Information Systems Department (IS)

College of Business Administration
Department Chair: Kuang-Wei Wen
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www.uwlax.edu/information-systems

Information systems (IS) study is concerned with the planning, analysis, design, and implementation of information systems. Students develop and use computer-based information systems in business environments in preparation for careers in information technology related areas. Students in this program need to possess strong mathematics and logical reasoning skills. High school students planning collegiate programs in business, including information systems, should include advanced algebra/trigonometry or pre-calculus courses in their high school program.

Students in the College of Business Administration must be admitted to business (http://catalog.uwlax.edu/undergraduate/businessadministrationcba/#Admission) and also complete the college core requirements.

2015-16 Faculty/Staff

The following is the department’s faculty and staff as of the publication date of this catalog. This list will not be updated again until the next catalog is published in June.

Department Chair - Professor
Kuang-Wei Wen

Associate Professor
Hua Dai
Peter Haried
Kyung Hoon (Brian) Yang

Lecturer
David Annino

Administrative Support
Kathy Fontanini

Major
- Information systems - BS (http://catalog.uwlax.edu/undergraduate/informationsystems/informationsystems)

Minors
- Information systems minor (CBA) (http://catalog.uwlax.edu/undergraduate/informationsystems/informationsystemssminor)
- Information systems minor (non-CBA) (http://catalog.uwlax.edu/undergraduate/informationsystems/informationsystemssminorothercolleges)
- Health information systems management minor (CBA) (http://catalog.uwlax.edu/undergraduate/informationsystems/healthinformationsystemssmanagementminorbusiness)

- Health information systems management minor (non-CBA) (http://catalog.uwlax.edu/undergraduate/informationsystems/healthinformationsystemssmanagementminorthcolleges)

Health Information Management and Technology Courses

HIMT 320/IS 321 Cr.3
Survey of Information Technology in Health Care
In this course essential information technologies in health care (HITs) will be surveyed. Many important health care information systems (HISs) are built upon three categories of HITs: data processing technologies, information reporting technologies, and decision supporting technologies. Specific subjects pertaining to these technologies will be identified and introduced. Prerequisite: admission to business or health information management systems minor. (Cross-listed with HIMT 320 / IS 321; may only earn credit in one department.) Offered Fall.

HIMT/IS 340 Cr.3
Ethical Issues, Security Management and Compliance
This course introduces three broad subjects: 1) evidence-based medical ethics pertaining to health care information management; 2) framework of health care information security management including security principles, policies and procedures, security management models, risk assessment, and protection mechanisms; and 3) health care regulations and compliance with focuses on the legislative systems, policies, and legal environment of health care in the U.S. and the existing health information laws, regulations and standards. Also addressed are the elements and development of compliance programs. Prerequisite: admission to business or health information management systems minor. (Cross-listed with HIMT/IS; may only earn credit in one department.) Offered Fall.

HIMT/IS 370 Cr.3
Health Care Systems: Analysis and Design
This is the first course in a two-course sequence that addresses methods and techniques of health care information system (IS) analysis and design as performed within the system development life cycle. Included will be the definition of the problem, fact gathering, analysis, logical design, selection and evaluation of alternative health care information systems solutions from the point of view of the health provider and user. The course focuses on the problem solving process that leads to the development of logical IS solutions to applied health care programs. Prerequisite: IS 220 or HIMT 320. (Crosslisted with HIMT/IS; may only earn credit in one department.) Offered Fall.

HIMT/IS 420 Cr.3
Health Care Systems: Project Management
This course addresses the phenomenal impact information system (IS) projects have had on health care delivery. Students learn how IS health care projects affect organizations, doctors, patients, and chronic-illness treatments, as well as individuals interested in managing their own health care. Concepts and tools for IS health care project management, process reengineering and work redesign are introduced. The purpose of this course is to expose students to IS project management activities in health care settings. Topics covered include recent IS health care project trends, budgeting, scheduling, resource management, scope, risk analysis, and deployment controls. The genesis of health care project management is covered using specific cases and examples. Prerequisite: admission to business or health information management systems minor. (Cross-listed with HIMT/IS; may only earn credit in one department.) Offered Spring.
HIMT/IS 435 Cr.3
Data Communications and Computer Networks in Health Care
This course provides fundamentals of data communications and networking techniques, and examines the linkage of information technology strategies and technological solutions enabling effective communication within and between health care organizations. Major topics include fundamental concepts of data communications and applications, network communication devices, basic technologies of the Local Area Network, Wireless Local Area Network, Wide Area Network, Internet and the Web, the OSI stack, health care information system standards, and the HIE, RHIN, and the NHIN. Prerequisite: IS 220 or HIMT 320. (Cross-listed with HIMT/IS; may only earn credit in one department.) Offered Spring.

