

You can earn your
Bachelor of Science in Information Science
From the University of Maryland InfoSci Program at **Shady Grove!**
usginfosci@umd.edu | 301.738-6243
FALL ADMISSION ONLY

The University of Maryland InfoSci Program at Shady Grove is catered to students who are interested in pursuing the Information Science field after graduation. It is a two-year, cohort-based program offered at the Universities at Shady Grove campus with a preset full-time course track designed for transfer students who have completed their associates degree or equivalent. Here are some potential career paths for InfoSci graduates:

- Data Analyst/Scientist
- Database Administrator
- Digital Curation Specialist
- Health Informatics Manager
- Information Architect
- Intelligence Analyst
- Program Manager
- Systems Architect/Analyst
- User Interface Designer
- User Studies Specialist

What's difference between Information Science, Information Systems, Computer Science, and Information Technologies?

These fields are fairly similar, but differ in how they relate to technology, people/businesses, and information.

- **Information Science** is the study of how people use technology to efficiently organize, analyze, collect, classify, manipulate, store, retrieve, and disseminate information. It is a field that works with technology, people/businesses, and information.
- **Information Systems** is the study of how to use technology to benefit a company. It is a field that works primarily with technology as it relates to people/businesses.
- **Computer Science** focuses on the processes and algorithms of creating usable computer programs and applications, as well as the theories behind those processes. This field usually works exclusively with technology.
- **Information Technologies** focuses on the hardware, software, telecommunications, and anything else dealing with information transmittal. This field primarily works with technology and information.

What's the difference between the InfoSci Major at Shady Grove and College Park?

The InfoSci major at Shady Grove is exactly the same as the major at College Park. A student who successfully completes the InfoSci major requirements at Shady Grove **earns the same degree and diploma** as the College Park students. The only difference is location and services:

- Students in the Shady Grove program are eligible for scholarships from both the University of Maryland AND from the Universities at Shady Grove (USG).
- Classes at Shady Grove have 35-40 students on average, meaning you will know your professors—and they will know you! You are also guaranteed a seat in each of your required USG courses.
- Students in the InfoSci Program at Shady Grove can attend USG-specific events, as well as events hosted at the College Park campus
- Students at USG pay lower fees, while staying close to home and work.

What are admission requirements to get accepted into the program?

Applications are reviewed on a case-by-case basis; however, we recommend that students meet the following criteria prior to being accepted into the program:

- Successful completion of an Associate's Degree program with a conferred associate's degree
- Earned at minimum 60 credits
- Completion of the four **benchmark courses** (see chart below for course equivalents at your current institution):
 - MATH 115 – Pre-Calculus (or higher)
 - PSYC 100 – Intro to Psychology
 - STAT 100 – Elementary Statistics
 - INST 126 – Intro to Programming

Benchmark Course	Howard Community College	Frederick Community College	Montgomery College	Prince George's Community College
MATH115 OR HIGHER	MATH135, MATH155, MA130, MA133, MA135	MA111	MATH165, MA118, MA180	MAT133, MAT137, MAT1370, MAT1360, MAT142
PSYC100	PSYC101, PY101	PS101	PSYC102, PY102	PSY101, PSY1010
STAT100	MATH138, MATH200, MA200	MA207, MA206	MATH117	MAT114, MAT1140
INST126	<i>*Please see an advisor</i>	<i>*Please see an advisor</i>	<i>*Please see an advisor</i>	<i>*Please see an advisor</i>

Please note that these benchmark course are not offered at The Universities at Shady Grove.

If you would like to meet with us to discuss the program in greater detail, or to schedule a pre-transfer advisement appointment, email us at usginfosci@umd.edu!

