

# Information Systems

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**Department of Management Chairperson: Monica Adya, Ph.D.**

Department of Management website (<http://business.marquette.edu/departments/management>)

The Information Systems major provides students with an understanding of the important interactions between technology, organizations and people. Students learn and apply technical, analytical and communication skills and knowledge to solve problems and help organizations create value, manage business processes and enhance productivity.

## Information Systems Major

Specific Information Systems Course Requirements:

INSY 4051	Business Applications Development	3
INSY 4052	Database Management Systems	3
INSY 4158	Systems Analysis and Design	3
Two of the following:		6
INSY 4053	Project Management	
INSY 4054	Emerging Technologies	
INSY 4055	Web-based Applications	
INSY 4056	Information Systems Governance	
INSY 4057	Enterprise Systems in Supply Chain Management	
INSY 4540	Global Technology Experience	
INSY 4931	Topics in Information Systems	
INSY 4953	Seminar in Information Systems	
Five Business electives		15
Total Credit Hours		30

## Courses

### **INSY 3001. Introduction to Information Systems. 3 cr. hrs.**

Provides future information systems users with a broad overview of information systems and applications used in organizations. Topics include: the impact of technology on business, the software development life cycle, introduction to databases, business intelligence and analytics, introduction to enterprise architecture, innovation, infrastructure (Cloud), networking, security, ethical use of information systems, and other business software applications. Students are involved in designing and creating a database system. Prereq: Jr. stndg.

### **INSY 3986. Internship Work Period. 0 cr. hrs.**

SNC/UNC grade assessment. Prereq: INSY 3001, cons. of prog. dir. and cons. of Business Career Center.

### **INSY 4051. Business Applications Development. 3 cr. hrs.**

An introduction to business applications design and development. Introductory topics include: software product development, the Software Development Lifecycle, Agile (SCRUM), user experience design tools for wire-framing and mockup development, user story development, software architecture and technical design, object-oriented programming, data structures and programming logic design, database and external API integration, mobile and web applications development. Students work in groups and also participate in semester-long projects to design and build an innovative software application prototype. Prereq: INSY 3001.

### **INSY 4052. Database Management Systems. 3 cr. hrs.**

Introduces a number of fundamental concepts of database management systems used in enterprise-level organizations. Topics may include: data modeling (conceptual, logical); SQL programming language; management and administration of databases including index tuning, concurrency control, data security, backup and recovery; and emerging topics such as distributed and NoSQL databases. Students work on semester-long projects to design and implement a relational database. Prereq: INSY 3001.

### **INSY 4053. Project Management. 3 cr. hrs.**

Addresses organizational, team and technical aspects of successful project management. Through class projects, students learn to align project objectives with organizational strategies, plan, execute, allocate material and people resources to project components, design and develop project documentation, estimate and control project and organizational risks, and manage cross functional and virtual teams as well as inter-organizational relationships. Prereq: INSY 3001 or cons. of instr.

**INSY 4054. Emerging Technologies. 3 cr. hrs.**

Advances in technological and market forces have changed the way applications are used and have dramatically increased the demand for mobility and bandwidth. Business professionals must understand these emerging technologies to creatively leverage them for business solutions and integrate them with existing systems. Familiarizes students with an array of leading edge technologies; helps them understand their business feasibilities in financial, marketing, operations and other business functions; and examines social, economic and ethical impact of these technologies. Topics include: changes in voice and data communication infrastructures, emerging trends in database environments, storage trends, integration, and information privacy and security among others. Prereq: INSY 3001.

**INSY 4055. Web-based Applications. 3 cr. hrs.**

Focuses on designing and developing Web-based applications using a variety of programming languages and tools. Students are exposed to Internet application development architecture. Class projects include developing business-to-consumer (B2C) and business-to business (B2B) applications, among others. Upon completion, students understand the challenges, technologies, and issues in developing and deploying Web-based applications. Prereq: INSY 4051 or COSC 1010 or cons. of instr.

**INSY 4056. Information Systems Governance. 3 cr. hrs.**

Focuses on the major processes, frameworks and relational mechanisms within the corporate structure that ensure the effective, efficient and protected use of information systems and technologies, investments in IS, assets, systems, processes and human capital resources. Reviews structures around how organizations align IS strategy with business strategy to ensure that companies stay on track to achieve their strategies and goals and implement solid and repeatable methods to deliver, support and measure an IS organization's performance. Generally viewed as a Board of Director's or executive level responsibility, information systems governance is best deployed as part of the IS practice and culture. Prereq: INSY 3001.

**INSY 4057. Enterprise Systems in Supply Chain Management. 3 cr. hrs.**

Focuses on how an information system like ERP supports and integrates core business processes within an organization and across its supply chains. A combination of lectures and in-class exercises using SAP's ERP system. Includes a discussion of key ERP concepts and issues from functional, technical and implementation viewpoint. Also, includes hands-on working experience (through simulation) in manufacturing and distribution using SAP in the following areas: Sales Order Process, Purchasing, MRP, Production Ordering, Accounting and Forecasting. Same as OSCM 4057. Credit cannot be earned for both INSY 4057 and OSCM 4057. Prereq: OSCM 3001 and INSY 3001.

**INSY 4158. Systems Analysis and Design. 3 cr. hrs.**

Prepares future Information Systems (IS) professionals to apply established and evolving methodologies for the analysis and design of an information systems solution. Students learn how to gather and analyze user requirements for new systems and design appropriate solutions. Students work with live projects from small and non-profit organizations to gain real-world experience while enhancing teamwork, communication and project management skills. Prereq: Two courses from: INSY 4051, INSY 4052, INSY 4053, INSY 4054 or INSY 4055.

**INSY 4540. Global Technology Experience. 3 cr. hrs.**

Facilitates an immersive experience in the global business of technology development and management. Tied with a travel component to key technology provider countries in Asia or Europe. Students experience how economic, legal, and political factors influence the global technology business and how such business, in turn, impacts social and cultural environments of client and provider nations. Designed around corporate visits, extensive engagement with practitioners and cultural immersion. Prereq: INSY 3001 and cons. of instr.

**INSY 4931. Topics in Information Systems. 1-3 cr. hrs.**

Topics vary. Prereq: Jr. stndg.

**INSY 4953. Seminar in Information Systems. 3 cr. hrs.**

Topics of seminar to be announced in the Schedule of Classes. Prereq: Jr. stndg.

**INSY 4986. Information Systems Internship - Grading Period. 3 cr. hrs.**

S/U grade assessment. Prereq: INSY 3986; Jr. stndg., cons. of prog. dir. and cons. of Business Career Center.

**INSY 4995. Independent Study in Information Systems. 1-4 cr. hrs.**

Supervised study of a specific area or topic in Information Systems. Prereq: Cons. of dept. ch.