HIMT/IS 490 Cr.3
Capstone Project
This course is the capstone course for both tracks of the Health Information Management and Technology Program. Students are required to find an internship site that is related to health care and set up a semester long project from which they can gain hands-on experience in the areas of their concentration. Project set-up will be jointly done by the student, site sponsor, and the faculty of this course, whereas internship supervision will be performed by the project supervisor and the course instructor. Prerequisite: last semester in Health Information Management & Technology Program. (Cross-listed with HIMT/IS; may only earn credit in one department.) Offered Occasionally.

Information Systems Courses
IS 220 Cr.4
Information Systems for Business Management
This course provides the basic level of management information systems literacy. Students will be exposed to the building blocks of computer-based information systems, the various organizational aspects of utilizing information systems, and the role of information technology in the digital economy. To stress the importance of user participation, the systems development life cycle will be introduced from end-users' perspective. Additionally, students will acquire essential skills of personal productivity tools through hands-on training in small classes. Offered Fall, Spring.

IS 300 Cr.3
Information Systems Theory, Problem Solving, and Decision Making
This course provides an understanding of the systematic ways for formulating business problems from information systems perspectives, and of the necessary decision processes that lead to effective solutions. Major topics include information systems theory, organizational decision support using IS, decision theory, decision analysis paradigms, and other problem solving techniques. Group decision support technology will also be introduced. Prerequisite: IS 220; admission to business or information systems minor. Offered Spring.

IS 310 Cr.3
Information System in Networked Environments: Technical Foundations and Applications
This course provides fundamentals of data communications and business networking requirements, and examines the linkage of information technology strategies and technological solutions for enabling effective business processes within and between organizations in emerging environments. Major topics include fundamentals of data communications and business networking, applications to data communications, basic technologies of the internet and the web, commercial use of internet technologies, e-business applications, and cases in online industries. Prerequisite: IS 220; admission to business or information systems minor. Offered Spring.

IS 320 Cr.3
Computer-Based Decision Support Systems for Management
An examination of how various software application packages such as spreadsheets, database management systems, and other software tools, are employed to support decision making in business environments. Topic areas include modeling, decision-support systems, data warehouses, on-line analytical processing, and data mining. Prerequisite: CS 120; IS 220; admission to business or information systems minor or health information systems minor. Offered Occasionally.

IS 320/IS 321 Cr.3
Survey of Information Technology in Health Care
In this course essential information technologies in health care (HITs) will be surveyed. Many important health care information systems (HIss) are built upon three categories of HITs: data processing technologies, information reporting technologies, and decision supporting technologies. Specific subjects pertaining to these technologies will be identified and introduced. Prerequisite: admission to business or health information management systems minor. (Cross-listed with HIMT 320 / IS 321; may only earn credit in one department.) Offered Fall.

IS 330 Cr.3
Business Choices and Telecommunications Decision
An examination of the business and organizational role of telecommunications. The course will not address the theoretical foundations of telecommunications, but rather focus on using telecommunications to support and achieve business strategies. Course topics will include how businesses are being reshaped by advances in telecommunications; how businesses plan, deploy and manage telecommunications resources; and how businesses are utilizing and administrating local area network (LAN) and wide area network (WAN) technology to achieve business objectives. Prerequisite: CS 120; IS 310; admission to business or information systems minor. Offered Fall.

IS 340 Cr.3
Ethical Issues, Security Management and Compliance
This course introduces three broad subjects: 1) evidence-based medical ethics pertaining to health care information management; 2) framework of health care information security management including security principles, policies and procedures, security management models, risk assessment, and protection mechanisms; and 3) health care regulations and compliance with focuses on the legislative systems, policies, and legal environment of health care in the U.S. and the existing health information laws, regulations and standards. Also addressed are the elements and development of compliance programs. Prerequisite: admission to business or health information management systems minor. (Cross-listed with HIMT/IS; may only earn credit in one department.) Offered Fall.

IS 360 Cr.3
Management of Information Technology
An examination of issues that both MIS and non-MIS managers face in managing information and information technology within an organization. The course is a topics course and will, of necessity, vary from semester to semester to stay current with the technological changes which managers would face in the workplace. Topics include strategic uses of information technology, technological trends and their implications, the relationship between organizational structure and information technology, evaluation of the effectiveness of information technology, end user computing, management of new and existing systems and ethical and international issues. Prerequisite: admission to business or health information systems minor; junior standing. Offered Spring.
HIMT/IS 370 Cr.3

Health Care Systems: Analysis and Design
This is the first course in a two-course sequence that addresses methods and techniques of health care information system (IS) analysis and design as performed within the system development life cycle. Included will be the definition of the problem, fact gathering, analysis, logical design, selection and evaluation of alternative health care information systems solutions from the point of view of the health provider and user. The course focuses on the problem solving process that leads to the development of logical IS solutions to applied health care programs. Prerequisite: IS 220 or HIMT 320. (Cross-listed with HIMT/IS; may only earn credit in one department.) Offered Fall.

