

DEPARTMENT OF INFORMATION SYSTEMS

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business.vcu.edu/academics/information-systems (<https://business.vcu.edu/academics/information-systems>)

The Department of Information Systems provides an innovative, high quality curriculum that is recognized nationally and internationally and maintains the ability to rapidly respond to the dynamic, changing needs of the academic discipline, industry and community.

The department offers degree programs at both the undergraduate and graduate level, as well as continuing education programs that support alumni and the community. Additionally, courses in information systems are offered to meet the needs of students in other curricula offered by the university as well as those who are seeking to enhance their knowledge of information systems.

Departmental faculty offers expertise in information technology and has wide-ranging research and teaching interests. As part of the department, the Information Systems Research Institute provides opportunities for sponsored research, innovative teaching initiatives and faculty development.

- Information Systems, Bachelor of Science (B.S.) (<http://bulletin.vcu.edu/undergraduate/business/information-systems/information-systems-bs>)
- Information Systems, Certificate in (Post-baccalaureate undergraduate certificate) (<http://bulletin.vcu.edu/undergraduate/business/information-systems/information-systems-certificate>)

INFO 160. Digital Literacy: Computer Concepts, Internet, Digital Devices. 1 Hour.

Semester course; 1 credit. Overview of basic computer concepts, the Internet, new technologies and digital security. Topics include but are not limited to computing devices – hardware and software – skills for using and evaluating Internet content and security with digital devices. This course provides the foundation in digital technologies to prepare students for other business courses and application software courses in the INFO16X series. Administered as a self-paced course with all online content. Graded as pass/fail at 80 percent pass level with on-campus assessment. Purchase of online training/assessment package required.

INFO 161. Digital Literacy: Word Processing Skills. 1 Hour.

Semester course; 1 lecture hour. 1 credit. Presents academic- and professional-level word processing skills. Topics include but are not limited to document preparation and modification, tables and graphic enhancements, collaboration, formatting for research papers, newsletters, forms, and linking to other applications. The course will help students prepare documents to support professional tasks and other VCU course work. Administered as a self-paced course. Graded as Pass/Fail at 80 percent pass level with on-campus assessment. Purchase of online training/assessment package required.

INFO 162. Digital Literacy: Spreadsheets Skills I. 1 Hour.

Semester course; 1 credit. Introduces students to academic and professional spreadsheet skills. Topics include but are not limited to the entering of text, numbers and formulas; formatting; moving; copying; recalculation; retrieving; charting; saving; and printing with introductory coverage of data manipulation. The course will help students prepare analyses, tables and charts to assist with professional tasks and other VCU course work. Administered as a self-paced course. Graded as pass/fail at 80 percent pass level with on-campus assessment. Purchase of online training/assessment package required.

INFO 163. Introduction to Web Page Design and Application Software. 1 Hour.

Semester course; 1 credit. Introduces students to Web page design and construction using application software. Topics include Web page creation and modification, hypertext links, tables, graphics, and website organization. Graded as pass/fail. Administered as a self-paced, computer-aided instructional course.

INFO 165. Digital Literacy: Spreadsheet Skills II. 1 Hour.

Semester course, 1 credit. Presents intermediate-level academic and professional spreadsheet skills. Topics include but are not limited to advanced formulas, statistical and financial functions, multiple worksheet/workbook management, macros and pivot tables. This course is designed for students wanting to advance their previous spreadsheet skills. Administered as a self-paced course with all online content. Graded as pass/fail at 80 percent pass level with on-campus assessment. Purchase of online training/assessment package required.

INFO 166. Digital Literacy: Database Skills. 1 Hour.

Semester course; 1 credit. Introduces students to academic and professional database skills. Topics include but are not limited to creating and editing tables and forms, sorting and filtering data, and generating reports. Administered as a self-paced, online course. Graded as pass/fail at 80 percent pass level with on-campus assessment. Purchase of online training/assessment package required.

INFO 167. Introduction to Internet Researching. 1 Hour.

