INFORMATION SCIENCE MAJOR

Program Directors: Vedat Diker (College Park), G. Madjaroff Reitz (Shady Grove)

The field of information science, particularly in the iSchool, is a field concerned with the intersections of information, people, and technology. Information science is an interdisciplinary field, drawing from other areas of study such as computer science, management, social science, education, and the humanities, but with a focus on individual and institutional users of information and their information needs. In our program students gain the knowledge and the skills for creating information systems, resources, and services that help address society’s pressing needs in a variety of contexts and in a variety of private and public sector positions, ranging from financial services to healthcare; from information technology to consulting; and from education to cultural institutions.

Admission to the Major

Students who are accepted to the university and list Information Science (InfoSci) as their preferred major will start directly in our program. Students currently in the University who are interested in declaring Information Science must complete our Change of Major process. For more information please visit the InfoSci website (https://ischool.umd.edu/academics/bachelor-of-science-in-information-science-college-park/) or email InfoSci@umd.edu.

Program Objectives

InfoSci students gain the knowledge and the skills for creating information systems, resources, and services that help address society’s greatest needs. Through coursework, internships, extracurricular projects, and networking, InfoSci students build careers that will place them in leadership roles in information management, information technology, user-centered design, and data analytics.

Program Learning Outcomes

At the completion of this program, students will be able to:

1. Demonstrate an understanding of information design and management; the interrelationships among information consumers or creators, information content, and the conduits through which information flows.
2. Apply basic principles to the design, development and management of information to meet the needs of diverse users.
3. Assess the impact of existing or emerging technologies on information practices and the flow of information.
4. Employ state-of-the-art tools and techniques to create, manage, and analyze information.
5. Demonstrate an understanding of critical issues including the security, privacy, authenticity, and integrity of information.

Requirements

Students must earn a "C-" or better in all major requirements and an overall average of 2.0.

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<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>INST201</td>
<td>Introduction to Information Science</td>
<td>3</td>
</tr>
<tr>
<td>INST311</td>
<td>Information Organization</td>
<td>3</td>
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<tr>
<td>INST314</td>
<td>Statistics for Information Science</td>
<td>3</td>
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<tr>
<td>INST326</td>
<td>Object-Oriented Programming for Information Science</td>
<td>3</td>
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<tr>
<td>INST327</td>
<td>Database Design and Modeling</td>
<td>3</td>
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<tr>
<td>INST335</td>
<td>Organizations, Management and Teamwork</td>
<td>3</td>
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<tr>
<td>INST346</td>
<td>Technologies, Infrastructure and Architecture</td>
<td>3</td>
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<tr>
<td>INST352</td>
<td>Information User Needs and Assessment</td>
<td>3</td>
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<tr>
<td>INST362</td>
<td>User-Centered Design</td>
<td>3</td>
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<tr>
<td>INST490</td>
<td>Integrated Capstone for Information Science</td>
<td>3</td>
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Major Core Requirements

Select ONE of the following options:

1. Complete at least 15 credits of INST-coded major electives
2. InfoSci Specialization: Data Science, Cybersecurity and Privacy, Digital Curation (See below for more information)

Total Credits: 57

Data Science Specialization

The original specialization in the InfoSci program allows students to develop an understanding and skills for managing, manipulating, and mobilizing data to develop insight, create value, and achieve organizational goals in a wide range of sectors. The two career streams students aim for after completing this specialization are data analysts - focusing on analyzing and reporting data - and data stewards - focusing on extracting, manipulating, and preparing data for quicker and more efficient analysis.

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<tr>
<td>INST354</td>
<td>Decision-Making for Information Science</td>
<td>3</td>
</tr>
<tr>
<td>INST377</td>
<td>Dynamic Web Applications</td>
<td>3</td>
</tr>
<tr>
<td>INST414</td>
<td>Data Science Techniques</td>
<td>3</td>
</tr>
<tr>
<td>INST447</td>
<td>Data Sources and Manipulation</td>
<td>3</td>
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<tr>
<td>INST462</td>
<td>Introduction to Data Visualization</td>
<td>3</td>
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Total Credits: 15

CYBERSECURITY AND PRIVACY SPECIALIZATION

This specialization is based on the perspective that a comprehensive and effective understanding of issues surrounding cybersecurity should encompass both technological and human aspects. In the hyper-connected world of today, cybersecurity and privacy are
fundamentally problems of human interaction with technology, rather
than purely technical problems to solve. As a result, the science and
technology deployed to protect and defend our information and critical
infrastructure must consider human, social, organizational, economic and
technical factors, as well as the complex interaction among them. This
specialization helps students equip themselves with human-centered
cybersecurity skills and perspectives, and prepare to launch careers in
the cybersecurity field with particular emphasis on management, policy,
and governance-related functions.

DIGITAL CURATION SPECIALIZATION

This specialization prepares students for jobs where they collect,
digitize, appraise, curate, and disseminate information assets effectively
and efficiently. Information is at the heart of our society's ability to
learn, conduct business, recreate, and manage complex scientific,
technological, industrial, and information infrastructures. It is critical that
there are qualified professionals with the technical, intellectual, and social
awareness required to manage large and complex collections of digital
information in a variety of organizational settings. Students finishing this
specialization will play critical roles in preserving a vast and varied body
of information for posterity.

Four Year Plan

Click here (http:// infosci.umd.edu/sites/default/files/
bsis_program_plan_0.pdf) for roadmaps for four-year plans in the College
of Information Studies.

Additional information on developing a four-year academic plan can be
found on the following pages:

- 4yearplans.umd.edu (http://4yearplans.umd.edu/)
- the Student Academic Success-Degree Completion Policy (https://
academlcatalog.umd.edu/undergraduate/registration-academic-
requirements-regulations/academic-advising/) section of this catalog