Information Systems

Major: Information Systems
Degree Awarded: Master of Science in Information Systems (MSIS)
Calendar Type: Quarter
Minimum Required Credits: 45.0
Co-op Option: Available for full-time, on-campus master's-level students
Classification of Instructional Programs (CIP) code: 11.0401
Standard Occupational Classification (SOC) code: 11-3021

About the Program

The College of Computing & Informatics' Master of Science in Information Systems (MSIS) prepares students for both the technical and real-world aspects of developing and managing information systems. The program is offered both online and on campus, part-time and full-time.

The program is designed for students with no prior background in information systems who would like an education in the latest innovative methods in data analysis and information systems, or those with a background in IS development who wish to refresh and update their technical design and analysis skills. Courses integrate the business, organizational, and technical aspects of computer-based information systems, while offering the chance to develop and expand expertise in three specialist areas:

1. Information systems development and management, such as organizational information system design, business systems requirements analysis, software project management, web-based application development and systems implementation

2. Big data management, covering the creation and management of databases, interfaces and information systems that connect users with the information they seek, including areas such as database systems design and management, data mining, natural language processing, intelligent systems, and data analytics

3. Human-centered computing, such as human-computer interaction, user-experience design, social computing, collaboration systems, and online community support

A graduate co-op is available for this program. For more information, visit the Steinbright Career Development Center's website (http://www.drexel.edu/scdc/co-op/graduate/).

Admission Requirements

The Master of Science in Information Systems accepts applicants who hold a Bachelor's degree from an accredited university. Please visit the College of Computing & Informatics website (https://drexel.edu/cci/academics/graduate-programs/information-systems/ms-in-information-systems/) for more information on admission requirements.

Additional Information

For more information about this program, visit the College of Computing & Informatics MS in Information Systems (https://drexel.edu/cci/academics/graduate-programs/information-systems/ms-in-information-systems/) webpage.

Admission Requirements

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Degree Requirements

Required Courses		
INFO 517	Principles of Cybersecurity	3.0
INFO 540	Perspectives on Information Systems	3.0
INFO 605	Database Management Systems	3.0
INFO 608	Human-Computer Interaction	3.0
INFO 620	Information Systems Analysis and Design	3.0
Focus Area		**15.0**
Choose 1 Focus Area		
Information Systems Design		
INFO 532	Software Development	
INFO 600	Web Systems & Architecture	
INFO 655	Intro to Web Programming	
SE 627	Requirements Engineering and Management	
Choose 1 of the following:		
SE 638	Software Project Management	
INFO 670	Cross-platform Mobile Development	
Introduction to Data Science		
CS 570	Programming Foundations	
or CS 501	Introduction to Programming	
DSCI 511	Data Acquisition and Pre-Processing	
INFO 659	Introduction to Data Analytics	
Choose 2 of the following:		
CS 500	Fundamentals of Databases	
CS 590	Privacy	
INFO 605	Database Management Systems	
INFO 623	Social Network Analytics	
INFO 648	Healthcare Informatics	
INFO 712	Information Assurance	
INFO 725	Information Policy and Ethics	
Human-Computer Interaction & User Experience		
INFO 508	Information Innovation through Design Thinking	
INFO 690	Understanding Users: User Experience Research Methods	
INFO 655	Intro to Web Programming	
Choose 1 of the following:		
INFO 608	Human-Computer Interaction	
INFO 615	Designing with Data	
INFO 616	Social and Collaborative Computing	
Additional Elective to bring total in focus area to 15 credits		
Electives *		**15.0**
CS 501	Introduction to Programming	
CS 502	Data Structures and Algorithms	
CS 503	Systems Basics	
CS 504	Introduction to Software Design	
DSCI 632	Applied Cloud Computing	
INFO 505	Information Professionals and Information Ethics	
INFO 508	Information Innovation through Design Thinking	
INFO 517	Principles of Cybersecurity	
INFO 532	Software Development	
INFO 546	Data Analytics for Community-Based Data and Service	
INFO 600	Web Systems & Architecture	
INFO 606	Advanced Database Management	
INFO 607	Applied Database Technologies	
INFO 612	Knowledge-based Systems	
INFO 616	Social and Collaborative Computing	
INFO 623	Social Network Analytics	
INFO 624	Information Retrieval Systems	

