Undergraduate students majoring in information science will explore the intersection of human values and the information technologies that influence everyday life. Topics include user experience design, big data analysis and visualization, how culture and history shape technology, ethics in machine learning, and technology for social good. Students will build a toolkit integrating design, computation and data analysis. This information science toolkit will enable students to investigate, understand and inspire contemporary issues around our increasingly digitized life. This project-centered major prepares students for in-demand careers with a professional portfolio and implemented projects.

**Requirements**

**Program Requirements**

The BS in information science requires 43 credit hours within the major. Students will also complete the CMCI Core as part of their general education. A secondary area of study, which is also part of the CMCI Core, will be used to synthesize knowledge of information science with an application domain.

**Information Science Courses in the CMCI Core**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFO 1201</td>
<td>Computational Reasoning 1: Expression and Media Transformation</td>
<td>3</td>
</tr>
<tr>
<td>INFO 1301</td>
<td>Statistics for Information Science</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total Credit Hours</strong></td>
<td><strong>6</strong></td>
</tr>
</tbody>
</table>

**Foundations**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFO 1111</td>
<td>Introduction to Information Science: Understanding the World Through Data</td>
<td>4</td>
</tr>
<tr>
<td>INFO 1121</td>
<td>Designing Interactions</td>
<td>4</td>
</tr>
<tr>
<td>INFO 2131</td>
<td>Information Ecosystems</td>
<td>3</td>
</tr>
<tr>
<td>INFO 2201</td>
<td>Computational Reasoning 2: Representations of Data</td>
<td>3</td>
</tr>
<tr>
<td>INFO 2301</td>
<td>Quantitative Reasoning for Information Science</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total Credit Hours</strong></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

**Information Exploration & Exposition Series**

Information Science students will take both Information Exploration and Information Exposition.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFO 3401</td>
<td>Information Exploration</td>
<td>3</td>
</tr>
<tr>
<td>INFO 3402</td>
<td>Information Exposition</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total Credit Hours</strong></td>
<td><strong>6</strong></td>
</tr>
</tbody>
</table>

**Portfolio & Professional Development and Capstone Series**

The Department of Information Science values project-based learning, team-based learning, the development of good professional practice, and the development of specializations at the undergraduate level. The Portfolio & Professional Development as well as the Capstone courses are a critical part of cohort-building in the major, and are designed to create a community of learners who are prepared to tackle ambitious projects together, individually, and in preparation for internship and post-baccalaureate opportunities.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFO 2001</td>
<td>Information Science Portfolio and Professional Development</td>
<td>1</td>
</tr>
<tr>
<td>INFO 4001</td>
<td>Information Science Portfolio and Professional Development</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Total Credit Hours</strong></td>
<td><strong>2</strong></td>
</tr>
</tbody>
</table>

Facilitates development of careers in Information Science through the disciplined reflection about and presentation of one's work using a variety of modalities across a variety of media. Students will be introduced to individuals and organizations representing a diversity of career paths in Information Science.

**Senior Capstone**

INFO 4700 Senior Capstone

The Senior Capstone provides senior-level Information Science students an opportunity to demonstrate the culmination of their learning in the major by designing and implementing a significant information system or developing a research question, typically in response to a problem of personal interest related to or informed by their Secondary Area of Study. The course reinforces project planning, public presentation, collaboration, and professional ethics skills.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Total Credit Hours</strong></td>
<td><strong>3</strong></td>
</tr>
</tbody>
</table>

**Investigations and Mastery in Information Science**

Information Science students will take a total of 5 Investigations and Mastery in Information Science courses, with a minimum of 2 courses in each category.

**Investigations in Information Science (multiple)**

A series of courses are offered in which students deeply engage in specific domains, applying the skills that have been learned in the foundation courses through instructor-guided research of a progressive series of timely problems about the domain. Investigations in Information Science are domain-guided versions of Information Exploration and Information Exposition combined in one course. Examples of Investigations in Information Science courses include: Digital Identity, Designing for Creativity and Learning, Digital Humanities, Personal Information Management, and Online Fandom.

**Mastery in Information Science (multiple)**


<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Total Credit Hours</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

**Secondary Area of Study**

In addition to the coursework required for the major, all students in INFO must complete a secondary area of study outside of INFO. This can be met by any of the following: a minor, a second major within CMCI, a
double degree or a credit-based certificate program of at least 12 credit hours offered by a department in any school or college at CU.

