Information Systems

Courses

INFSYS 1800 Computers And Information Systems: 3 semester hours
This course covers the basic concepts of networked computers including the basics of file management on local and remote computers, electronic mail, Internet browsers, and web page development. Students are also exposed to applications used in business for solving problems, communicating, and making informed decisions, including word processors, presentation software, and electronic spreadsheets. Students will also develop business applications using a popular programming language or database management tool. Credit cannot be granted for both CMP SCI 1010 and INFSYS 1800.

INFSYS 2800 Information Systems Concepts And Applications: 3 semester hours
Prerequisites: INFSYS 1800 or satisfactory performance on proficiency exam. Course covers concepts of information systems as they relate to business functions, including web page design and e-commerce, telecommunications, systems analysis and design, ethics of information system design and use, information security, foundations of database systems and integrated business information systems. Students will also gain valuable strategies for career development, contact management, and networking.

INFSYS 3806 Managerial Applications Of Object-Oriented Programming I: 3 semester hours
Prerequisites: INFSYS 1800 or satisfactory performance on proficiency exam. Course covers concepts of information systems as they relate to business functions, including web page design and e-commerce, telecommunications, systems analysis and design, ethics of information system design and use, information security, foundations of database systems and integrated business information systems. Students will also gain valuable strategies for career development, contact management, and networking.

INFSYS 3807 Legacy Systems: 3 semester hours
Prerequisites: A minimum campus GPA of 2.0 and INFSYS 3806. Structured COBOL programming techniques for business applications are presented. Included are report generation, control breaks, output editing, debugging, tables, sort concepts, job control language, utilities, partitioned data sets, and updating of files.

INFSYS 3810 Information Systems Analysis: 3 semester hours
Prerequisites: A minimum campus GPA of 2.0 and INFSYS 3806 or permission of instructor. Aspects and methods for managing the computer and information resources of organizations. Topics include: project management, aligning IS plans with corporate plans, MIS organizational structures, demonstrating the value of systems, facility management, purchase decisions, software acquisition, software metrics, security issues, and economic evaluation, as they relate to information resources. Special cases of systems, such as Enterprise Resource Planning (EPR) systems, Supply Chain Systems, and BPO will be discussed.

INFSYS 3815 Object Oriented Applications In Business: 3 semester hours
Prerequisites: A minimum campus GPA of 2.0 and INFSYS 3806. Object-oriented programming techniques for business applications are presented. The topics are implemented in a C++ environment.

INFSYS 3816 Managerial Application Of Object-Oriented Programming II: 3 semester hours
Prerequisites: INFSYS 3806 and a minimum overall GPA of 2.0. This course expands object-oriented skills taught in INFSYS 3806. The emphasis in this course is on object-oriented development tools and development in a client-server environment. The data management tools will include the use of SQL to access server-based databases.

INFSYS 3841 Enterprise Information Systems: 3 semester hours
Prerequisites: A minimum campus GPA of 2.0 and INFSYS 2800. Aspects and methods for managing the computer and information resources of organizations. Topics include: aligning IS plans with corporate plans, MIS organizational structures, demonstrating the value of MIS to senior management, facility management, purchase decisions, software acquisition, software metrics, project management, security issues, and economic evaluation, as they relate to information resources.

INFSYS 3842 Data Networks and Security: 3 semester hours
Prerequisites: INFSYS 1800 and a 2.0 overall GPA. The technical, managerial and security aspects of data networks as they apply to the business environment are discussed. Issues include communications components and services, network architecture, managerial implementations, organizational issues, and cost/benefit analyses.

INFSYS 3843 Decision Support Systems for Business Intelligence: 3 semester hours
Prerequisites: LOG OM 3300 and a minimum campus GPA of 2.0. Applications of intelligent decision support systems to support business intelligence are explored. DSS component design in response to decision making and business intelligence needs are discussed.

INFSYS 3844 Developing Business Applications In .NET: 3 semester hours
Prerequisites: A minimum campus GPA of 2.0. This course will enable students to design, implement, and debug object-oriented and data driven business applications in Visual Basic.NET. Students will learn application design choices, object-oriented design principles, event-driven programming, user interface programming using Windows Forms and user interface controls, data binding and database access using ADO.NET, exception handling, debugging and effective ways of working with Visual Studio.NET.

INFSYS 3845 Database Management Systems: 3 semester hours
Prerequisites: INFSYS 2800, INFSYS 3806, INFSYS 3816, ACCTNG 2400, and a minimum campus GPA of 2.0. This course provides an introduction to the design and use of databases in meeting business information needs. Topics include database planning, conceptual design, and data administration. The concepts are studied with projects involving the use of a current database management system.

