# B.S. in Information Technology

(120 credits minimum)

## First Year

### 1st Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT 101</td>
<td>Introduction to Information Technology</td>
<td>3</td>
</tr>
<tr>
<td>CS 100</td>
<td>Roadmap to Computing</td>
<td>3</td>
</tr>
<tr>
<td>MATH 138</td>
<td>General Calculus I</td>
<td>3</td>
</tr>
<tr>
<td>HUM 101</td>
<td>English Composition: Writing, Speaking, Thinking I</td>
<td>3</td>
</tr>
<tr>
<td>Science Literacy GER (<a href="http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/natural-science-ger/">http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/natural-science-ger/</a>)</td>
<td>3</td>
<td></td>
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<tr>
<td>FRSH SEM</td>
<td>First-Year Seminar</td>
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</table>

**Term Credits**: 15

### 2nd Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 113</td>
<td>Introduction to Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>IT 120</td>
<td>Introduction to Network Technology</td>
<td>3</td>
</tr>
<tr>
<td>MATH 105</td>
<td>Elementary Probability and Statistics</td>
<td>3</td>
</tr>
<tr>
<td>Science Literacy with Lab GER (<a href="http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/natural-science-ger/">http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/natural-science-ger/</a>)</td>
<td>4</td>
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</tr>
<tr>
<td>HUM 102</td>
<td>English Composition: Writing, Speaking, Thinking II</td>
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</tbody>
</table>

**Term Credits**: 16

## Second Year

### 1st Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT 114</td>
<td>Advanced Programming for Information Technology</td>
<td>3</td>
</tr>
<tr>
<td>IT 201</td>
<td>Information Design Techniques</td>
<td>3</td>
</tr>
<tr>
<td>Social Science GER Elective (<a href="http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/social-science-ger/">http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/social-science-ger/</a>)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>General Elective 1</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>History and Humanities GER 200 level (<a href="http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-200-level/">http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-200-level/</a>)</td>
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</table>

**Term Credits**: 15

### 2nd Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>IT 202</td>
<td>Internet Applications</td>
<td>3</td>
</tr>
<tr>
<td>Specialization Course 1</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Specialization Course 2</td>
<td></td>
<td>3</td>
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<tr>
<td>General Elective 2</td>
<td></td>
<td>3</td>
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<tr>
<td>YWCC 207</td>
<td>Computing &amp; Effective Com</td>
<td>1</td>
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</table>

**Term Credits**: 13

## Third Year

### 1st Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS 331</td>
<td>Database Design Management and Applications</td>
<td>3</td>
</tr>
<tr>
<td>History and Humanities GER 300+ level (<a href="http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-300-level/">http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-300-level/</a>)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Specialization Course 3</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Specialization Course 4</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>IT 340</td>
<td>Introduction to System Administration</td>
<td>3</td>
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</tbody>
</table>

**Term Credits**: 15

### 2nd Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>IT 420</td>
<td>Computer Systems and Networks</td>
<td>3</td>
</tr>
<tr>
<td>ENG 352</td>
<td>Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>or ENG 340</td>
<td>or Oral Presentations</td>
<td></td>
</tr>
<tr>
<td>IS 350</td>
<td>Computers, Society and Ethics</td>
<td>3</td>
</tr>
</tbody>
</table>
Specialization Course 5  
Specialization Course 6  
YWCC 307  Professional Dev in Computing  

| Term Credits | 16 |

**Fourth Year**

**1st Semester**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT 490</td>
<td>Systems Integration</td>
<td>3</td>
</tr>
<tr>
<td>Humanities and Social Science Senior Seminar GER <a href="http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/hss-capstone/">http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/hss-capstone/</a></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>General Elective 3</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Specialization Course 7</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>General Elective 4</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

| Term Credits | 15 |

**2nd Semester**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT 491</td>
<td>IT Capstone Project</td>
<td>3</td>
</tr>
<tr>
<td>Specialization Course 8</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>General Elective 5</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>General Elective 6</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>General Elective 7</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

| Term Credits | 15 |

**Total Credits**  
120

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**Information Technology Electives**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Information Technology Core</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>Complete information technology/computer and information science courses that provide fundamental knowledge and practice in information technology functions, system development, and software.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IT Capstone Project</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Complete a culminating project 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Specialization Courses</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>Select eight courses, focusing on an application area relevant to Information Technology 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>General Electives</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>Select seven courses to be chosen in consultation with the advisor</td>
<td></td>
</tr>
</tbody>
</table>

1 A culminating project experience that integrates the student's IT and specialization expertise. The IT Program strongly supports and encourages the student to implement this project in collaboration with NJIT industrial partners and/or NJIT's Enterprise Development Centers. In accordance with the need for the IT professional to have highly developed communication skills, the student will present the results of their projects at the completion of the project.

