# B.S. in Human-Computer Interaction

(120 credits)

## First Year

### 1st Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 100</td>
<td>Roadmap to Computing</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 GER <a href="http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/natural-science-ger/">link</a></td>
<td>4</td>
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</tr>
<tr>
<td>MATH 101</td>
<td>Foundations of Mathematics for the Liberal Arts</td>
<td>3</td>
</tr>
<tr>
<td>or MATH 138</td>
<td>General Calculus I</td>
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</tr>
<tr>
<td>IS 117</td>
<td>Introduction to Website Development</td>
<td>3</td>
</tr>
<tr>
<td>FRSH SEM</td>
<td>First-Year Seminar</td>
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</table>

**Term Credits** 16

### 2nd Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS 218</td>
<td>Building Web Applications</td>
<td>3</td>
</tr>
<tr>
<td>STS 210</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>or R830 101</td>
<td>Principles Of Psychology I</td>
<td></td>
</tr>
<tr>
<td>HUM 102</td>
<td>English Composition: Writing, Speaking, Thinking II</td>
<td>3</td>
</tr>
<tr>
<td>IS 247</td>
<td>Designing the User Experience</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/">link</a></td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

**Term Credits** 16

## Second Year

### 1st Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Elective 1</td>
<td>1</td>
<td>3</td>
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</table>

Select one of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AD 150</td>
<td>Color and Composition</td>
<td>3</td>
</tr>
<tr>
<td>R085 102</td>
<td>Design Fundamentals</td>
<td></td>
</tr>
<tr>
<td>R085 103</td>
<td>3-D Design Fund</td>
<td></td>
</tr>
<tr>
<td>R080 121</td>
<td>Intro To Drawing</td>
<td></td>
</tr>
<tr>
<td>MATH 105</td>
<td>Elementary Probability and Statistics</td>
<td>3</td>
</tr>
<tr>
<td>IS 350</td>
<td>Computers, Society and Ethics</td>
<td>3</td>
</tr>
<tr>
<td>R830 102</td>
<td>Prin Of Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

**Term Credits** 15

### 2nd Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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</tr>
</thead>
<tbody>
<tr>
<td>HCI Specialization Elective 1</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>IS 375</td>
<td>Discovering User Needs for UX</td>
<td>3</td>
</tr>
<tr>
<td>R830 301</td>
<td>Stat Meth Cog &amp; Beh</td>
<td>4</td>
</tr>
<tr>
<td>R830 304</td>
<td>Cognitive Processes</td>
<td>3</td>
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<tr>
<td>YWCC 207</td>
<td>Computing &amp; Effective Com</td>
<td>1</td>
</tr>
</tbody>
</table>

**Term Credits** 14

## Third Year

### 1st Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>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>IS 448</td>
<td>Usability &amp; Measuring UX</td>
<td>3</td>
</tr>
<tr>
<td>IE 355</td>
<td>Human Factors</td>
<td>3</td>
</tr>
<tr>
<td>or AD 201</td>
<td>Human Factors/ergonomics</td>
<td></td>
</tr>
<tr>
<td>General Elective 2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>IS 390</td>
<td>Requirements Analysis and Systems Design (General Elective 2)</td>
<td>3</td>
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**Term Credits** 15
2nd Semester
General Elective 3
Select one of the following:
- History and Humanities GER 300+ level (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-300-level/)
- General Elective 4
- R830 302 Exp Meth Cog & Beh
- ENG 340 Oral Presentations or ENG 352 Technical Writing
- YWCC 307 Professional Dev in Computing

Term Credits 14

Fourth Year
1st Semester
General Elective 5
General Elective 6
HCI Specialization Elective 2
Humanities and Social Science Senior Seminar GER (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/hss-capstone/)
- IE 492 Engineering Management or ENTR 210 Introduction to Entrepreneurship

Term Credits 15

2nd Semester
- IS 491 Senior Project - IS or IT 491 IT Capstone Project
- General Elective 7
- General Elective 8
- HCI Specialization Elective 3
- HCI Specialization Elective 4