Students are encouraged to select one of the programs of study described above, since these have been officially approved by experts who can either provide a formal certificate or list the minor on a student's official transcript upon graduation. In exceptional circumstances, however, students may apply to complete an individualized secondary area of study equal to or greater than 18 credit hours. Application for an individualized secondary area of study must be submitted and approved before the student has earned 50 credit hours.

**Recommended Four-Year Plan of Study**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Year One</strong></td>
<td></td>
<td></td>
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<tr>
<td><strong>Fall Semester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMCI 1010</td>
<td>Concepts and Creativity 1: Media, Communication, Information</td>
<td>4</td>
</tr>
<tr>
<td>INFO 1111</td>
<td>Introduction to Information Science: Understanding the World Through Data</td>
<td>4</td>
</tr>
<tr>
<td>INFO 1201</td>
<td>Computational Reasoning 1: Expression and Media Transformation</td>
<td>3</td>
</tr>
<tr>
<td>CMCI Core or elective ¹</td>
<td></td>
<td>3</td>
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<tr>
<td><strong>Spring Semester</strong></td>
<td></td>
<td></td>
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<tr>
<td>CMCI 1020</td>
<td>Concepts and Creativity 2: Media, Communication, Information</td>
<td>4</td>
</tr>
<tr>
<td>INFO 1121</td>
<td>Designing Interactions</td>
<td>4</td>
</tr>
<tr>
<td>INFO 2201</td>
<td>Computational Reasoning 2: Representations of Data</td>
<td>3</td>
</tr>
<tr>
<td>INFO 1301</td>
<td>Statistics for Information Science</td>
<td>3</td>
</tr>
<tr>
<td><strong>Year Two</strong></td>
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<tr>
<td><strong>Fall Semester</strong></td>
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<tr>
<td>INFO 2131</td>
<td>Information Ecosystems</td>
<td>3</td>
</tr>
<tr>
<td>INFO 2001</td>
<td>Information Science Portfolio and Professional Development</td>
<td>1</td>
</tr>
<tr>
<td>CMCI Core ²</td>
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<td>3</td>
</tr>
<tr>
<td>CMCI Core or Elective ¹</td>
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<tr>
<td>Secondary Area</td>
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<td>3</td>
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<tr>
<td><strong>Spring Semester</strong></td>
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<tr>
<td>INFO 2301</td>
<td>Quantitative Reasoning for Information Science</td>
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<td>CMCI Core ³</td>
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<td>Secondary Area</td>
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<tr>
<td>Elective</td>
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<tr>
<td><strong>Year Three</strong></td>
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<td>INFO 3402</td>
<td>Information Exposition</td>
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<tr>
<td>INFO 4601</td>
<td>Ethical and Policy Dimensions of Information and Technology</td>
<td>3</td>
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<tr>
<td>CMCI Core ¹</td>
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<td>Secondary Area</td>
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<tr>
<td>INFO 3506</td>
<td>Online Fandom</td>
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<td><strong>Spring Semester</strong></td>
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<tr>
<td>INFO 3401</td>
<td>Information Exploration</td>
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<tr>
<td>CMCI Core ¹</td>
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<td>Secondary Area</td>
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<tr>
<td>Electives</td>
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<tr>
<td><strong>Year Four</strong></td>
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<tr>
<td>INFO 4602</td>
<td>Information Visualization</td>
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<td>INFO 4603</td>
<td>Survey Research Design</td>
<td>3</td>
</tr>
<tr>
<td>CMCI Core ¹</td>
<td></td>
<td>3</td>
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<tr>
<td>Secondary Area</td>
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<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>3</td>
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<tr>
<td><strong>Spring Semester</strong></td>
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<tr>
<td>INFO 3505</td>
<td>Designing for Creativity and Learning</td>
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<tr>
<td>INFO 4700</td>
<td>Senior Capstone</td>
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<tr>
<td>Secondary Area</td>
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<tr>
<td>Electives</td>
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</tr>
<tr>
<td><strong>Total Credit Hours</strong></td>
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<td>117</td>
</tr>
</tbody>
</table>

1  P/S; H & A; Hist V; Div & Global  
2  Natural World  
3  Natural World with Lab

**Learning Outcomes**

Students will acquire broad skills in information science, including:

- Multiple forms of information analysis, from small data to big data, from quantitative to qualitative, from data exploration to information exposition.
- Human-centered design of data and artifacts.
- Understanding social and ethical contexts of information and technology.
- Skills in communicating information to different audiences.
- Data curation.
- Computing to support information-analytic skills and prototype building.