

B.S. in Web & Information Systems

(120 credit minimum)

First Year

| 1st Semester | | Credits |
|--|---|----------------|
| CS 100 | Roadmap to Computing | 3 |
| FYS SEM | First-Year Student Seminar | 0 |
| ENGL 101 | English Composition: Introduction to Academic Writing | 3 |
| IS 117 | Introduction to Website Development | 3 |
| MATH 138 | General Calculus I * | 3 |
| Science Literacy GER (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/natural-science-ger/) | | 3 |
| Term Credits | | 15 |

2nd Semester

| | | |
|---|---|-----------|
| CS 113 | Introduction to Computer Science I | 3 |
| ENGL 102 | English Composition: Introduction to Writing for Research | 3 |
| IS 265 | Introduction to Information Systems | 3 |
| IS 247 | Designing the User Experience | 3 |
| Science Literacy with Lab GER (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/natural-science-ger/) | | 4 |
| Term Credits | | 16 |

Second Year**1st Semester**

| | | |
|---------------------|---|-----------|
| General Elective 1 | | 3 |
| IT 114 or CS 114 | Advanced Programming for Information Technology or Introduction to Computer Science II | 3 |
| IS 218 | Building Web Applications | 3 |
| IS 350 | Computers, Society and Ethics | 3 |
| MATH 105 | Elementary Probability and Statistics ¹ | 3 |
| Term Credits | | 15 |

2nd Semester

| | | |
|--|------------------------------------|-----------|
| YWCC 207 | Computing & Effective Com | 1 |
| History and Humanities GER 200 level (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-200-level/) | | 3 |
| IS 375 | Discovering User Needs for UX | 3 |
| IS 219 | Adv Website Development | 3 |
| IS 344 | Computing Applications in Business | 3 |
| General Elective 2 | | 3 |
| Term Credits | | 16 |

Third Year**1st Semester**

| | | |
|---|---|-----------|
| COM 312 or COM 313 | Oral Presentations or Technical Writing | 3 |
| History and Humanities GER 300+ level (http://catalog.njit.edu/undergraduate/academic-policies-procedures/general-education-requirements/ger-300-level/) | | 3 |
| IS 331 | Database Design Management and Applications | 3 |
| IS 390 | Requirements Analysis and Systems Design | 3 |
| IS 448 | Usability & Measuring UX | 3 |
| Term Credits | | 15 |

2nd Semester

| | | |
|---------------------------------|-------------------------------|---|
| YWCC 307 | Professional Dev in Computing | 1 |
| General Elective 3 ² | | 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 |
| Term Credits | | 16 |
| Fourth Year | | |
| 1st Semester | | |
| General Elective 4 ² | | 3 |
| IE 492 or ENTR 210 | Engineering Management or 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 | | 15 |
| 2nd Semester | | |
| General Elective 5 ² | | 3 |
| General Elective 6 ² | | 3 |
| Select one of the following: | | 3 |
| IS 491 or IT 491 | Senior Project - IS or IT Capstone Project | |
| IS 465 | Advanced Information Systems | 3 |
| Term Credits | | 12 |
| Total Credits | | 120 |

¹ **Math:** 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)

Curriculum Overview

| Code | Title | Credits |
|---|--|---------|
| Core Web Courses | | |
| IS 117 | Introduction to Website Development | 3 |
| IS 218 | Building Web Applications | 3 |
| IS 219 | Adv Website Development | 3 |
| IS 373 | Content Management Systems | 3 |
| IS 322 | Mobile Applications: Design, Interface, Implementation | 3 |
| IS 392 | Web Mining and Information Retrieval | 3 |
| IS 421 | Advanced Web Applications | 3 |
| IS 333 | Social Network Analysis | 3 |
| Core Information Systems Courses | | |
| IS 265 | Introduction to Information Systems | 3 |
| IT 310 | E-Commerce Technology | 3 |
| IS 247 | Designing the User Experience | 3 |
| IS 344 | Computing Applications in Business | 3 |
| IS 390 | Requirements Analysis and Systems Design | 3 |
| IS 375 | Discovering User Needs for UX | 3 |

| | | |
|-------------|----------------------------------|---|
| IS 448 | Usability & Measuring UX | 3 |
| IS 465 | Advanced Information Systems | 3 |
| IE 492 | Engineering Management | 3 |
| or ENTR 210 | Introduction to Entrepreneurship | |
| IS 491 | Senior Project - IS | 3 |

Technical Foundation Courses

| | | |
|-----------|---|---|
| CS 100 | Roadmap to Computing | 3 |
| CS 113 | Introduction to Computer Science I | 3 |
| IS 331 | Database Design Management and Applications | 3 |
| IT 114 | Advanced Programming for Information Technology | 3 |
| or CS 114 | Introduction to Computer Science II | |

Career Building Courses

| | | |
|----------|-------------------------------|---|
| YWCC 107 | Computing as a Career | 1 |
| YWCC 207 | Computing & Effective Com | 1 |
| YWCC 307 | Professional Dev in Computing | 1 |

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.