INFO 629	Applied Artificial Intelligence
INFO 633	Information Visualization
INFO 634	Data Mining
INFO 646	Information Systems Management
INFO 648	Healthcare Informatics
INFO 655	Intro to Web Programming
INFO 659	Introduction to Data Analytics
INFO 670	Cross-platform Mobile Development
INFO 690	Understanding Users: User Experience Research Methods
INFO 691	Prototyping the User Experience
INFO 710	Information Forensics
INFO 712	Information Assurance
INFO 725	Information Policy and Ethics
INFO 731	Managing Health Informatics Projects
INFO 732	Healthcare Informatics: Planning & Evaluation
INFO 733	Public Health Informatics
SE 570	Agile Software Development Process
SE 578	Security Engineering
SE 610	Open Source Software Engineering
SE 627	Requirements Engineering and Management
SE 630	Software Engineering Economics
SE 638	Software Project Management
Total Credits	**45.0**

* Choose from the pre-approved list or select:

- Another approved CCI certificate/focus area
- Appropriate graduate-level courses in CCI (CS, CT, SE, DSCI, INFO) with advisor approval
- Up to 2 appropriate graduate-level computing-related courses outside of CCI approved by the College.

Sample Plan of Study

Part-time, No co-op

First Year				
Fall	**Credits Winter**	**Credits Spring**	**Credits Summer**	**Credits**
INFO 517	3.0 INFO 605	3.0 INFO 608	3.0 VACATION	
INFO 540	3.0 Focus Area	3.0 INFO 620	3.0	
	6	**6**	**6**	**0**
Second Year				
Fall	**Credits Winter**	**Credits Spring**	**Credits Summer**	**Credits**
Focus Area	6.0 Focus Area	6.0 Electives	6.0 VACATION	
	6	**6**	**6**	**0**
Third Year				
Fall	**Credits Winter**	**Credits**		
Elective	6.0 Elective	3.0		
	6	**3**		

Total Credits 45

Full-time with co-op

First Year				
Fall	**Credits Winter**	**Credits Spring**	**Credits Summer**	**Credits**
INFO 517	3.0 INFO 605	3.0 INFO 608	3.0 COOP EXPERIENCE	
INFO 540	3.0 Focus Area	6.0 INFO 620	3.0	
Focus Area	3.0	Focus Area	3.0	
	9	**9**	**9**	**0**
Second Year				
Fall	**Credits Winter**	**Credits Spring**	**Credits**	
COOP EXPERIENCE	Focus Area	3.0 Focus Area	3.0	
	Electives	6.0 Electives	6.0	
	0	**9**	**9**	

Total Credits 45

Note: Third Year Winter is less than the 4.5-credit minimum required (considered half-time status) of graduate programs to be considered financial aid eligible. As a result, aid will not be disbursed to students this term.

Dual Degree Opportunities

Graduate students already enrolled in a master's degree program at Drexel have the opportunity, through the dual master's program to work simultaneously on two master's degrees and to receive both upon graduation. To be eligible, graduate students must be currently working on their first degree when requesting admission to the second. They must obtain approval from the graduate advisors of both programs and work out a plan of study encompassing coursework and/or research (thesis) credits for both degrees. Please contact your advisor (https://drexel.edu/cci/current-students/graduate-professional-development/advising/) for more information on program requirements as some CCI master's degree combinations may require additional pre-requisites.

The dual master's student must complete the Change of Curriculum and Status form (https://drexel.edu/graduatecollege/forms-policies/forms/) and obtain approvals from both graduate advisors. Final approval is granted by the Graduate College (http://drexel.edu/graduatecollege/). The student is then registered in both majors simultaneously. Upon graduation, the student must file two Application for Degree (http://drexel.edu/drexelcentral/graduation/information/applying-for-degree/) forms.

Facilities

3675 Market Street

In March 2019, the College of Computing & Informatics relocated to 3675 Market (https://drexel.edu/cci/about/our-facilities/). For the first time in the College's history, all CCI faculty, students and professional staff are housed under one roof. Occupying two floors in the brand new uCity Square building, CCI's new home offers state-of-the-art technology in our classrooms, labs, meeting areas and collaboration spaces. 3675 Market offers Class A laboratory, office, coworking, and convening spaces. In fall 2019, the College opened a third floor which will include additional offices, classrooms, innovative research labs, and a maker space. Located at the intersection of Market Street and 37th Street, 3675 Market will act as a physical nexus, bridging academic campuses and medical centers to the east and south, the commercial corridors along Market Street and Chestnut Street, and the residential communities to the north and west.

