
Mgt 710 Risk Management: Methods and Applications
TM 765 Selected Topics in Telecommunications Management

MIS 645 CyberSecurity Principles for Managers
MIS 646 Enterprise Architectures for Information Security

Global Innovation Management (choose four)
Mgt 630 Global Business and Markets
Mgt 650 International Business Management
Mgt 671 Technology and Innovation Management
Mgt 673 Global Innovation Management

Management of Wireless Networks (choose four)
TM 615 Wireless Communication and Mobile Computing
TM 616 Global Wireless Industry
TM 617 Next Generation Networks
TM 618 Performance of Emerging Mobile Wireless Networks
EE 584 Wireless Systems Security

Online Technology, Business and Security (choose four)
TM 619 E-Commerce Technologies
TM 694 E-Business Security and Information Assurance
MIS 661/Mgt 661 Marketing Online
MIS 662/Mgt 662 Legal Issues for the IT Professional
MIS 663/Mgt 663 Entrepreneurship in IT
MIS 645 CyberSecurity Principles for Managers
MIS 646 Enterprise Architectures for Information Security

Project Management Concentration (choose four)
Mgt 609 Introduction to Project Management (core, required for all)
Mgt 610 Project Management Theory and Practice
Mgt 612 The Human Side of Project Leadership
Mgt 614 Advanced Project Management
Mgt 611 Project Planning and Monitoring
Mgt 613 Project Management Office

Satisfying Prerequisites
Students who satisfy Telecommunications Management admissions requirements but lack calculus and an introductory telecommunications background, may be required to complete the following non-credit courses:
TM 500 Calculus for Telecommunications Managers
TM 550 Introduction to Telecommunications Concepts
These courses are offered at least once every academic year.

Graduate Certificate in Telecommunications Management
TM 601 Principles of Applied Telecommunications Technology
TM 605 Probability for Telecommunications Managers
TM 610 Business Information Networks
TM 612 Regulation and Policy in the Telecommunications Industry
(All credits earned may be applied towards the master's degree.)

Executive Master of Technology Management (EMTM)

The EMTM program focuses on the effective management and use of technology in technology-intensive businesses. It integrates business and technology topics focused on educating participants to manage technology creatively in order to enhance business competitiveness in a global business environment. Orientation is given in general business skills such as finance and marketing, and emphasis is placed on aligning technology development with business strategy through application of TQM, and the use of emerging technology, innovation and multifunctional teams.

The Executive Master of Technology Management degree program is composed of eleven courses that are completed in six trimesters. The courses are supplemented by a series of one-day workshops (practicums) utilizing business simulation tools that reinforce classroom concepts while providing students with experience running a high tech company. Applicants are required to have a Bachelor of Science degree in engineering, science or computer science. Consideration will be given to prospective students with non-technical undergraduate degrees provided they have appropriate technology-based work experience. At least five years' industrial experience is required.

All courses are taught by Stevens faculty and Executives-in-Residence and are scheduled at convenient satellite locations in northern (Morristown) and central (Tinton Falls) New Jersey. Classes are held one evening per week and run from 3:30 p.m. to 9:30 p.m. There is a short break for dinner, which is provided on site. In the final semester, the capstone course requires several non-consecutive weekend (Friday evening/Saturday) sessions on the Stevens campus. Students complete their degree in 21 months.

Core Courses for the Executive Master of Technology Management degree

EMT 624 Financial Analysis for Technological Organizations
EMT 628 Accounting Lab
EMT 642 Marketing Management in Technical Organizations
EMT 746 Practicum – Marketing
EMT 629 Marketing Lab
EMT 677 Emerging Technologies
EMT 758 Oral and Written Communications
EMT 714 Technology Strategy
EMT 749 Practicum - Technology Strategy
EMT 715 Strategic Business Management
EMT 740 Managing Multifunctional Teams
EMT 741 Innovation Management Process
EMT 751 Project Management and Leadership
EMT 752 Corporate Venturing
EMT 754 Practicum – Corporate Venturing
EMT 755 Process Management in High-Tech Organizations
EMT 798 Integration and Application of Technology Management
EMT 743 Practicum - Teaming

