

INFORMATION SYSTEMS, MASTER OF SCIENCE (M.S.) WITH A CONCENTRATION IN INFORMATION RISK, SECURITY AND ASSURANCE

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 information risk, security and assurance concentration within the degree is designed primarily for students interested in professional roles in business, industry or government. Program graduates will serve as leaders within the risk, security and assurance community and as strategic partners with the enterprise in which they work. They will stay attuned to and anticipate changes in the risk, security and assurance environment and ensure that security solutions create a sound, competitive and cost-effective advantage for the enterprise.

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.

Information risk, security and assurance concentration-specific outcome

1. Students will be able to identify and implement technical security controls to protect the confidentiality, integrity and availability of an organization's assets.

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 (<http://www.graduate.vcu.edu/>) 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. (<https://bulletin.vcu.edu/academic-regs/>)

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. (<https://bulletin.vcu.edu/academic-regs/grad/candidacy/>)

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. (<https://bulletin.vcu.edu/academic-regs/grad/graduation-info/>)

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, systems analysis and design, database, telecommunications and hardware/software. Evidence of this competence may include formal course work, comparable training within a work environment or significant, relevant and recent work experience in the field. 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 several undergraduate prerequisite courses. Prerequisites are determined by the faculty adviser at the time of admission.

In addition to the VCU Graduate School graduation requirements (<https://bulletin.vcu.edu/academic-regs/grad/graduation-info/>), students who do not have a business degree must complete a minimum of two 500-level foundation courses (6 credit hours). Foundation courses may be waived for students who present satisfactory equivalent preparation at either the undergraduate or graduate level. Students who are required to take foundation courses may do so after admission. The foundation courses required will vary depending upon the student's background, career interests and the chosen area of specialization. Students applying to the program should consult with the master's program adviser to determine the foundation courses required for a particular area.

Prerequisite undergraduate courses

Course	Title	Hours
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

Concentration courses

INFO 535	Ethical, Social and Legal Issues in Computer and Information Systems Security	3
INFO 636	Securing Cloud Infrastructure	3
INFO 646	Security Policy Formulation and Implementation	3
INFO 658	Securing the Internet of Things	3

Approved elective

Select one of the following:		3
FRSC 525	Introduction to Digital Forensics	
INFO 511	Data Reengineering	
INFO 532	Business Process Reengineering	
INFO 602	Big Data Analytics with Cloud Platforms	
INFO 609	Data-centric Analysis/Planning	
INFO 616	Data Warehousing	
INFO 617	Text Analytics	
INFO 641	Strategic Information Systems Planning	
INFO 642	Decision Support and Intelligent Systems	
INFO 643	Information Technology Project Management	
INFO 645	Prescriptive Analytics	
INFO 648	Business Data Analytics	
INFO 664	Information Systems for Business Intelligence	
INFO 691	Topics in Information Systems	
INFO 693	Field Project in Information Systems	
INFO 697	Guided Study 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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Additional 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/>)