INFSYS 3846 E-Commerce: 3 semester hours
Prerequisites: A minimum campus GPA of 2.0 and INFSYS 2800. This course provides an understanding of strategies, managerial issues, and technologies pertaining to electronic commerce in organizations. Topics include: history, business models, the virtual value chain, electronic markets, impact on organizational strategy and industry structure, analysis of successful strategies, and other emerging issues (legal, ethical, regulatory) related to managing electronic commerce, and the technical infrastructure enabling electronic commerce.
INFSYS 3847 Web Design: 3 semester hours
Prerequisites: A minimum campus GPA of 2.0 and INFSYS 2800. This course focuses on web page planning, design, layout and construction. Topics covered include: setting up and maintaining a web site; understanding site structure, presentation, navigation and content management. HTML/XML, CSS, Dreamweaver, Fireworks, Flash, Photoshop, data access, scripting languages, and various other technologies and tools will be discussed.

INFSYS 3848 Introduction to Information Security: 3 semester hours
Prerequisites: A minimum campus GPA of 2.0 and INFSYS 2800 or permission of instructor. An introductory survey of the vast field of Information Security (InfoSec). Intersects both management and technical aspects of security as relevant to organizations, governments, individuals, and society. Topics include fundamental principles of InfoSec, the threat environment, management of InfoSec in organizations, technologies and tools in InfoSec, cryptology/cryptography, web application security, and current issues. Hands-on labs expose students to basics of penetration testing and ethical hacking. A group project is required. Course is open to all majors.

INFSYS 3858 Advanced Security and Information Systems: 3 semester hours
Prerequisites: INFSYS 3848 or Permission of Department Chair. This course builds upon the principles of information security. Covered in this course are a wide range of topics from networking, penetration testing, formal verification of systems, formal models of information flow and protection, distributed system authentication, protocol design and attack, computer viruses and malware, as well as intrusion and anomaly detection models. Students are exposed to virtualization, defense security, offensive security, and other forms of cyber security. Credit cannot be granted for both INFSYS 3858 and INFSYS 6858.

INFSYS 3868 Secure Software Development: 3 semester hours
Prerequisites: A first course in programming such as INFSYS 3806 or permission of instructor. This course provides an overview of the vast field of secure software development. The goal is to make students aware of the fundamentals of the secure software lifecycle as it relates to software development. Specifically, the course enables students to apply principles of secure development and information security management. It provides a real world application that allows the learners to experience the secure software lifecycle process by developing concrete artifacts and practicing in a lab environment. Credit cannot be granted for both INFSYS 3868 and INFSYS 6868.

INFSYS 3878 Information Security Risk Management and Business Continuity: 3 semester hours
Prerequisites: A minimum campus GPA of 2.0; INFSYS 3810, INFSYS 3816 and INFSYS 3845. System design, implementation, and methods of systems installation and operation are presented. A system development project is required.

INFSYS 3890 Internship in Information Systems: 1-3 semester hours
Prerequisites: Minimum business GPA of 2.5, minimum campus GPA of 2.0, completed and/or currently enrolled in at least 6 credit hours of information systems electives at the 3000 level or above, consent of supervising instructor, and consent of department chair. Students are employed in the field of information systems where they apply the knowledge and skills learned in the classroom. Professional development obtaining specialized work experience are primary goals. An information systems faculty member will monitor the student's program with the student providing a formal written report at the end of the project.

INFSYS 3898 Seminar in Information Systems: 1-3 semester hours
Prerequisites: To be determined each time course is offered and to include a minimum 2.0 overall GPA. This course is a selected special topic in the field of information systems. May be repeated for credit with different topics.

INFSYS 3899 Independent Study In Information Systems: 1-3 semester hours
Prerequisites: Minimum campus GPA of 2.0 and approval by the supervising professor and the Area Coordinator. Special individual study in information systems under the supervision of a full-time information systems faculty member.

INFSYS 4850 Information Systems Design: 3 semester hours
Prerequisites: A minimum campus GPA of 2.0; INFSYS 3810, INFSYS 3816 and INFSYS 3845. System design, implementation, and methods of systems installation and operation are presented. A system development project is required.