BS IN INFORMATION SCIENCE

FALL

INST 301 3 CR
Introduction to Information Science
MAJOR CORE REQUIREMENT

INST 311 3 CR
Information Organization
MAJOR CORE REQUIREMENT

INST 314 3 CR
Statistics for Information Science
MAJOR CORE REQUIREMENT

INST 326 3 CR
Object-Oriented Programming for
Information Science
MAJOR CORE REQUIREMENT

INST 335 3 CR
Teams and Organizations
MAJOR CORE REQUIREMENT

SPRING

INST 327 3 CR
Database Design & Modeling
MAJOR CORE REQUIREMENT

INST 352 3 CR
Information User Needs & Assessment
MAJOR CORE REQUIREMENT

**MAJOR ELECTIVE
REQUIREMENT** 3 CR
MAJOR ELECTIVE REQUIREMENT

INST 362 3 CR
User-Centered Design
MAJOR CORE REQUIREMENT

**MAJOR ELECTIVE
REQUIREMENT** 3 CR
MAJOR ELECTIVE REQUIREMENT

JUNIOR

60 PRIOR CREDITS + 15 FALL CREDITS + 15 SPRING CREDITS = 90 CREDITS

FALL

**MAJOR ELECTIVE
REQUIREMENT** 3 CR
MAJOR ELECTIVE REQUIREMENT

INST 346 3 CR
Technologies, Infrastructures &
Architecture
MAJOR CORE REQUIREMENT

Free Elective 3 CR
ELECTIVE REQUIREMENT

Free Elective 3 CR
ELECTIVE REQUIREMENT

Professional Writing 3 CR
GENERAL EDUCATION REQUIREMENT

SPRING

**MAJOR ELECTIVE
REQUIREMENT** 3 CR
MAJOR ELECTIVE REQUIREMENT

**MAJOR ELECTIVE
REQUIREMENT** 3 CR
MAJOR ELECTIVE REQUIREMENT

INST 490 3 CR
Integrative
Capstone
MAJOR CORE REQUIREMENT

Free Elective 3 CR
ELECTIVE REQUIREMENT

Free Elective 3 CR
ELECTIVE REQUIREMENT

SENIOR

90 PRIOR CREDITS + 15 FALL CREDITS + 15 SPRING CREDITS = 120 CREDITS

DEGREE MAP

Major Core Courses – 30 credits

Course	Course Content
INST301 Introduction to Information Science	Explores social and mobile media; literacy in the digital age and fake news; information needs, information seeking, and information behavior; memes, virality, and breaking the internet; privacy, security, and surveillance; big data, algorithms, and ethics
INST311 Information Organization	Information resources and collections; metadata and metadata schemas, values and ethics in information work; information architecture, and information retrieval systems
INST314 Statistics for Information Science	Basic concepts in statistics including measure constructions, data exploration, hypothesis development, hypothesis testing, pattern identification, and statistical analysis. Use of MS Excel and R for basic data manipulation and analysis.
INST326 Object-Oriented Programming for Information Science	An introduction to programming, emphasizing understanding and implementation of applications using object-oriented techniques. Design, program, and debug Python applications to solve non-trivial problems.
INST327 Database Design and Modeling	Create user-oriented database queries using the Structured Query Language (SQL); build a working relational database using a database management system (DBMS)
INST335 Teams and Organizations	Learn to identify, select and apply appropriate perspective for analyzing organizations' needs and identify opportunities
INST346 Technologies, Infrastructures and Architecture	Learn to apply methods for transferring, storing, compressing, replicating and retrieving data, as well as identify contemporary threats to information security and develop effective approaches to addressing those threats
INST352 Information User Needs and Assessment	Focuses on use of information by individuals, including the theories, concepts, and principles of information, information behavior and mental models. Methods for determining information behavior and user needs, including accessibility issues will be examined and strategies for using information technology to support individual users and their specific needs will be explored.
INST362 User-Centered Design	Introduction to human-computer interaction (HCI), with a focus on how HCI connects psychology, information systems, computer science, and human factors.
INST490 Integrative Capstone	The capstone provides a platform for Information Science students where they can apply a subset of the concepts, methods, and tools they learn as part of the Information Science program to addressing an information problem or fulfilling an information need.

Major Elective Courses – 15 credits

INST354 (SPRING) Decision-Making for Information Science	Examines the use of information in organizational and individual decision-making, including the roles of information professionals and information systems in informed decision-making.
INST377 (FALL) Dynamic Web Applications	An exploration of the basic methods and tools for developing dynamic, database-driven websites, including acquiring, installing, and running web servers, database servers, and connectability applications.
INST414 (SPRING) Advanced Data Science	An exploration of how to extract insights from large-scale datasets. The course will cover the complete analytical funnel from data extraction and cleaning to data analysis and insights interpretation and visualization. The data analysis component will focus on techniques in both supervised and unsupervised learning to extract information from datasets.
INST447 (SPRING) Data Sources and Manipulation	Examines approaches to locating, acquiring, manipulating, and disseminating data. Imperfection, biases, and other problems in data are examined, and methods for identifying and correcting such problems are introduced.
INST462 (SPRING) Introduction to Data Visualization	Exploration of the theories, methods, and techniques of visualization of information, including the effects of human perception, the aesthetics of information design, the mechanics of visual display, and the semiotics of iconography.

