**M.S. in Emergency Management and Business Continuity**

For further details, see http://is.njit.edu/academics/

### Summary

<table>
<thead>
<tr>
<th>Category</th>
<th>Credits</th>
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<td>Fundamental Courses</td>
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<tr>
<td>Specialty Area Courses</td>
<td>12</td>
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<tr>
<td><strong>Total Credits</strong></td>
<td>30</td>
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**M.S. in Emergency Management and Business Continuity (courses only)**

#### Fundamental/Core Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>IS 613</td>
<td>Design of Emergency Management Information Systems</td>
<td>3</td>
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<tr>
<td>IS 614</td>
<td>Command and Control Systems</td>
<td>3</td>
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<tr>
<td>IS 612</td>
<td>Emergency Management Informatics</td>
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<tr>
<td>IS 616</td>
<td>Learning Methodologies and Training Technologies</td>
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#### Electives

Select two of the following:

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<thead>
<tr>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td>HRM 601</td>
<td>Organizational Behavior</td>
<td>3</td>
</tr>
<tr>
<td>CE 602</td>
<td>Geographic Information System</td>
<td>3</td>
</tr>
<tr>
<td>EVSC 625</td>
<td>Social Dimensions of Risk</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Specialty/Application Area

Select four courses from the following areas:

1. **Critical Infrastructure**
   - CE 671 Performance and Risk Analysis of Infrastructure Systems
   - CE 672 Security Management of Critical Infrastructure
   - EM 602 Management Science
   - ARCH 675 Elements of Infrastructure Planning

2. **Computer Engineering**
   - ECE 644 Wireless Communication
   - ECE 645 Wireless Networks
   - ECE 683 Computer Network Design and Analysis
   - ECE 637 Internet and Higher-Layer Protocols
   - ECE 639 Principles of Broadband Networks
   - ECE 789 Selected Topics in Electrical and Computer Engineering II

3. **Environmental Science**
   - EVSC 603 Hazardous Waste Operations and Emergency Response
   - EVSC 610 Environmental Chemical Science
   - EVSC 611 Hazardous Waste Management
   - EVSC 612 Environmental Analysis
   - EVSC 613 Environmental Problem Solving
   - EVSC 614 Quantitative Environmental Risk Assessment
   - EVSC 616 Toxicology
   - EM 631 Legal Aspects in Environmental Engineering

4. **Information Systems**
   - IS 631 Enterprise Database Management
   - IS 634 Information Retrieval
   - IS 677 Information System Principles
   - IS 680 Information Systems Auditing
M.S. in Emergency Management and Business Continuity

**Fundamental/Core Courses**

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**Electives**

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>IS 700B</td>
<td>Master's Project</td>
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</table>

Select one of the following:

- HRM 601 Organizational Behavior
- CE 602 Geographic Information System
- EVSC 625 Social Dimensions of Risk

**Specialty/Application Area**

Select four courses from the following areas:

- Critical Infrastructure
  - CE 671 Performance and Risk Analysis of Infrastructure Systems
  - CE 672 Security Management of Critical Infrastructure
  - EM 602 Management Science
  - ARCH 675 Elements of Infrastructure Planning

- Computer Engineering
  - ECE 644 Wireless Communication
  - ECE 645 Wireless Networks
  - ECE 683 Computer Network Design and Analysis
  - ECE 637 Internet and Higher-Layer Protocols
  - ECE 639 Principles of Broadband Networks
  - ECE 789 Selected Topics in Electrical and Computer Engineering II

- Environmental Science
  - EVSC 603 Hazardous Waste Operations and Emergency Response
  - EVSC 610 Environmental Chemical Science

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1. Students may choose core courses in any order but we recommend students take IS 612 Emergency Management Informatics in the first semester.
2. Students who have not worked in this area are advised to consider doing a project or thesis.
3. Students may take a coherent set of four additional courses in another field that is related to Emergency Management. Usually this would be in their current professional area as specified by their undergraduate or other graduate degrees. Such courses may be applied to a second masters or a Ph.D. program in accordance with NJIT policies and program structure. Students can take all four courses in one specialty area or across several specialties as appropriate to their interests.
### M.S. in Emergency Management and Business Continuity (Master's thesis)

#### Fundamental/Core Courses

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#### Thesis

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</thead>
<tbody>
<tr>
<td>IS 701C</td>
<td>Master's Thesis</td>
<td>6</td>
</tr>
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</table>

#### Speciality/Application Area

Select four courses from the following areas:

1. **Critical Infrastructure**
   - CE 671: Performance and Risk Analysis of Infrastructure Systems
   - CE 672: Security Management of Critical Infrastructure
   - EM 602: Management Science
   - ARCH 675: Elements of Infrastructure Planning

