## B.S. in Web & Information Systems

(120 credit minimum)

### 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>FRSH SEM</td>
<td>First-Year Seminar</td>
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<tr>
<td>HUM 101</td>
<td>English Composition: Writing, Speaking, Thinking I</td>
<td>3</td>
</tr>
<tr>
<td>IS 117</td>
<td>Introduction to Website Development</td>
<td>3</td>
</tr>
<tr>
<td>MATH 138</td>
<td>General Calculus I</td>
<td>3</td>
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</table>


**Term Credits** 15

#### 2nd Semester
<table>
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</thead>
<tbody>
<tr>
<td>CS 113</td>
<td>Introduction to Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>HUM 102</td>
<td>English Composition: Writing, Speaking, Thinking II</td>
<td>3</td>
</tr>
<tr>
<td>IS 265</td>
<td>Introduction to Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>IS 247</td>
<td>Designing the User Experience</td>
<td>3</td>
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</table>


**Term Credits** 16

### Second Year
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<tbody>
<tr>
<td>IT 114</td>
<td>Advanced Programming for Information Technology</td>
<td>3</td>
</tr>
<tr>
<td>or CS 114</td>
<td>Introduction to Computer Science II</td>
<td></td>
</tr>
<tr>
<td>IS 218</td>
<td>Building Web Applications</td>
<td>3</td>
</tr>
<tr>
<td>IS 350</td>
<td>Computers, Society and Ethics</td>
<td>3</td>
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<tr>
<td>MATH 105</td>
<td>Elementary Probability and Statistics 1</td>
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**Term Credits** 15

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<th>Course</th>
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<tbody>
<tr>
<td>YWCC 207</td>
<td>Computing &amp; Effective Com</td>
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</tr>
<tr>
<td>IS 375</td>
<td>Discovering User Needs for UX</td>
<td>3</td>
</tr>
<tr>
<td>IS 219</td>
<td>Adv Website Development</td>
<td>3</td>
</tr>
<tr>
<td>IS 344</td>
<td>Computing Applications in Business</td>
<td>3</td>
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<tr>
<td>General Elective 2</td>
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**Term Credits** 16

### Third Year
#### 1st Semester
<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ENG 340</td>
<td>Oral Presentations</td>
<td>3</td>
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<tr>
<td>or ENG 352</td>
<td>or Technical Writing</td>
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<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>IS 331</td>
<td>Database Design Management and Applications</td>
<td>3</td>
</tr>
<tr>
<td>IS 390</td>
<td>Requirements Analysis and Systems Design</td>
<td>3</td>
</tr>
<tr>
<td>IS 448</td>
<td>Usability &amp; Measuring UX</td>
<td>3</td>
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**Term Credits** 15

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<tbody>
<tr>
<td>YWCC 307</td>
<td>Professional Dev in Computing</td>
<td>1</td>
</tr>
<tr>
<td>General Elective 3 2</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Term Credits** 3
IS 322  Mobile Applications: Design, Interface, Implementation  3  
IS 333  Social Network Analysis  3  
IS 373  Content Management Systems  3  
IS 392  Web Mining and Information Retrieval  3  

Fourth Year  
1st Semester  
General Elective 4  2  3  
IE 492  Engineering Management  or ENTR 210  Introduction to Entrepreneurship  3  
IS 421  Advanced Web Applications  3  
IT 310  E-Commerce Technology  3  
Humanities and Social Science Senior Seminar GER (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/hss-capstone/)  3  

Term Credits  16  

2nd Semester  
General Elective 5  2  3  
General Elective 6  2  3  
Select one of the following:  3  
IS 491  Senior Project - IS  or IT 491  IT Capstone Project  3  
IS 465  Advanced Information Systems  3  

Term Credits  15  
Total Credits  12  

1  Math: We highly recommend MATH 333 Probability and Statistics to replace MATH 105 Elementary Probability and Statistics, particularly for students contemplating advanced or graduate work in computing. We also encourage you to take one or more advanced statistics courses as free electives, such as MATH 341 Statistical Methods II or MATH 344 Regression Analysis both of which require MATH 333 Probability and Statistics as a prerequisite.  

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 in your studies as possible to plan appropriately for all of these opportunities.  

*  Student can take MATH 111 (Calculus I) instead of MATH 138 (General Calculus I)  

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**Curriculum Overview**  

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<tr>
<th>Code</th>
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<td>IS 491</td>
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**Technical Foundation Courses**

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**Career Building Courses**

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<tr>
<td>YWCC 107</td>
<td>Computing as a Career</td>
<td>1</td>
</tr>
<tr>
<td>YWCC 207</td>
<td>Computing &amp; Effective Comm</td>
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</tr>
<tr>
<td>YWCC 307</td>
<td>Professional Dev in Computing</td>
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**Electives**

BS WIS majors are encouraged to take technical electives within the Ying Wu College of Computing, as well as web-related graphics and communications electives offered by Humanities (COM and ENG) and the School of Architecture. Students can also use 5-6 electives to pursue a minor within or outside the Ying Wu College of Computing.

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.*