

INFORMATION SYSTEMS, MASTER OF SCIENCE (M.S.) WITH A CONCENTRATION IN DATA SCIENCE IN BUSINESS

Program accreditation

Association to Advance Collegiate Schools of Business (<http://www.aacsb.edu/>)

Program goal

The Master of Science in Information Systems program is designed to prepare students for specialized roles using information systems to support organizations. The program is intended to provide a graduate-level, business-technology-oriented curriculum that focuses on the design and development of information systems to solve real-world problems. Graduates of the program are expected to be able to take significant roles in planning, organizing, managing, designing, configuring and implementing systems using state-of-the-art technologies within organizations.

The data science in business concentration of the master's program has an information systems orientation to data science. It is designed to prepare students for specialized roles that involve using information systems concepts, methodologies to effectively and efficiently support knowledge discovery and associated data management activities in modern organizations.

Student learning outcomes

Information systems core outcomes

1. Students will be able to design and implement appropriate cloud architecture for a given IS application, considering the business requirements and any regulatory constraints.
2. Students will be able to develop efficient and effective IS solutions using appropriate technologies that support the organization's strategy and meet the organization's requirements.
3. Students will understand information systems as they apply to business contexts and possess the skills to apply this technology effectively in specific circumstances.

Data science in business concentration-specific outcome

1. Students will be able to acquire, organize and merge data from different sources.

VCU Graduate Bulletin, VCU Graduate School and general academic policies and regulations for all graduate students in all graduate programs

The VCU Graduate Bulletin website documents the official admission and academic rules and regulations that govern graduate education for all graduate programs at the university. These policies are established by the graduate faculty of the university through their elected representatives to the University Graduate Council.

It is the responsibility of all graduate students, both on- and off-campus, to be familiar with the VCU Graduate Bulletin as well as the **Graduate School website** and academic regulations in individual school and department publications and on program websites. However, in all cases, the official policies and procedures of the University Graduate Council, as published on the VCU Graduate Bulletin and Graduate School websites, take precedence over individual program policies and guidelines.

Visit the academic regulations section for additional information on academic regulations for graduate students.

Degree candidacy requirements

A graduate student admitted to a program or concentration requiring a final research project, work of art, thesis or dissertation, must qualify for continuing master's or doctoral status according to the degree candidacy requirements of the student's graduate program. Admission to degree candidacy, if applicable, is a formal statement by the graduate student's faculty regarding the student's academic achievements and the student's readiness to proceed to the final research phase of the degree program.

Graduate students and program directors should refer to the following degree candidacy policy as published in the VCU Graduate Bulletin for complete information and instructions.

Visit the academic regulations section for additional information on degree candidacy requirements.

Graduation requirements

As graduate students approach the end of their academic programs and the final semester of matriculation, they must make formal application to graduate. No degrees will be conferred until the application to graduate has been finalized.

Graduate students and program directors should refer to the following graduation requirements as published in the Graduate Bulletin for a complete list of instructions and a graduation checklist.

Visit the academic regulations section for additional information on graduation requirements.

Other information

School of Business **policies and procedures for graduate students** are available on the school's website.

Apply online today. (<https://www.vcu.edu/admissions/apply/graduate/>)

Admission requirements

Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.	Fall	Jul 1	
	Spring	Nov 1	
	Summer	Mar 1	

In addition to the general admission requirements of the VCU Graduate School (<https://bulletin.vcu.edu/graduate/study/admission-graduate-study/admission-requirements/>), applicants must submit an up-to-date resume.

International applicants may be required to submit an approved English proficiency score and/or course-by-course international transcript evaluation.

All applicants may opt to submit a GMAT or GRE score for consideration. Additional information can be found on the Graduate Studies in Business webpage (<https://business.vcu.edu/prospective-students/graduate/admissions/#sob-content-1801062>).

Degree requirements

Students applying to the Master of Science in Information Systems must show evidence of competence in selected prerequisite areas of information systems including application programming, database, and systems analysis and design. Students enrolled as majors in the program who do not have a formal background or equivalent training must take the appropriate undergraduate courses to satisfy the prerequisites prior to taking master's program courses. Students without an accredited bachelor's degree or post-baccalaureate certificate in fields such as computer science or information systems will likely need to complete undergraduate prerequisite courses. Prerequisites are determined by the faculty adviser at the time of admission.

Course	Title	Hours
Prerequisite undergraduate courses		
INFO 350	Intermediate Programming	3
INFO 361	Systems Analysis and Design	3
INFO 364	Database Systems	3

Curriculum requirements

Course	Title	Hours
Core courses		
INFO 520	Data Communications	3
INFO 530	Systems Development	3
INFO 544	Principles of Computer and Information Systems Security	3
INFO 610	Analysis and Design of Database Systems	3
INFO 640	Information Systems Management	3
Data science in business concentration electives		
Select four of the following:		12
INFO 511	Data Reengineering	
INFO 532	Business Process Reengineering	
INFO 602	Big Data Analytics with Cloud Platforms	
INFO 609	Data-centric Analysis/Planning	
INFO 614	Data Mining	
INFO 616	Data Warehousing	
INFO 617	Text Analytics	
INFO 642	Decision Support and Intelligent Systems	
INFO 645	Prescriptive Analytics	
INFO 648	Business Data Analytics	
Approved elective		
Select one of the following:		3
FRSC 525	Introduction to Digital Forensics	
INFO 535	Ethical, Social and Legal Issues in Computer and Information Systems Security	
INFO 636	Securing Cloud Infrastructure	

INFO 641	Strategic Information Systems Planning
INFO 643	Information Technology Project Management
INFO 646	Security Policy Formulation and Implementation
INFO 658	Securing the Internet of Things
INFO 664	Information Systems for Business Intelligence
INFO 691	Topics in Information Systems
INFO 693	Field Project in Information Systems
SCMA 603	SAP ERP and Supply Chain Management
SCMA 632	Statistical Analysis and Modeling
SCMA 669	Developing and Implementing Forecasting Methods for Business
Total Hours	30

The minimum number of graduate credit hours required for this degree is 30.

Accelerated opportunities

The department offers opportunities for qualified undergraduate students to earn both an undergraduate and graduate degree in a minimum of five years by completing approved graduate courses during the senior year of their undergraduate program. **See the program page in the Undergraduate Bulletin** for details.

Contact

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Program website: business.vcu.edu/academics/information-systems/ms-in-information-systems/ (<http://business.vcu.edu/academics/information-systems/ms-in-information-systems/>)