Semester course; 1 lecture hour. 1 credit. Course emphasizes Internet search tools and research skills development while expanding students understanding of the World Wide Web and its resources. Students will learn to explore and evaluate the various types of search sites, including the VCU Library Internet resources and learn skills for developing researching strategies. Using a microcomputer-based Web browser such as Internet Explorer or Netscape, students will learn about advanced browser features that will aid them in their search efforts. This course provides the necessary foundation to help students better find and use Web resources for documents and papers that other VCU course work may require.

INFO 168. Digital Literacy: Presentation Skills. 1 Hour.

Semester course; 1 credit. Introduces students to academic and professional presentation skills. Topics include but are not limited to creating and editing presentations, creating and modifying images/graphics, and use of video/audio media tools. The course will help students prepare presentations for professional tasks and other VCU course work. Administered as a self-paced course. Graded as pass/fail at 80 percent pass level with on-campus assessment. Purchase of online training/assessment package required.

INFO 169. Multimedia Presentations. 1 Hour.

Short course; 1 lecture hour. 5 weeks. 1 credit. Familiarizes students with the fundamental use of multimedia to enhance presentations. Topics include adding animation, creating templates, linking to other resources as well as audio and video. The course will help students to prepare more effective and professional presentations.

INFO 202. Introduction to E-business Technologies. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisite: INFO 160 or passing score on the Knowledge Equivalency Test (see: www.business.vcu.edu/infosys/ket.html). Introduces students to the technologies used in e-business. Students will be introduced to current or emerging Web languages, e-business software development environments, Web application servers and other packages used in creating and running Web applications.

INFO 250. Introduction to Programming. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisites: INFO 160 and MGMT 171. Introduces students to writing, testing and debugging Java programs using simple logic and algorithms. Basic Java applets and the graphic user interface are covered. Cannot be used as an elective in the information systems major.

INFO 291. Topics in Information Systems. 1-3 Hours.

Variable hours. Variable credit. Maximum of 3 credits per topic. Prerequisite: permission of instructor. An in-depth study of selected business topics. Graded as pass/fail at the option of the department.

INFO 300. Information Technology Infrastructure. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Pre- or co-requisite: INFO 202, CMSC 245 or CMSC 255. Principles of computer hardware and software architecture, network communications technologies and security. Introduction to data structures.

INFO 320. Business Intelligence and Data Mining. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisite: MGMT 301, SCMA 301 or STAT 210. Enrollment is restricted to students who have completed at least 54 credit hours (junior standing). Modeling business-related problems using information systems tools and quantitative techniques. Focus is on extraction, translation and loading of relevant business and external data, quantitative analysis and presentation of findings. Typical problem situations involve suggested productivity improvements, revenue enhancement opportunities and marketing.

INFO 350. Programming. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisites: INFO 202, INFO 250, CMSC 245 or CMSC 255; and MATH 211, both with a minimum grade of C. Object-oriented programming and algorithmic design are introduced using C# and the .NET Framework. Emphasizes building business applications using the .NET Framework Class Library and the components, events and message handling therein. Intermediate Web application development is also covered. Students cannot receive credit for both CMSC 256 and INFO 350.

INFO 360. Business Information Systems. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisite: INFO 160. This course is restricted to students who have completed at least 54 credit hours (junior standing). Provides an understanding of the importance of computer-based information in the success of the firm. Emphasis is on the role of information systems within each of the functional areas of business. Major concepts include data management, decision support and management information systems.

INFO 361. Systems Analysis and Design. 3 Hours.

Semester course; 3 lecture hours. 3 credits. This course is restricted to students who have completed at least 54 credit hours (junior standing). Examines the concepts, tools and techniques used to develop and support computer-based information systems. Systems planning, analysis, design and implementation are covered. Behavioral and model building aspects of systems development are emphasized throughout.

INFO 364. Database Systems. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisites: INFO 202, INFO 250, CMSC 245 or CMSC 255; and MATH 211, both with a minimum grade of C. Enrollment is restricted to students who have completed at least 54 credit hours (junior standing). Designed to prepare students for development of systems involving databases and database management.

INFO 370. Fundamentals of Data Communications. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisites: INFO 202, INFO 250, CMSC 245 or CMSC 255; and MATH 211, both with a minimum grade of C. Enrollment is restricted to students who have completed at least 54 credit hours (junior standing). Computer networks and data communications. Provides an understanding of the underlying concepts of computer networking. Emphasis is placed on terminology, techniques and issues in networking systems.