<p>INST366 (SPRING) Privacy, Security and Ethics for Big Data</p>	<p>Evaluates major privacy and security questions raised by big data, Internet of things (IoT), wearables, ubiquitous sensing, social sharing platforms, and other AI-driven systems. Covers history of research ethics and considers how ethical frameworks can and should be applied to digital data.</p>
<p>INST402 (SPRING) Designing Patient-Centered Technologies</p>	<p>Companies have created a vast array of apps and other technologies for understanding managing personal health and wellness, but many of them have been created with little understanding of audience needs or potential ethical issues. Course introduces students to the unique challenges of studying people's health and wellness needs as well as designing and evaluating technologies to meet those needs.</p>
<p>INST363 (FALL) Fundamentals of Technology Innovation</p>	<p>Introduces students to the fundamentals of technology innovation, and how leaders approach innovation in the information science field. The course explores approaches and perspectives on how to develop an individual's capabilities to be better at leading others in an innovative environment. Combining theory and practice, students will be introduced to problem-solving and explore ways to become an exceptional innovation leader.</p>
<p>INST408K (SPRING) Competitive Business Intelligence</p>	<p>This course will consider the mechanisms, including the legal and ethical implications, by which competitive intelligence is practiced today. It will also examine the threat presented by economic espionage and the counterintelligence strategies to maintain a competitive position and advantage. Topics will include an overview and comparison of the intelligence process in government and in business (i.e., the intelligence cycle), a detailed consideration of the requirements and the analytical segments of that process, a survey of current analytical tools, a survey of information sources and information acquisition activities, a survey of required personnel, physical and information security policies, and the necessary efforts in creating an effective CI unit within any business enterprise.</p>
<p>INST364 (FALL) Human-Centered Cybersecurity</p>	<p>Cybersecurity is fundamentally a problem of human interaction with technology, but its technical challenges are better understood than its human challenges. This course is designed to give you an overview of human interactions with cybersecurity technology, from users to system designers. Using the information gleaned in this course, you should be able to make better predictions about how people react to cybersecurity policies and tools, and how those reactions shape organizational behavior. The earlier part of the course focuses on explanations for behavior, while the later parts of the course focus more on the development and evaluation of tools for assisting people in cybersecurity.</p>
<p>INST408P (SPRING) Introduction to Salesforce</p>	<p>A three-credit course that covers foundational concepts of working with Salesforce CRM. This course helps students learn how to configure Salesforce so that they are able to collect, analyze and retrieve all of the vital information associated with their customer base. Moreover, students use Force.com fundamentals to understand Salesforce online application development and the deployment of next-generation cloud apps. The course offers practical hands-on learning that ensures students' job success as well as the theoretical knowledge needed to pass both Salesforce certification exams (ADM201 & Platform App Builder).</p>
<p>INST407 (FALL) Leading and Sustaining a Culture of Innovation</p>	<p>Successful leaders know that the key to value creation and sustained growth lies in innovation -- continuously seeking opportunities to create value whether by launching new products and services, entering new markets, or rethinking key processes. This course will focus on the most efficient leadership strategies, change management, team motivation, and technology team management for information management within organizations. We will examine some of the best ways to foster innovative behaviors within a team and organization. Students will engage with a course-long culture change challenge.</p>