INFSYS 5800 Management Information Systems: 3 semester hours
Same as P P ADM 6800. This course provides an overview of the established and contemporary issues related to information systems within organizations. Topics include the practices and tools associated with topics such as the management of IS-based investment projects, the design and implementation of IS, the alignment of IS strategy with organizational strategy, information security and privacy, and gaining a competitive advantage through IS.
INFSYS 5890 Graduate Internship in Information Systems: 1-6 semester hours  
Prerequisites: INFSYS 6840 or permission of instructor. The internship will be a supervised field experience in a US-based business/organization or a US-based international business/organization. Students will be employed off-campus for a 10-16 week period on projects directed by host organization supervisors in consultation with a UM-St. Louis faculty member. The project requires students to apply IS concepts to a real-world problem. The project does not duplicate, but builds upon material in the IS curriculum. A professional written report will be required.

INFSYS 5899 Individual Research in Information Systems: 1-3 semester hours  
Prerequisites: Consent of instructor and graduate director. Special individual research topics in Information Systems under the guidance of a specific professor.

INFSYS 6805 Applications Of Programming For Business Solutions: 3 semester hours  
Prerequisite: Graduate standing. This course provides a study of business-oriented programming. A programming language will be introduced and discussed in detail. Emphasis will be on program definition and the use of such programs in business-oriented applications.

INFSYS 6806 Managerial Applications Of Object-Oriented Technologies: 3 semester hours  
Prerequisite: INFSYS 6805. This course deals with business-oriented programming in an object-oriented environment. The emphasis will be on program definition, and tools and development in a client-server environment. The course will involve the study of object-oriented language in addition to object-oriented methodologies for systems development.

INFSYS 6808 Internet Programming For Business: 3 semester hours  
Prerequisite: INFSYS 6806. Focus on web-based applications development for business. It will begin with the fundamentals of web-based computing, including web client and server interaction, the MIME standard, server and client data frame headers, the CGI standard, and error conditions as they pertain to business applications. In addition, JAVA will be introduced to build web-based GUI-interfaces and backend servers. Finally, business applications issues such as firewalls, proxy servers and data encryption using secure servers will be included.

INFSYS 6833 Decision Support Systems for Business Intelligence: 3 semester hours  
Prerequisite: LOG OM 5300. Applications of intelligent decision support systems to support business intelligence are explored. DSS component design in response to decision making and business intelligence needs are discussed.

INFSYS 6835 IT-Enabled Business: 3 semester hours  
Prerequisite: INFSYS 5800. IT-enabled business focuses on business models, processes, and activities made possible by the Internet. The course includes theoretic aspects of e-commerce: consumer relationship management, supply chain management, inventory management, business strategy, auctions, and portals. Issues associated with electronic commerce such as security, privacy, content selection and rating, intellectual property rights, authentication, encryption, acceptable use policies, and legal liabilities are explored. Particular attention is paid to IT-enabled entrepreneurship and business creation, and IT use in small to medium sized enterprises. Case studies drawn from actual business applications will be used to reinforce theory.

INFSYS 6836 Management of Data Networks and Security: 3 semester hours  
Prerequisite: INFSYS 5800 (may be taken concurrently). This course addresses issues such as data security, communications components and services, network architecture, managerial implementations, organizational issues, and cost/benefit analyses.

INFSYS 6837 Information Systems Architecture: 3 semester hours  
Prerequisite: INFSYS 6836 This course explores a wide range of topics necessary for understanding and managing distributed computing technology. A wide range of infrastructure and “middleware” architectural components will be explored. Finally, the course will provide a framework for understanding the capabilities and shortcomings of various distributed computing architectures, technical standards and their implications for interoperability of components.

INFSYS 6838 Business Processes: Design, Management & Integration: 3 semester hours  
Prerequisite: INFSYS 5800. Major business processes are identified and analyzed. Issues related to characteristics, goals, benefits and costs of enterprise-wide design, and the role of information technology during the design process are discussed. Workflow automation, process modeling, analysis, automation, and redesign techniques are discussed, including the following: process inputs & entrance criteria, process outputs & exit criteria, feedback mechanisms & process correction, alternate theoretical frames for business process design, and impacts on business process design from socio-cultural forces. Case studies are used to illustrate the concepts.

INFSYS 6840 Information Systems Analysis: 3 semester hours  
Prerequisite: INFSYS 6805. The theory and practice of structured analysis are presented. Topics may include: traditional vs. structured analysis methods, requirements analysis, user/analyst interaction, investigation of existing systems, human/machine interfaces, CASE tools, and workbenches.