INFO 450. Advanced Programming. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisite: INFO 350 with a minimum grade of C. Enrollment is restricted to students who have completed at least 54 credit hours (junior standing). The course covers advanced programming concepts. Topics include pointers, advanced GUI components and the building of multithreaded applications containing reusable components based upon design patterns and advanced data structures. Students cannot receive credit for both CMSC 245/246 and INFO 450.

INFO 451. Advanced Technology for E-business. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisites: grades of C or better in INFO 350 and 364, and junior standing. Focuses on the technical aspects of developing e-business systems using Web services and Web server controls to build visually interactive and highly responsive Web applications. Students will learn how various XML APIs (processing, messaging and distributed registries) are used under the umbrella of Web services to support the sharing of data and processes for e-business applications. The course will integrate the students' prior knowledge of client-side GUI development with server-side controls, components and behaviors in a multitiered environment that includes database connectivity.

INFO 461. Information Systems Planning and Project Management. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisite: INFO 361. Concentrated study of planning methods and techniques required for defining, planning, integrating and implementing information technology projects consistent with the organizational strategic plan and mission.

INFO 463. Business Process Engineering. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisite: INFO 361. This course is restricted to students who have completed at least 54 credit hours (junior standing). A survey of legacy system re-engineering technologies in which the student becomes familiar with a variety of tools used in practice and has the opportunity to develop applications using these tools under supervision. Selection of technologies is determined each semester.

INFO 465. Projects in Information Systems. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisites: INFO 350, 364, 370 and 461. The student's behavioral and technical skills developed in listed prerequisite courses are challenged by participating in a team systems development project. Appropriate computer-assisted software engineering tools are used throughout the project, from requirement specification to implementation and testing.

INFO 468. Information Engineering. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisites: INFO 361 and INFO 364. This course is restricted to students who have completed at least 54 credit hours (junior standing). A study of information engineering as a model-based, data-centric approach to integrating organizational strategic planning with enterprise information systems development. Involves readings, group discussion and case studies.

INFO 472. Infrastructure Services. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisites: INFO 370 and junior standing. Concepts and principles related to administering and securing information and communication technologies. Topics include management of infrastructure, hosts, applications and network security.

INFO 474. Advanced Networking and Security. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Prerequisites: INFO 370 and junior standing. Detailed coverage of the TCP/IP protocol suite and its application to internetworking. Emphasis is placed on security, vulnerabilities and controls.

INFO 481. Information Technology Auditing. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Enrollment is restricted to information systems majors who have completed 54 credit hours (junior standing), or students may enroll with permission of the department. The course teaches the role and objectives of information technology audits and the processes that are necessary to properly conduct an IT audit. Case studies introduce students to the process of interpreting audit evidence.

INFO 482. Introduction to Enterprise Resource Planning Systems. 3 Hours.

Semester course; 3 lecture hours. 3 credits. Enrollment is restricted to majors in the School of Business who have completed 54 credit hours (junior standing). This course allows students to develop an appreciation of the impact of enterprise resource planning systems on businesses and to understand the issues involved in the design, implementation and maintenance of these systems. Students also develop practical skills in the use of a commercial enterprise resource planning system.

INFO 491. Topics in Information Systems. 1-3 Hours.

Semester course; 1-3 lecture hours. 1-3 credits. Maximum of 3 credits per course; maximum total of 6 credits for all topics courses. Enrollment restricted to students with junior standing. An in-depth study of a selected business topic, to be announced in advance.

INFO 492. Independent Study in Information Systems. 1-3 Hours.

Semester course; 1-3 credits. Maximum total of 3 credits. Prerequisites: junior or senior standing as a major in a business curriculum and approval of adviser and department chair prior to course registration. Intensive study under supervision of a faculty member in an area not covered in-depth or contained in the regular curriculum.

INFO 493. Internship in Information Systems. 3 Hours.

Semester course; 3 field experience hours. 3 credits. Enrollment restricted to students with senior standing and permission of department chair prior to or during advance registration of the semester of credit. Involves students in a meaningful work experience, typically 20 hours per week, in a setting appropriate to the information systems major.