

# Information Systems

## GRADUATE PROGRAMS



### THE INFORMATION CHALLENGE

Rapid advancements in technology, dynamic markets, and the changing global business environment have created increased demand for professionals who can lead, manage, deliver, and support information systems. This demand has been accelerated by new competition, shorter product life cycles, outsourcing, and more complex and specialized international markets. Information systems professionals are required to lead and evolve information resources while partnering with corporate management. Organizations need IT professionals that are effective at working closely with their business partners to identify innovative opportunities to leverage IT for competitive advantage. Likewise, business people need to be more effective as they work closely with their IT partners. This requires an appropriate balance of technical, business/management, industry, and interpersonal (e.g. writing, presenting, working in teams) skills.

With over 1,000 students (one of the largest IS graduate programs in the world) this balanced program is designed for information systems professionals seeking to advance their careers in IT, for business professionals looking for ways to leverage their IT resources, and for academics that are preparing students for the challenges that await them. To meet the increasing need for professionals with the experience necessary to enable these important functions, Stevens offers a multi-track Master of Science program to help achieve your Information Technology career objectives. This program prepares students for careers such as:

- IT Management
- Systems Analyst
- Management Consultant
- Project Management
- Business Analyst
- Technical Specialist
- IT Liaison
- Entrepreneur
- Outsourcing Manager
- Systems Integrator
- Internal Consultant
- Academic

In addition to strong practical, real-world IT and management skills, graduates of the program leave with improved communication, interpersonal, team, analytic, and critical thinking skills. The MSIS is a professional degree that integrates information and organizational cultures with emphasis on IT professionals that can contribute to the business. The continued success of the Stevens IS graduate program stems from its ability to respond and offer a complete set of flexible initiatives that meet the current and emerging demands of our industry partners. 80% of our students are sponsored by their company.

### PROGRAM STRUCTURE

#### Degree Requirements

12 graduate courses with a minimum GPA of 3.0 for the degree of Master of Science is usually completed over a 2-year period. In addition to the twelve required courses, one or more of the following non-credit business/information technology foundation courses may be required depending on your background.

- MIS 501 Information Management
- MIS 502 Intro to Accounting, Microeconomics, Statistics & Finance

### PROGRAM TRACKS

A wide range of concentrations are available to all students, including Industry, Management, Services, and Technology tracks. (See page 2 for the listing of tracks and their courses.)

Most students have opted to take the **Information Management Track**.

They would focus on another concentration for their two electives; and take one or two additional courses to also get a graduate certificate (in addition to their MSIS). An MBA, an Executive MBA, and Ph.D. degree with IS majors are also available. The Information Management Track courses are available on Saturday mornings to company-sponsored students. Each track is comprised of 4 courses; which can be taken independently for a Stevens Graduate Certificate.

The non-core Saturday courses are also available as electives to all IS students.

### PROGRAM LOCATIONS & SCHEDULES

Courses are offered on the Stevens campus (across the river from Manhattan in Hoboken, NJ), on weekday evenings, and Saturday mornings. Off-campus classes at company sites are typically held on weekday evenings on a trimester schedule. Most of the program tracks are also offered as online courses via Stevens WebCampus.

For calendars, on-campus and WebCampus offerings, see: <http://howe.stevens.edu/MSIS>  
Stevens also offers the program throughout the world.

### REQUIRED BUSINESS CORE [3 COURSES]

**MGT 609 Introduction to Project Management** Applying effective methods in managing projects, based on PMI guidelines. Conceptual Topics: project management vs. hierarchical management, matrix organizations, interorganizational teams, project authority, team motivation and morale. Operational Topics: project definition, planning, implementation, control, and evaluation.

**MGT 623 Financial Management of IT** The collection, processing, and reporting of financial information for IT organizations. Topics: applying managerial and cost accounting to information and IT organizations, and how IT accounting relates to strategic business and process innovations. The impact of cost, revenues, risk and uncertainty on financial decisions will be illustrated via case examples.