**Co-op**


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**Criminal Justice and Law Specialization**

(27 credits)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT 220</td>
<td>Wireless Networks</td>
<td>3</td>
</tr>
<tr>
<td>IT 230</td>
<td>Computer and Network Security</td>
<td>3</td>
</tr>
<tr>
<td>IT 310</td>
<td>E-Commerce Technology</td>
<td>3</td>
</tr>
<tr>
<td>IT 330</td>
<td>Computer Forensic</td>
<td>3</td>
</tr>
<tr>
<td>IT 400</td>
<td>Information Technology and the Law</td>
<td>3</td>
</tr>
<tr>
<td>IT 430</td>
<td>Ethical Hacking for System Administrators</td>
<td>3</td>
</tr>
</tbody>
</table>
Select three of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>R202 203</td>
<td>Police And Community</td>
</tr>
<tr>
<td>R202 301</td>
<td>CJ Research Methods</td>
</tr>
<tr>
<td>R202 102</td>
<td>Criminology</td>
</tr>
<tr>
<td>R202 310</td>
<td>Case Proc Law Courts</td>
</tr>
<tr>
<td>R202 331</td>
<td>Delinquency Juv Justice</td>
</tr>
<tr>
<td>R202 202</td>
<td>Gender Crime &amp; Justice</td>
</tr>
</tbody>
</table>

Total Credits 27

Management Information Systems Specialization

(24 credits)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 117</td>
<td>Principles Of Fin Accounting</td>
<td>3</td>
</tr>
<tr>
<td>HRM 301</td>
<td>Organizational Behavior</td>
<td>3</td>
</tr>
<tr>
<td>IS 265</td>
<td>Introduction to Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>IS 344</td>
<td>Computing Applications in Business</td>
<td>3</td>
</tr>
<tr>
<td>IS 390</td>
<td>Requirements Analysis and Systems Design</td>
<td>3</td>
</tr>
<tr>
<td>IS 455</td>
<td>IS Mgmt &amp; Business Processes</td>
<td>3</td>
</tr>
<tr>
<td>IS 465</td>
<td>Advanced Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>MIS 363</td>
<td>Project Management for Managers</td>
<td>3</td>
</tr>
<tr>
<td>MRKT 330</td>
<td>Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>OM 375</td>
<td>Bus Operations Mgmt &amp; Analytic</td>
<td>3</td>
</tr>
</tbody>
</table>

Game Development Specialization

(27 credits)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT 265</td>
<td>Game Architecture and Design</td>
<td>3</td>
</tr>
<tr>
<td>CS 266</td>
<td>Game Modification Development</td>
<td>3</td>
</tr>
<tr>
<td>CS 276</td>
<td>2D Game Development</td>
<td>3</td>
</tr>
<tr>
<td>AD 150</td>
<td>Color and Composition</td>
<td>3</td>
</tr>
<tr>
<td>STS 318</td>
<td>Educational Media Design</td>
<td>3</td>
</tr>
<tr>
<td>CS 280</td>
<td>Programming Language Concepts</td>
<td>3</td>
</tr>
<tr>
<td>IT 386</td>
<td>3D Modeling and Animation</td>
<td>3</td>
</tr>
<tr>
<td>MATH 337</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>COM 345</td>
<td>Character Modeling and Animation</td>
<td>3</td>
</tr>
<tr>
<td>IT 286</td>
<td>Foundations of Game Production</td>
<td>3</td>
</tr>
<tr>
<td>CS 366</td>
<td>3D Game Development</td>
<td>3</td>
</tr>
</tbody>
</table>
### Multimedia Specialization

(27 credits)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS 270</td>
<td>Designing the Multimedia Experience</td>
<td>3</td>
</tr>
<tr>
<td>COM 335</td>
<td>3-D Modeling and Animation</td>
<td>3</td>
</tr>
<tr>
<td>or IT 386</td>
<td>3D Modeling and Animation</td>
<td></td>
</tr>
<tr>
<td>COM 350</td>
<td>Digital Video Production</td>
<td>3</td>
</tr>
<tr>
<td>STS 347</td>
<td>Introduction to Music</td>
<td>3</td>
</tr>
</tbody>
</table>