Term Credits 15

Total Credits 120

1 If already taking a 300-level Humanities & History GER course as part of the HCI Specialization, then you may take a general elective here.
2 Independent Study (optionally leading to the Undergraduate Thesis Option): We encourage you to consider an independent study (IS 488) as part of your electives as juniors and seniors. You could then continue with an Undergraduate Thesis (IS 489), which optionally can substitute for IS 491 or IT 491. The thesis option is explained further on the Informatics Department web site. Please consult your advisor as early

HCI Specializations:
Students choose, with Advisor approval a coherent sequence of 4 courses, chose from one of the HCI specializations given below.

Cognitive Design

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>STS 351</td>
<td>Minds and Machines</td>
<td></td>
</tr>
<tr>
<td>STS 359</td>
<td>Foundations of Cyberpsychology</td>
<td></td>
</tr>
<tr>
<td>R830 103</td>
<td>Cognitive Science</td>
<td></td>
</tr>
<tr>
<td>R830 104</td>
<td>Cognitive Science II</td>
<td></td>
</tr>
<tr>
<td>R830 324</td>
<td>Psych Of Adolescent</td>
<td></td>
</tr>
<tr>
<td>R830 335</td>
<td>Social Psychology</td>
<td></td>
</tr>
<tr>
<td>R830 346</td>
<td>Psychology Of Language</td>
<td></td>
</tr>
<tr>
<td>R830 354</td>
<td>Adult &amp; Aging</td>
<td></td>
</tr>
<tr>
<td>R830 371</td>
<td>Psychology &amp; Personality</td>
<td></td>
</tr>
<tr>
<td>R830 405</td>
<td>Psych Of Emotion</td>
<td></td>
</tr>
<tr>
<td>R830 410</td>
<td>Perceptual Dev</td>
<td></td>
</tr>
<tr>
<td>R830 411</td>
<td>Intro To Cog Neurosc</td>
<td></td>
</tr>
</tbody>
</table>
R830 424  Health Psychology
R830 431  Media Psych

**Game Design and Production**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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</tr>
</thead>
<tbody>
<tr>
<td>IT 201</td>
<td>Information Design Techniques</td>
<td>3</td>
</tr>
<tr>
<td>IT 265</td>
<td>Game Architecture and Design</td>
<td>3</td>
</tr>
</tbody>
</table>

Select two of the following:

Choose two remaining electives from among the following. You may take both courses from one grouping or individual courses from two different groupings.

For students who want to focus on designing games in existing engines/development environments, consider these courses:

- IT 286  Foundations of Game Production
- IT 287  Advanced Game Production

For students who are more artistic, design or asset creation focused, consider these courses:

- IT 386  3D Modeling and Animation

For students who want to be challenged with C/C++ programming to develop their own 2D and 3D games, consider these courses:

- IT 266  Game Modification Development
- IT 276  Game Development

Students may also want to consider these interesting Digital Design courses:

- DD 275  History of Games
- DD 301  Acting Fundamentals for Animators

**Graphical Arts Design**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AD 112</td>
<td>Communication in Art and Design - Digital Media ¹</td>
<td>1</td>
</tr>
<tr>
<td>AD 150</td>
<td>Color and Composition</td>
<td></td>
</tr>
<tr>
<td>DD 284</td>
<td>Video and Animation</td>
<td></td>
</tr>
<tr>
<td>DD 321</td>
<td>Interactive and Reactive Environments</td>
<td></td>
</tr>
<tr>
<td>ID 203</td>
<td>Past, Present and Future of Design</td>
<td></td>
</tr>
<tr>
<td>R080 121</td>
<td>Intro To Drawing ¹</td>
<td></td>
</tr>
<tr>
<td>R085 102</td>
<td>Design Fundamentals</td>
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<td>R085 103</td>
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</table>

Select four of the following, which were not taken to fulfill other requirements:

See the [General Education Requirements](#) “Refer to the General Education Requirements for specific information for GER courses”