<p>INST463 (SPRING)</p> <p>The Technology Socialpreneur</p>	<p>The course will introduce students to the role of technology and entrepreneurship in our society. Students will be able to choose an existing society issue and develop creative entrepreneurial ideas to solve it using innovative technologies. This course will allow students to meet industry professionals and learn more about various social problems and projects companies focus on and try to solve in the modern world. Students will be able to contribute to those solutions.</p>
<p>INST453 (FALL)</p> <p>Project Management for Information Science</p>	<p>Provides a comprehensive overview of project management, focusing on the needs of information resources (IR). The course covers the concepts and techniques for planning and execution of projects including developing work breakdown structure, estimating costs, managing risks, scheduling, staff and resource allocation, team building, communication, tracking, control, and other aspects of successful project completion.</p>
<p>INST456 (SPRING)</p> <p>Risk Management Leadership in the Information Age</p>	<p>This course will help students assess and mitigate specific vulnerabilities within an organization's data networks, allowing them to understand how to protect the integrity, security, and confidentiality of information.</p>
<p>INST455 (FALL)</p> <p>Information Assurance and Compliance</p>	<p>Examines the protection of organizational data, personalized information, intellectual property and the associated assurance of the data's transfer, storage and communication. Students will understand how to manage these concerns and respond to both emergent and existing threats within the information domain. We will look at the key principles of Information Assurance, compliance and best practices in the real world.</p>
<p>INST461 (FALL)</p> <p>Emerging Technologies and Risk Management</p>	<p>Focuses on how people and companies can achieve various tangible and intangible benefits and assess risk in using and incorporating emerging technologies (i.e. mobile devices, social media, robotic process automation, 3-D printing, cloud computing, blockchain technologies, artificial intelligence, etc.) into the activities and operations of a company.</p>



BSIS

Career Paths

- Data Scientist
- Data Analyst
- Database Designer/Administrator
- UX Designer
- Web Developer
- Content Manager
- Digital Curator
- System Architect
- Software Designer
- Cyber Defense Specialist

Our graduates work for private companies, nonprofits, academic institutions, the intelligence community, federal and local government offices, and more.

Questions? Email: usginfosci@umd.edu

The Universities at Shady Grove UMD College of Information Studies

9636 Gudelsky Drive
Building IV, Office 4101
Rockville, MD 20850
301-738-6243

ischool.umd.edu

   @iSchoolUMD

A BSIS degree prepares students to become information professionals who are on the forefront of tomorrow's information and technology needs, whether it's designing solutions, creating systems, or leading teams. Our students become experts in:

- organizing, analyzing, and managing information and data
- assessing technology development to meet users' information needs
- critical information issues including security and privacy

Through our multidisciplinary approach, students receive a top technical education in areas such as database design, web and mobile development, data curation, data analytics, and cybersecurity – combined with the social sciences, leadership, and the humanities. As a result, our graduates have a unique understanding of how information and technology can be leveraged to better the lives of individuals, workplaces, and communities.

INNOVATE



BSIS

Bachelor of Science in Information Science


COLLEGE OF
INFORMATION
STUDIES

AT


The Universities
AT SHADY GROVE

ischool.umd.edu



Outputs
organize 3 inputs.

```
function String function Array Date RegE  
Boolean Number String function Array Date RegE  
_={};function F(e){var t=[e]={};return b.ea  
t[1])===!1&&e.stopOnFalse){r=!1;break}n=!1,u&  
?o=u.length:r&&(s=t,c(r))}return this},remove  
function(){return u=[],this},disable:function()  
re:function(){return p.fireWith(this,argument  
ending,delete p.data[prn],always:  
omis:1?}
```

Testimonials

"Big Data has become huge over the past few years, but I often ask myself what good is data without structure and explanation. I have always wanted to major in something that could **help people** and **make a difference**, and that's exactly what **information science** will do for me."

- Charell Adagala, BSIS Student

Why the **BSIS** program at the iSchool?

- Become an expert in applying information science to solving real-world social and organizational challenges
- Learn leading theory, techniques, and technology from award-winning faculty trained in excelled learning
- Through electives and a data science specialization option, tailor your program to meet your unique career goals
- Learn practical applications that allows you to apply skills directly and immediately to your career
- Build relationships with a close-knit cohort that travels through the two-year program together
- Have access to academic support, career advising, and student leadership opportunities
- Enjoy a reduced tuition rate vs. the College Park program along with additional financial aid opportunities

BSIS at Shady Grove is a two-year program with a preset full-time course track designed for transfer students who have completed their associate degree or equivalent.