**MGT 680 Organizational Behavior & Theory** How organizational structure and interpersonal factors affect the business. Topics: the organization as a system, performance assessment, partnerships and alliances, motivation, teams, leadership, and communication.

### REQUIRED INFORMATION SYSTEMS CORE [4 COURSES]

**MIS 710 Process Innovation & Mgt.** How strategy, organization structure and processes can be integrated to execute corporate strategy and provide competitive advantage. Students learn how to analyze, design and manage processes using reengineering best practices and how to integrate processes into a business intelligence architecture for the firm.

**MIS 730 Integrating IS Technologies** Focuses on the issues surrounding the design of an overall IT architecture. The interdependencies among systems network, hardware, data, and applications of these architectures will be explored. Students will learn how to make appropriate choices about architecture in relationship to overall organization goals, understand the different mechanisms available for coordination, and create a process for establishing and maintaining an enterprise architecture.

**MIS 750 Managing the IT Resource** Improves the competency in managing the tactical and operational responsibilities of the IT organization of a company. Topics include: key IT processes, IT governance, IT organizational design, managing emerging technologies, role of the CIO, value of IT, IT HR considerations, IT outsourcing, and Strategic Alignment Maturity.

**MIS 760 IT Strategy** How to align IT and business strategies, including the formulation of an IT strategy that enables/drives business strategy, and methods/metrics to identify opportunities for leveraging IT capabilities for competitive advantage and building a harmonious integrated strategy.

## PROGRAM TRACK SELECTIONS

There are 23 program tracks from which to select.

For a complete listing of all of the course descriptions visit:

<http://howe.stevens.edu/academics/graduate-programs/information-systems/curriculum/>

### MANAGEMENT TRACKS:

#### Information Management

- MIS 620 Analysis & Development of IS
  - MIS 630 Data & Knowledge Management
  - MIS 640 Managing Information Networks
- 2 electives or thesis

#### Entrepreneurial IT

- MIS 661 Marketing On-Line
  - MIS 662 Legal Issues for the IT Professional
  - MIS 663 Entrepreneurship in IT
- See website for electives

#### Global Innovation Management

- MGT 630 Global Business & Markets
  - MGT 650 International Business Management
  - MGT 673 Global Innovation Management
- See website for electives

#### Legal Issues in IT

- MIS 662 Legal Issues for the IT Professional
  - MIS 651 Legal Issues in IT Outsourcing
  - MIS 647 Information Assurance & the Law
  - MIS 665 Issues & Trends in the Law of IT
- See website for 1 elective

#### Project Management

- MGT 610 Strategic Perspectives on Project Mgt.
  - MGT 612 Human Side of Project Leadership
  - MGT 614 Advanced Project Management
- See website for electives

### SERVICE MANAGEMENT TRACKS:

#### Business Process Mgt. & Service Innovation

- MIS 710 Process Innov. & Mgt
  - MIS 712 BPM & Workflow Implementation
  - MIS 690 Supply Chain Management & Strategy
- See website for electives

#### IT Outsourcing

- MIS 650 IT Outsourcing Governance
  - MIS 651 Legal Issues in IT Outsourcing
  - MIS 652 Relationship Mgt. IT Outsourcing
  - MGT 654 Organization Change & Devlpt
- See website for 1 elective

#### IT Services

- MIS 731 Integrating Information Architecture for Large Scale Systems
  - MIS 735 Strategy and Design of IT Service Management
  - MIS 736 IT Service Management Operations
- See website for electives

#### Management Consulting

- MIS 722 Management Consulting Overview
  - MIS 652 Relationship Mgt. in IT Outsourcing
- See website for electives

#### Service Oriented Architecture

- MIS 710 Process Innovation & Management
  - MIS 730 Integrating IS Technologies
  - MIS 731 Integrating IS Technologies for Large-Scale Computing
  - MIS 610 Managing Enterprise Systems
- See website for 1 elective

#### Strategic Supply Chain Management

- MIS 690 Supply Chain Management & Strategy
  - MIS 691 Procurement & Supplier Management
  - MIS 692 Distribution & Logistics Management
  - MIS 657/MGT 657 Operations Management
- See website for 1 elective