IS 401 Cr.3

Management Information Systems: Analysis and Design
This is the first course in a two-course sequence that covers the development process for computer-based management information systems. This course emphasizes information analysis and the logical design of management information systems. Prerequisite: CS 120, IS 300, IS 310; admission to business or information systems minor. Offered Fall.

IS 405 Cr.3

Information Systems Seminar
Emphasis will be on examination and study of current issues in information systems. Topics will vary from semester to semester. Prerequisite: IS 401; admission to business. Offered Occasionally.

IS 410/510 Cr.3

Information Security Management
This course provides a comprehensive treatment of the managerial aspect of information security while leaving the technical aspect to the computer science discipline. Concepts of information security management (ISM) related to governance, risk management, and compliance will be acquired from survey of contemporary literature including textbooks, journal articles, and online publications while positive models serving as industry standards that are governing today’s ISM practice will be introduced and compared. Prerequisite: IS 220 or CS 220 or 2-year relevant industry experience; admission to business. Offered Fall.

IS 411 Cr.3

Management Information Systems: Design and Implementation
This is the capstone course in a sequence that covers the development process for a computer-based management information system. This course emphasizes physical design and implementation of the system. Students will implement an information system in a client-server environment, using a programming language capable of calling functions in a database management system. Prerequisite: CS 364 and IS 401; admission to business. Offered Spring.

HIMT/IS 420 Cr.3

Health Care Systems: Project Management
This course addresses the phenomenal impact information system (IS) projects have had on health care delivery. Students learn how IS health care projects affect organizations, doctors, patients, and chronic illness treatments, as well as individuals interested in managing their own health care. Concepts and tools for IS health care project management, process reengineering and work redesign are introduced. The purpose of this course is to expose students to IS project management activities in health care settings. Topics covered include recent IS health care project trends, budgeting, scheduling, resource management, scope, risk analysis, and deployment controls. The genesis of health care project management is covered using specific cases and examples. Prerequisite: admission to business or health information management systems minor. (Cross-listed with HIMT/IS; may only earn credit in one department.) Offered Spring.

HIMT/IS 435 Cr.3

Data Communications and Computer Networks in Health Care
This course provides fundamentals of data communications and networking techniques, and examines the linkage of information technology strategies and technological solutions enabling effective communication within and between health care organizations. Major topics include fundamental concepts of data communications and applications, network communication devices, basic technologies of the Local Area Network, Wireless Local Area Network, Wide Area Network, Internet and the Web, the OSI stack, health care information system standards, and the HIE, RHIN, and the NHIN. Prerequisite: IS 220 or HIMT 320. (Cross-listed with HIMT/IS; may only earn credit in one department.) Offered Spring.

IS 451 Cr.1-6

CBA Management Information Systems Internship
The internship program as conceived and implemented is an unusual program designed to provide an opportunity for students in the College of Business Administration to participate in an approved program with a cooperating business, governmental or civic organization for usually 15 weeks of their undergraduate work. All management information systems (MIS) internships must be approved and supervised by an IS faculty member. For additional information, see internship description under the College of Business Administration heading. Repeatable for credit - maximum six. Prerequisite: cumulative GPA of at least 2.50; ACC 221, ACC 222; BUS 205, BUS 230; ECO 110, ECO 120; FIN 355; IS 220; MGT 308; MKT 309; admission to business. Pass/Fail grading. Offered Fall, Spring, Summer.

HIMT/IS 490 Cr.3

Capstone Project
This course is the capstone course for both tracks of the Health Information Management and Technology Program. Students are required to find an internship site that is related to health care and set up a semester long project from which they can gain hands-on experience in the areas of their concentration. Project set-up will be jointly done by the student, site sponsor, and the faculty of this course, whereas internship supervision will be performed by the project supervisor and the course instructor. Prerequisite: last semester in Health Information Management & Technology Program. (Cross-listed with HIMT/IS; may only earn credit in one department.) Offered Occasionally.

IS 499 Cr.1-3

Independent Study
Individual reading or research under the guidance of a staff member. Open to selected advance students who have excellent records in the department. Repeatable for credit - maximum six. Prerequisite: admission to business. Consent of instructor. Pass/Fail grading. Offered Fall, Spring, Summer.