Admissions Requirements:

- Minimum 2.5 cumulative GPA
- Completion of all UMCP general education requirements (excluding Fundamental Studies Professional Writing). Fulfilled by:
 - Two-year Associate of Arts or Associate of Science degree in information science or related field, OR
 - 60 college credits that meet all general education requirements
- Completion (C- or better) of the following benchmark courses or their equivalents:
 - MATH115 - Precalculus (or higher)
 - PSYC100 - Intro to Psychology
 - STAT100 - Elementary Statistics
 - INST126 - Intro to Programming



"The **information science** program made me confident in my decision to pursue this field. Most professors are working professionals who prepare you for **real-world problems**, as well as guide you through a field with multiple job outlooks. Classes are **hands-on** and give you **real experience** working with professional programs and equipment. This focus on real-world issues lets students hone the **skills that matter most**, and reach the skill set they need to stand on their own."

- Ebonie Gadson, BSIS Student

Information Risk Management, Ethics, and Privacy Minor

Course	Description	Credits
INST456	Risk Management Leadership in the Information Age This course will help students assess and mitigate specific vulnerabilities within an organization's data networks, allowing them to understand how to protect the integrity, security, and confidentiality of information. The course will examine methods and types of leadership with an emphasis on managing risks, ethical issues and privacy concerns for organizations and how to put together risk management strategies, policies and procedures.	3
INST364	Human-Centered Cybersecurity This course is designed to give you an overview of human interactions with cybersecurity technology, from user to system designers. Using the information gleaned in this course, you should be able to make better predictions about how people react to cybersecurity policies and tools, and how those reactions shape organizational behavior. The earlier part of the course focuses on explanations for behavior, while the later parts of the course focus more on the development and evaluation of tools for assisting people in cybersecurity.	3
INST366	Privacy, Security, and Ethics for Big Data In this course, students will evaluate major privacy and security questions raised by big data and related technologies. Students will learn about the history of research ethics and consider how ethical frameworks can and should be applied to digital data. They will work through case studies from real world scenarios to understand the complex interactions between data security, privacy, and ethics in modern businesses.	3
INST461	Emerging Technologies and Risk Management This course will focus on how people and companies can achieve various tangible and intangible benefits from using and incorporating emerging technologies (i.e. mobile devices, social media, robotic process automation, 3-D printing, cloud computing, blockchain technologies, artificial intelligence, etc.) into their daily activities and operations. This course will examine the risks that can accompany these technologies and the ways to manage those risks.	3
INST455	Information Assurance and Compliance This course will examine the protections of organizational data, personalized information, intellectual property and the associated assurance of the data's transfer, storage communication. How to manage this and responses to both emergent and existing threats within the information domain will be covered.	3



Technology Innovation Leadership Minor

Course	Description	Credits
INST363	Fundamentals of Technology Innovation This course introduces students to the fundamentals of technology innovation, and how leaders approach innovation in the information science field. The course explores approaches and perspectives on how to develop an individual's capabilities to be better at leading others in an innovative environment. Combining theory and practice, students will be introduced to problem solving and explore ways to become an exceptional innovation leader.	3
INST407	Leading and Sustaining a Culture of Innovation Successful leaders know that the key to value creation and sustained growth lies in innovation -- continuously seeking opportunities to create value whether by launching new products and services, entering new markets, or rethinking key processes. This course will focus on the most efficient leadership strategies, change management, team motivation, technology team management for information management within organizations. We will examine some of the best ways to foster innovative behaviors within a team and organization. Students will engage with a course-long culture change challenge.	3
INST453	Project Management for Information Science Provides a comprehensive overview of project management, focusing on the needs of information resources (IR). The course covers the concepts and techniques for planning and execution of projects including developing work breakdown structure, estimating costs, managing risks, scheduling, staff and resource allocation, team building, communication, tracking, control, and other aspects of successful project completion.	3
INST463	The Technology Socialpreneur The course will introduce students to the role of technology and entrepreneurship in our society. Students will be able to choose an existing society issue and develop creative entrepreneurial ideas to solve it using innovative technologies. The course will allow students to meet industry professionals and learn more about various social problems and projects companies focus on and try to solve in the modern world. Students will be able to contribute to those solutions.	3
IDEA430	Creating Your Own Venture Learn to apply design thinking, jobs to be done theory, organizational behavior and lean methodology to create your own startup. Students will be placed in teams, given an experienced mentor and will compete to win seed funding at the end of the course in a pitch competition. No entrepreneurship experience or idea necessary.	3

