# M.S. in Emergency Management and Business Continuity

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

## Summary

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fundamental Courses</strong></td>
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<tr>
<td><strong>Elective Courses</strong></td>
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<td><strong>Specialty Area Courses</strong></td>
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<tr>
<td><strong>Total Credits</strong></td>
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## M.S. in Emergency Management and Business Continuity (courses only)

<table>
<thead>
<tr>
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<th>Credits</th>
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<td><strong>Fundamental/Core Courses</strong> 1</td>
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<tr>
<td>IS 613</td>
<td>Design of Emergency Management Information Systems</td>
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<tr>
<td>IS 614</td>
<td>Command and Control Systems</td>
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<tr>
<td>IS 612</td>
<td>Emergency Management Informatics</td>
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<tr>
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<td>Learning Methodologies and Training Technologies</td>
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<tr>
<td>HRM 601</td>
<td>Organizational Behavior</td>
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<tr>
<td>CE 602</td>
<td>Geographic Information System</td>
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</tr>
<tr>
<td>EVSC 625</td>
<td>Social Dimensions of Risk</td>
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<td><strong>Specialty/Application Area</strong></td>
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<td>Select four courses from the following areas: 3</td>
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<tr>
<td><strong>Critical Infrastructure</strong></td>
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<tr>
<td>CE 671</td>
<td>Performance and Risk Analysis of Infrastructure Systems</td>
<td></td>
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<tr>
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<td>Security Management of Critical Infrastructure</td>
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<td>Management Science</td>
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<td>ARCH 675</td>
<td>Elements of Infrastructure Planning</td>
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<td><strong>Computer Engineering</strong></td>
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<td>ECE 644</td>
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<td>ECE 639</td>
<td>Principles of Broadband Networks</td>
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<tr>
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<td><strong>Environmental Science</strong></td>
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<td>EM 631</td>
<td>Legal Aspects in Environmental Engineering</td>
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<td>Information Retrieval</td>
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</tr>
</tbody>
</table>
Students may choose core courses in any order but we recommend students take IS 612 Emergency Management Informatics in the first semester.

Students who have not worked in this area are advised to consider doing a project or thesis.

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 project)

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<td>IS 700B</td>
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<td>HRM 601</td>
<td>Organizational Behavior</td>
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**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
Students may choose core courses in any order but we recommend students take IS 612 Emergency Management Informatics in the first semester.

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<td>IS 701C</td>
<td>Master's Thesis</td>
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### Environmental Science

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### Information Systems

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<td>IS 634</td>
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<tr>
<td>IS 677</td>
<td>Information System Principles</td>
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<td>IS 680</td>
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<td>IS 681</td>
<td>Computer Security Auditing</td>
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<td>IS 687</td>
<td>Transaction Mining and Fraud Detection</td>
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<tr>
<td>IS 764</td>
<td>Research Methods for Human-Centered Computing and Design</td>
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### Management

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<tr>
<td>ACCT 615</td>
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<td>EM 636</td>
<td>Project Management</td>
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<td>FIN 600</td>
<td>Corporate Finance I</td>
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<tr>
<td>HRM 630</td>
<td>Managing Technological and Organizational Change</td>
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<tr>
<td>MIS 645</td>
<td>Information Systems Principles</td>
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<tr>
<td>or IS 677</td>
<td>Information System Principles</td>
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<td>MIS 648</td>
<td>Decision Support Systems for Managers</td>
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<td>MGMT 630</td>
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<td>MGMT 635</td>
<td>Data Mining and Analysis</td>
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**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.