INFSYS 6845 Database Management Systems: 3 semester hours  
Prerequisites: INFSYS 5800, INFSYS 6805. The course introduces the concepts of Database Management Systems for business applications. Issues in database architecture, design, administration, and implementation are covered. Projects are assigned on a mainframe DBMS and a microcomputer based DBMS to illustrate the concepts & applications.

INFSYS 6846 Management Of Global Sourcing: 3 semester hours  
Same as INTL BUS 6846. Prerequisite: INFSYS 5800. Largely fostered by the speed of the Internet, global software development standards, global software packages, and fewer trade restrictions, organizations now regularly source software development, software maintenance, systems upgrades, platform transitions, help desks, and other IS-related work globally. This course covers topics to help organizations manage global sourcing of IS work, including sourcing strategies, sourcing models (captive, joint venture, outsourcing), role of program management offices, supplier selection, engagement models, and special practices required to manage globally dispersed teams. Risk mitigation practices associated with cultural, legal, political, infrastructure, logistical, and human resource issues are also addressed.
INFSYS 6847 Project Management: 3 semester hours
Prerequisite: INFSYS 5800. Effective project management ensures that a project is completed on time, within budget, and has high quality. The purpose of this class is to examine the task of project resource management with a focus on IT and services. It will cover conventional aspects of project management, such as the project evaluation, planning, roles, responsibilities, scheduling, and tracking. In addition, this class will examine risk management, change management, critical chain management, build vs. buy analysis, package vs. custom solutions, vendor qualification and selection, and the roles of certification in the process. The class will also cover the management of programs or a portfolio of IT projects.

INFSYS 6848 Knowledge Management And Business Intelligence: 3 semester hours
Prerequisite: INFSYS 5800 Knowledge management (KM) is the process of creating, and drawing value from, an organization’s intellectual assets. It deals with how to best leverage the organization’s knowledge internally as well as externally. The emphasis on knowledge management within business organizations has risen dramatically in the last few years, to some extent as a result of the rapid progress in information technology capabilities. The course covers the following topics: KM tools, technologies, and systems, including knowledge repositories, knowledge portals, and expert seeker systems, creating and sustaining a knowledge sharing culture, managing and measuring intellectual capital, managing knowledge in networked organizations, including interorganizational alliances and supply chains, aligning knowledge with business strategy, risks of knowledge loss and knowledge leakage, business intelligence, and social aspects of knowledge management.

INFSYS 6849 Data Warehouse Design and Implementation: 3 semester hours
Prerequisites: INFSYS 6845 or consent of instructor. Course will cover different design configurations for structuring and organizing data in a data warehouse. Formal methodologies for the development of data warehouses will also be discussed and implemented.

INFSYS 6850 Information Systems Design: 3 semester hours
Prerequisites: INFSYS 6840 and INFSYS 6845 This course builds upon the analysis techniques presented in INFSYS 6840. It requires the student, usually working in a group to design and implement a system in a real-world environment. Advanced design concepts are presented to support the students in their project work.

INFSYS 6851 Practicum in Business Intelligence: 3 semester hours
Prerequisites: INFSYS 6833, INFSYS 6849, and LOG OM 6345. This course will provide the context for students to integrate, synthesize and apply their Business Intelligence skills in an actual business organization. Project work will be jointly supervised and coordinated by a faculty member and a supervisor in the relevant business organization.

INFSYS 6860 Data Integration: 3 semester hours
Prerequisites: Consent of Instructor. This course discusses the theories and techniques for blending unstructured and structured data including Big Data and social media streams with relational databases, data warehouses, spreadsheets, and other sources of data. Using mini-cases and assignments, it provides hands-on experience in integrating data from diverse sources, screening and cleaning it, and producing descriptive and visual summaries in tables, graphs, maps, and text for business intelligence. Students will be introduced to tools that integrate data from different sources and provide input to dashboards for rich visualization and advanced analytics.

INFSYS 6881 Management Of Transnational Information Systems: 3 semester hours
Same as INTL BUS 6881. Prerequisites: INFSYS 5800, INFSYS 6825 (may be taken concurrently). The course presents concepts of managing global information technology. Issues covered include: global information technology, systems development, electronic data interchange, cross-border data flows, and national and international information structures. Further topics may include information technology enabled economic development, global outsourcing of information systems services, and social, organizational and ethical implications.

INFSYS 6881 Seminar in Information Systems: 3 semester hours
Prerequisites: INFSYS 5800. Topics of current interest in management information systems. Topics may include international information systems, electronic commerce, decision support systems, information systems strategy, telecommunications, and information systems management.