2. **Computer Engineering**
   - ECE 644: Wireless Communication
   - ECE 645: Wireless Networks
   - ECE 683: Computer Network Design and Analysis

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1. Students may choose core courses in any order but we recommend students take IS 612 Emergency Management Informatics in the first semester.
2. Students may take a coherent set of four additional courses in another field that is related to Emergency Management. Usually this would be in their current professional area as specified by their undergraduate or other graduate degrees. Such courses may be applied to a second masters or a Ph.D. program in accordance with NJIT policies and program structure. Students can take all four courses in one specialty area or across several specialties as appropriate to their interests.
ECE 637 | Internet and Higher-Layer Protocols  
ECE 639 | Principles of Broadband Networks  
ECE 789 | Selected Topics in Electrical and Computer Engineering II  

**Environmental Science**  
EVSC 603 | Hazardous Waste Operations and Emergency Response  
EVSC 610 | Environmental Chemical Science  
EVSC 611 | Hazardous Waste Management  
EVSC 612 | Environmental Analysis  
EVSC 613 | Environmental Problem Solving  
EVSC 614 | Quantitative Environmental Risk Assessment  
EVSC 616 | Toxicology  
EM 631 | Legal Aspects in Environmental Engineering  

**Information Systems**  
IS 631 | Enterprise Database Management  
IS 634 | Information Retrieval  
IS 677 | Information System Principles  
IS 680 | Information Systems Auditing  
IS 681 | Computer Security Auditing  
IS 687 | Transaction Mining and Fraud Detection  
IS 764 | Research Methods for Human-Centered Computing and Design  

**Management**  
ACCT 615 | Management Accounting  
EM 636 | Project Management  
FIN 600 | Corporate Finance I  
HRM 630 | Managing Technological and Organizational Change  
MIS 645 | Information Systems Principles  
or IS 677 | Information System Principles  
MIS 648 | Decision Support Systems for Managers  
MGMT 630 | Decision Analysis  
MGMT 650 | Knowledge Management  
MGMT 635 | Data Mining and Analysis  

**Total Credits** 30

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**Specialty/Application Area**  
There is an advisor for each specialty area that may be contacted for questions on that specialty area and for advice on choosing courses. The specialty areas currently include:

**Critical Infrastructure**  
Critical Infrastructure focuses on planning issues, maintainability and safety engineering, vulnerability analysis, hazard/crisis impact analysis and mitigation, infrastructure inter-dependencies, rehabilitation technologies, condition assessment, problem detection, diagnosis and process propagation, and program management. Students with an undergraduate degree in civil engineering and related engineering disciplines would be encouraged to consider this specialty area.

**Computer Engineering**  
The design and assurance of communication infrastructure is critical to all aspects of emergency management. Being able to evaluate and insure the mitigation of vulnerabilities for such systems is an important contribution to the infrastructure survivability of such systems. Students with an undergraduate degree in Computer Engineering are encouraged to consider this specialty area.
Environmental Science

With the increasing complexity of our society comes severe risk of the accidental and deliberate release of a wide range of hazardous materials, both chemical and biological. Those trained to be able to make a meaningful contribution to the understanding of the associated risks, how to detect and track the implications of their occurrence, and how to respond meaningfully to their mitigation represent an important professional talent that needs to be available in the Emergency Management and Business Continuity Area. All organizations dealing with hazardous materials should have this sort of talent in their Emergency Management team.

Information Systems

The application of computing information and communication in the Emergency Management and Business Continuity field represents the potential use of technology to integrate all the functions that must take place before, during, and after the disaster, as well as among the different organizations and units of organizations that must be involved in the preparedness, response, and recovery. Information systems are the glue that puts together planning, mitigation, detection, training, command and control, response, and recovery into one unified process that provides the necessary infrastructure for the overall responsibilities. As such, they must be designed and developed with the evolving needs of the users and the organizations integrated into the development process.

Management

The professionals in Emergency Management must be able to integrate the development of plans for response processes (within their organization and across necessary external organizations). They must also ensure that everyone will receive adequate training and that in times of disaster those involved can work as well motivated and coordinated teams, no matter what degree of heterogeneity of expertise and level of experience exists among respondents. The emergency manager or business continuity professional must be able to be an entrepreneur or champion of emergency preparedness, and to prove and present people the best possible justifications for investing in an organizational function that may not be viewed as absolutely necessary by all those concerned, especially in times of restricted budgets. He or she must be able to stimulate planning, communication, and coordination among all parts of the organization or organizational units necessary to bring about effective crisis planning and response.