Executive MBA in Technology Management Program (EMBA in TM)

The EMBA in TM is designed for professionals with at least five years of managerial and/or senior professional experience in business/government organizations. The EMBA in TM program is designed for individuals on a trajectory to a senior management position (e.g. R&D Director or VP, etc.). Applicants are expected to have a bachelor's degree. All applicants must submit transcripts showing academic achievement in prior studies, two letters of recommendation from their companies, a letter stating their career objectives, a resume and their GMAT score. International students should also submit a TOEFL score. Students currently enrolled in one of the Howe School's M.S. degree programs may apply to join the EMBA in TM program prior to obtaining their M.S. degree by submitting a written application together with a GMAT score. Similarly, students who are currently enrolled in the EMTM program may apply to enroll in the EMBA program in TM by submitting a written application.

New Course Numbers

Many course numbers have changed. Please find below a conversion chart of old and new course numbers, in ascending order of old numbers. Please note that course numbers that have changed are in **bold** type.

OLD NUMBER	NEW NUMBER	Course Name
MGT 503	MGT 503	Microeconomics
MGT 529	**MGT 654**	Organizational Change and Development
MGT 530	**MGT 647**	Legal & Social Environment of HR (was HR and the Law)
MGT 550	**MGT 609**	Intro to Project Management
MGT 551	**MGT 725**	Strategic Management
MGT 552	**MGT 718**	Multivariate Analysis
MGT 557	**MGT 658**	New Business Ventures
MGT 566	**MGT 646**	HR Processes: Techniques and Applications (was Task Analysis)
MGT 599	**MGT 719**	Research Methods
MGT 600	MGT 600	Managerial Accounting
MGT 607	MGT 607	Managerial Economics
MGT 608	MGT 608	Macroeconomics
MGT 610	MGT 610	Project Mgmt Theory & Practice
MGT 611	MGT 611	Project Planning Techniques
MGT 612	MGT 612	Human Side of Project Leadership
MGT 618	MGT 618	Engineering Economics
MGT 623	MGT 623	Financial Mgmt
MGT 625	MGT 625	Investments and Capital Markets

MGT 626	MGT 626	Cost Analysis and Control
MGT 630	MGT 630	Global Business and Markets
MGT 632	MGT 632	Power, Politics and Policy in International Business
MGT 641	MGT 641	Marketing Management
MGT 643	**MGT 700**	Econometrics
MGT 650	MGT 650	International Management
MGT 680	MGT 680	Organization Behavior and Theory
MGT 685	MGT 685	Employee Compensation
MGT 690	MGT 690	Organization Theory and Design
MGT 701	**MGT 691**	Management Policy Dynamics
MGT 702	**MGT 671**	Technology and Innov Mgmt
MGT 707	**MGT 677**	Emerging Technologies
MGT 710	MGT 710	Risk Management
MGT 720	**MGT 673**	Global Innovation Management
MGT 730	MGT 730	Design and Analysis of Experiments
MGT 733	MGT 733	Applied Regression Analysis
MGT 737	**MGT 613**	Project Management Office
MGT 738	**MGT 614**	Advanced Project Management
MGT 744	MGT 744	Analytic Methods of Forecasting
MGT 750	**MGT 656**	TQM
MGT 760	**MGT 657**	Operations Management
MGT 766	**MGT 661**	Marketing Online (cross-listed as MIS 661)
MGT 767	**MGT 662**	Legal Issues for the IT Professional (cross-listed as MIS 662)
MGT 768	**MGT 663**	Entrepreneurship (cross-listed as MIS 663)
MGT 771	**MGT 679**	Management Information Systems
MGT 795	**MGT 621**	Management Models
MGT 796	**MGT 620**	Statistical Models