#### Knowledge Management/Data Mining

- MIS 635 Designing the Knowledge Org.
  - MIS 636 Data Warehousing & Business Intelligence
  - MIS 637 Knowledge Discovery in Databases
  - MIS 638 Data Mining Algorithms
- See website for 1 elective

#### Systems Engineering

- SYS 611 Modeling & Simulation
- SYS 625 System Operational Effectiveness & Life Cycle Analysis
- SYS 650 System Architecture & Design
- SYS 660 Decision & Risk Analysis for Complex Systems
- MIS 620 Analysis & Development of IS

### INDUSTRY TRACKS:

#### IT in Financial Services

- MIS 681 Fin. Serv. Industry Trends & Issues
  - MIS 682 Capital Markets
  - MIS 683 Financial Services Back Office
  - MIS 684 Financial Services Marketing & Sales
- See website for 1 elective

#### Healthcare IT

- MIS 685 The Healthcare Value Chain
  - MIS 686 Administrative Systems in Healthcare
  - MIS 687 Clinical Systems in Healthcare
  - MIS 688 Patient-centered eHealth Systems
- See website for substitutions and electives

#### IT in Pharma/Biotech

- MIS 671 Pharma Industry Trends & Issues
  - MIS 672 Pharma Industry New Drug Dev.
  - MIS 673 Pharma Industry Supply Chain
  - MIS 674 Pharma Industry Marketing & Sales
- See website for 1 elective

### TECHNICAL TRACKS:

#### Computer Science

- CS 533 Cost Estimation and Metrics
  - CS 551 Software Engineering and Practice I
  - CS 552 Software Engineering and Practice II
  - CS 561 Database Management Systems I
  - CS 666 Information Networks I
- These are recommended courses; consult with CS advisor.

#### E-Commerce

- Select 2 from:
- MIS 620 Analysis & Development of IS
  - MIS 640 Managing Information Networks
  - MIS 661 Marketing Online
  - MIS 662 Legal Issues for the IT Professional
- See website for 3 electives

#### Enterprise Systems

- MIS 610 Managing Enterprise Systems
  - MIS 731 Integrating IS Technologies on the Mainframe
- See website for electives

#### Information Security

- MIS 645 Cyber Security Principles
  - MIS 646 Enterprise Arch. for Info. Assurance
  - MIS 647 Information Assurance & the Law
  - MIS 648 Analyzing Technology Risks
- See website for 1 elective

#### Integrated Information Architecture

- MIS 630 Data & Knowledge Management
  - CpE 560 Intro to Networked Info. Systems
  - CS 561 Database Management Systems
  - NIS/EE 611 Digital Communications Eng. I
- Select 1 Network Architecture Course

#### Quantitative Software Engineering

- CS 540 Fund. of Quantitative Software Eng.
- CS 564 Requirements Acquisition & Analysis
- CS 565 Software Design & Architecture
- CS 533 Software Economics & Metrics
- MIS 630 Data & Knowledge Management

#### Telecommunications Management

- TM 601 Prin. of Applied Telecom Technology
- TM 605 Intro. to Probability & Stochastic
- TM 610 Business Information Networks
- TM 612 Regulation & Policy
- MIS 630 Data & Knowledge Management

### MBA IN TECHNOLOGY MANAGEMENT

This degree requires 8 additional management courses beyond the MSIS

- MGT 600 Managerial Accounting
- MGT 607 Managerial Economics
- MGT 690\* Organizational Theory
- MGT 657 Operations Management
- MGT 620 Statistical Models
- MIS 661\* Marketing
- MIS 662\* Legal Issues for the IT Professional
- MIS 663\* Entrepreneurship

\* These courses also count as electives in the MSIS degree. If any are taken as part of the MSIS degree, then they would be replaced in the MBA with additional electives.

Additional MSIS program information may be obtained by visiting our web site at

<http://howe.stevens.edu/msis>

or by contacting

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