Masters in Information Systems (MSIS)

Administered by:
Department of Information Systems
College of Computing Sciences
New Jersey Institute of Technology

is.njit.edu

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Advisor

Advisor M.S. George W. Olsen

About Information Systems and the MSIS

Information systems are computer systems that support the operations, management, and decision-making in organizations. Information systems are now an integral part of the work environment of every organization and play a critical role in the running of organizations. They are the heart of our internet-based economy. Information systems enable people to access the information they need, collaborate, make decisions, and perform their jobs and personal activities effectively.

The field of Information Systems (IS) aims to bridge the fields of computer science and business. It resides at the interaction of these two fields. IS professionals serve as the critical link between the technical areas and other areas of an organization.

NJIT's IS professors are experts in the field and are very student focused. NJIT’s IS graduates place among the highest-paying and most plentiful jobs nationally. NJIT’s very active Career Services Division promotes many co-op and internship opportunities with major local companies. This is fostered by our location within Northern New Jersey’s high concentration of business and industry,
and NJIT is just ½ hour from midtown Manhattan by train. We welcome both part-time and full-time students, and offer relatively low tuition rates for the region.

The MSIS teaches students information systems strategy, computing technologies, computing application design, enterprise databases, and more. Students can specialize in areas such as business decision-making, data management, and security and network management. The MSIS prepares graduates for jobs such as business, database, application and web analysts, application designers, and information auditing. Graduates are well positioned to advance into technical management.

The program is offered both face-to-face and on-line.

**Curriculum**

**10 courses (30 credits)**

For further details, please see [is.njit.edu/academics/](http://is.njit.edu/academics/)

**IS Core Courses (6 courses)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>IS 677</td>
<td>Information System Principles</td>
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<tr>
<td>IS 679</td>
<td>Information Systems Strategy</td>
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<tr>
<td>IS 631</td>
<td>Enterprise Database Management</td>
</tr>
<tr>
<td>IS 663</td>
<td>System Analysis and Design</td>
</tr>
<tr>
<td>CS 651</td>
<td>Data Communications</td>
</tr>
<tr>
<td>HRM 601</td>
<td>Organizational Behavior</td>
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**Electives (4 courses)**

Elective courses are chosen from the specializations below. A Master’s project can substitute for one course and a Master’s thesis for two courses.

**Specializations**

Students must choose a specialization. This requires taking at least 2 courses from one of these specialization areas:

- Data Management
- Business Decision Making
- User Interface
- Security and Network Management
- Systems Analysis and Design
- Emergency Management
- Web Systems

Courses for each specialization follow.
Data Management

IS 634 Information Retrieval
IS 687 Transaction Mining and Fraud Detection
IS 688 Web Mining
CS 632 Advanced Database System Design
CS 634 Data Mining
CS 731 Applications of Database Systems
Mgmt 635 Data Mining and Analysis
CE 602 Geographic Information Systems

Business Decision Making

IS 678 IT Service Management
IS 684 Business Process Innovation
Acct 615 Management Accounting
Fin 600 Corporate Finance I
MIS 648 Decision Support Systems for Managers
Mgmt 620 Management of Technology
Mgmt 630 Decision Analysis
Mgmt 650 Knowledge Management
Mrkt 620 Competing in Global Markets
Mrkt 645 Internet Marketing Strategy

User Interface

IS 613 Design of Emergency Management Information Systems
IS 658 Multimedia Systems
IS 686 Pervasive Computing: An HCI Perspective
IS 735 Computer Mediated Communication Systems
IS 764 Research Methods for Human-Centered Computing and Design
PTC 605 Elements of Visual Design
PTC 606 Advanced Information Design
PTC 610 Research Methods for Information Design
PTC 629 Theory and Practice of Social Media
PTC 650 Web Based Training Design

Security and Network Management

IS 680 Information Systems Auditing
IS 681 Computer Security Auditing
IS 682 Forensic Auditing for Computing Security
IS 687 Transaction Mining and Fraud Detection
CS 608 Cryptography and Security (3-1-3)
CS 652 Computer Networks-Architectures, Protocols and Standards
CS 656 Internet and Higher-Layer Protocols
CS 696 Network Management and Security
IT 620 Wireless Networks Security and Administration
IT 640 Network Services Administration
### Systems Analysis and Design

- IS 676 Requirements Engineering
- IS 683 Open Source Web Development
- IS 684 Business Process Innovation
- IS 685 Enterprise Architecture and Integration
- CS 673 Software Design and Production Methodology
- EM 636 Project Management
- EM 637 Project Control
- Mgmt 644 Communication in Technology Transfer and Innovation

### Emergency Management

- IS 612 Principles of Emergency Management
- IS 613 Design of Emergency Management Information Systems
- IS 614 Command and Control Systems
- IS 616 Learning Methodologies and Training Technologies
- EvSc 603 Hazardous Waste Operations and Emergency Response
- EvSc 616 Toxicology for Engineers and Scientists
- MIP 674 Infrastructure and Architecture

### Web Systems

- IS 634 Information Retrieval
- IS 658 Multimedia Systems
- IS 683 Open Source Web Development
- IS 688 Web Mining
- IS 690 Web Services and Middleware

### Build Your Own Specialization

Students may propose a coherent set of 2-4 CCS courses that have a common thread related to an area that they are interested in. The MSIS advisor approves the proposed specialization.