Select five of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>STS 349</td>
<td>Electronic Music in Practice</td>
<td></td>
</tr>
<tr>
<td>COM 266</td>
<td>Foundations of Game Production</td>
<td></td>
</tr>
<tr>
<td>or IT 286</td>
<td>Foundations of Game Production</td>
<td></td>
</tr>
<tr>
<td>COM 303</td>
<td>Video Narrative</td>
<td></td>
</tr>
<tr>
<td>COM 345</td>
<td>Character Modeling and Animation</td>
<td></td>
</tr>
<tr>
<td>COM 351</td>
<td>Documentary Studies</td>
<td></td>
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<tr>
<td>COM 352</td>
<td>Photojournalism</td>
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<tr>
<td>COM 369</td>
<td>Digital Poetry</td>
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<tr>
<td>COM 376</td>
<td>Game Design Studio</td>
<td></td>
</tr>
<tr>
<td>IT 265</td>
<td>Game Architecture and Design</td>
<td></td>
</tr>
<tr>
<td>IT 266</td>
<td>Game Modification Development</td>
<td></td>
</tr>
<tr>
<td>or CS 266</td>
<td>Game Modification Development</td>
<td></td>
</tr>
<tr>
<td>IT 276</td>
<td>Game Development</td>
<td></td>
</tr>
<tr>
<td>or CS 276</td>
<td>2D Game Development</td>
<td></td>
</tr>
<tr>
<td>CS 366</td>
<td>3D Game Development</td>
<td></td>
</tr>
<tr>
<td>AD 150</td>
<td>Color and Composition</td>
<td></td>
</tr>
<tr>
<td>ENG 353</td>
<td>Composing Documents for Print</td>
<td></td>
</tr>
<tr>
<td>ENG 354</td>
<td>Composing Documents for the Web</td>
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<tr>
<td>ENG 355</td>
<td>Television News Writing and Production</td>
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<tr>
<td>IS 373</td>
<td>Content Management Systems</td>
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</tr>
<tr>
<td>STS 318</td>
<td>Educational Media Design</td>
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</tbody>
</table>

Total Credits: 27

### Network and Information Security Specialization

(27 credits)

Select 9 of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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</tr>
</thead>
<tbody>
<tr>
<td>IT 220</td>
<td>Wireless Networks</td>
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<tr>
<td>IT 310</td>
<td>E-Commerce Technology</td>
<td></td>
</tr>
<tr>
<td>IT 330</td>
<td>Computer Forensic</td>
<td></td>
</tr>
<tr>
<td>IT 331</td>
<td>Privacy and Information Technology</td>
<td></td>
</tr>
<tr>
<td>IT 332</td>
<td>Digital Crime</td>
<td></td>
</tr>
<tr>
<td>IT 400</td>
<td>Information Technology and the Law</td>
<td></td>
</tr>
<tr>
<td>IT 430</td>
<td>Ethical Hacking for System Administrators</td>
<td></td>
</tr>
<tr>
<td>CS 332</td>
<td>Principles of Operating Systems</td>
<td></td>
</tr>
<tr>
<td>CS 357</td>
<td>Fundamentals of Network Security</td>
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</tr>
</tbody>
</table>

Total Credits: 27
Web Applications Specialization

(24 credits)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS 117</td>
<td>Introduction to Website Development</td>
<td>3</td>
</tr>
<tr>
<td>IS 218</td>
<td>Building Web Applications</td>
<td>3</td>
</tr>
<tr>
<td>IS 219</td>
<td>Adv Website Development</td>
<td>3</td>
</tr>
<tr>
<td>IS 247</td>
<td>Designing the User Experience</td>
<td>3</td>
</tr>
<tr>
<td>IS 322</td>
<td>Mobile Applications: Design, Interface, Implementation</td>
<td>3</td>
</tr>
<tr>
<td>IS 373</td>
<td>Content Management Systems</td>
<td>3</td>
</tr>
<tr>
<td>IS 375</td>
<td>Discovering User Needs for UX</td>
<td>3</td>
</tr>
<tr>
<td>IS 392 or IS 421</td>
<td>Web Mining and Information Retrieval</td>
<td>3</td>
</tr>
<tr>
<td>IT 302</td>
<td>Advanced Internet Applications</td>
<td>3</td>
</tr>
<tr>
<td>IT 310</td>
<td>E-Commerce Technology</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 480</td>
<td>Managing Technology and Innovation</td>
<td>3</td>
</tr>
</tbody>
</table>

Select 8 of the following:

See the General Education Requirements. Refer to the General Education Requirements for specific information for GER courses.

This curriculum represents the maximum number of credits per semester for which a student is advised to register. A full-time credit load is 12 credits. First-year students are placed in a curriculum that positions them for success which may result in additional time needed to complete curriculum requirements. Continuing students should consult with their academic advisor to determine the appropriate credit load.