The uCity Square building offers:

- Speculative lab/office space
- World-class facilities operated by CIC (https://cic.us/philadelphia/)
- Café/restaurant on-site
- Quorum, a two-story, 15K SF convening space and conference center
- Adjacent to future public square
- Access to Science Center’s nationally renowned business acceleration and technology commercialization programs

Drexel University Libraries

Drexel University Libraries (http://www.library.drexel.edu/) is a learning enterprise, advancing the University's academic mission through serving as educators, supporting education and research, collaborating with researchers, and fostering intentional learning outside of the classroom. Drexel University Libraries engages with Drexel communities through three physical locations, including W. W. Hagerty Library, Queen Lane Library, and the Library Learning Terrace, as well as a vibrant online presence which sees, on average, over 8,000 visits per day. In the W.W. Hagerty Library location, College of Computing & Informatics students have access to private study rooms and nearly half a million books, periodicals, DVDs, videos and University Archives. All fields of inquiry are covered, including: library and information science, computer science, software engineering, health informatics, information systems, and computing technology. Resources are available online at library.drexel.edu (http://www.library.drexel.edu/) or in-person at W. W. Hagerty Library.

The Libraries also make available laptop and desktop PC and Mac computers, printers and scanners, spaces for quiet work or group projects and designated 24/7 spaces. Librarians and library staff—including a liaison librarian for computing and informatics—are available for individual research consultations and to answer questions about materials or services.

CCI Commons

Located on the 10th floor of 3675 Market Street, the CCI Commons is an open lab and collaborative work environment for students. It features desktop computers, a wireless/laptop area, free black and white printing, and more collaborative space for its students. Students have access to 3675 Market's fully equipped conference room with 42" displays and videoconferencing capabilities. The CCI Commons provides technical support to students, faculty, and professional staff. In addition, the staff provides audio-visual support for all presentation classrooms within 3675 Market. Use of the CCI Commons is reserved for all students taking CCI courses.

The computers for general use are Microsoft Windows and Macintosh OSX machines with appropriate applications which include the Microsoft Office suite, various database management systems, modeling tools, and statistical analysis software. Library related resources may be accessed at the CCI Commons and through the W.W. Hagerty Library. The College is a member of the Rational SEED Program which provides cutting-edge software development and project management software for usage in the CCI Commons and CCI classrooms. The College is also a member of the Microsoft Academic Alliance known also as "DreamSpark" that allows students free access to a wide array of Microsoft software titles and operating systems.

The CCI Commons, student labs, and classrooms have access to networked databases, print and file resources within the College, and the Internet via the University's network. Email accounts, Internet and BannerWeb access are available through the Office of Information Resources and Technology.

CCI Learning Center

The CCI Learning Center (CLC), located in 3675 Market Street's CCI Commons student computer lab, provides consulting and other learning resources for students taking computer science classes. The CLC is staffed by graduate and undergraduate computer science students from the College of Computing & Informatics.

The CLC and CCI Commons serve as a central hub for small group work, student meetings, and TA assistance.

Research Laboratories

The College houses multiple research labs, led by CCI faculty, in 3675 Market Street including: the Drexel Health and Risk Communication Lab, Interactive Systems for Healthcare, Socio-Technical Studies Group, Intelligent Information & Knowledge Computing Research Lab, Evidence-based Decision Making Lab, Applied Symbolic Computation Laboratory (ASYM), High Performance Computing Laboratory (SPIRAL), Drexel Research on Play (RePlay) Laboratory, Software Engineering Research Group (SERG), Social Computing Research Group, Vision and Cognition Laboratory (VisCog) and the Vision and Graphics Laboratory. For more information on these laboratories, please visit the College's research web page (http://cci.drexel.edu/research.aspx).

Evaluations

The College of Computing & Informatics works continually to improve its degree programs. As part of this effort, the Information Systems degree is evaluated relative to the following Learning Objectives:

Graduates of the MS in Information Systems program are prepared to assume leadership and management positions designing, developing, and delivering innovative technological solutions to information problems in a variety of contexts. Their preparation encompasses the knowledge and abilities required to:

- Use a human-centered approach to analyze information needs and design solutions to meet those needs
- Lead or contribute substantially to a team in developing information technology products and services
- Evaluate, compare, and select from alternative and emerging information technologies
- Communicate with technical and non-technical audiences about information technology concepts and stakeholder needs
- Contribute substantially to an information technology plan for an organization
- Explain information technology uses, benefits, and ethical and global issues for individuals and organizations