IS—INFORMATION SCIENCE

COLLEGE OF COMPUTER AND INFORMATION SCIENCE

IS U300 Principles of Information Science 4 SH
Surveys the key theories, concepts, and themes of information science. Examines information and communication technologies from the perspective of the people and organizations that generate and use information to achieve their goals. Topics include information and decision making; human information processing; definition and types of information systems; behavioral impact of information technologies such as office automation, e-mail, and the World Wide Web; and legal and policy issues such as privacy, censorship, intellectual property, and information security. A course project explores the use and impact of information technology in a selected domain (such as e-commerce, education, medicine, government, law enforcement, or electronic publishing), focusing on both technical and behavioral issues. Prereq. CS U200 and CS U211.

IS U470 Information System Design and Development 4 SH
Discusses the planning, analysis, design, and implementation of computer-based information systems, focusing on the methodologies and procedures used in organizational problem solving and systems development. Topics include the systems development life cycle; project management; requirements analysis and specification; feasibility and cost-benefit analysis; logical and physical design; prototyping; and system validation, deployment, and postimplementation review. Additional topics may include platform and database selection and integration issues; CASE tools; end-user training; maintenance; and object-oriented analysis and design. Prereq. IS U300 and CS U370.

IS U535 Information Retrieval 4 SH
Discusses information retrieval including document models, indexing, query techniques, and results evaluation; text analysis for searching, indexing, and compression; user interfaces for text and multimedia retrieval; and digital libraries. Additional topics may include parallel and distributed architectures; support for multimedia and image retrieval; specialized query strategies; and advanced retrieval models. Course work includes using and evaluating existing IR systems as well as implementing small-scale applications that illustrate indexing and retrieval strategies. Prereq. CS U430.

IS U570 Human Computer Interaction 4 SH
Studies the principles of human-computer interaction and the practice of user interface design. Discusses the major human information processing subsystems (perception, memory, attention, and problem solving), and how the properties of these systems influence the design of interactive systems. Reviews guidelines and specification languages for designing user interfaces, with an emphasis on tool kits of standard graphical user interface (GUI) objects. Introduces usability metrics and evaluation methods. Additional topics may include World Wide Web design principles and tools; wireless/mobile device interfaces; computer-supported cooperative work; information visualization; and virtual reality. Course work includes designing user interfaces, creating working prototypes using a GUI tool kit, and evaluating existing interfaces using the methods studied. Prereq. CS U370.

IS U580 Empirical Research Methods 4 SH
Evaluates and conducts empirical research, focusing on students' use of empirical methods to study the effectiveness and organizational/social impact of information systems and technologies. Empirical research involves a number of broad steps including identifying problems; developing specific hypotheses; collecting data relevant to the hypotheses; analyzing the data; and considering alternative explanations for the empirical findings. Some of the most commonly used research techniques, such as surveys, experiments, and ethnographic methods, are discussed. Additional topics include the ethics of data collection and experimentation in behavioral science. Although the course focuses primarily on the relationship between formulating research questions and implementing the appropriate methods to answer them, students can expect to apply the statistical techniques learned in the course prerequisites. Prereq. IS U470, IS U570, and ECN U350.

IS U691 Information Science Field Study 1 SH
Employs the student's cooperative education experience to observe and analyze the real-world interaction between information technology and its context of use. Students identify an aspect of their work environment to study, and make observations that are the basis of an original senior research paper. Course requirements include maintaining a journal of observations and experiences; participating in periodic electronic conferences with fellow students; and communicating regularly with the instructor to discuss the research project and the insights recorded in the journal. Prereq. IS U580; IS majors only.
IS U692 Information Science Senior Project  5 SH
Helps students develop a sophisticated understanding of the interaction between technology and its context. Students write an in-depth research paper that reflects upon and analyzes the observations and experiences of the field study using the information science literature to interpret and better understand those experiences. Students then participate in a seminar in which they present the results of their research. Prereq. IS U691; IS majors only.

IS U700 Information Science Thesis  4 SH
Focuses on student preparing an undergraduate thesis under faculty supervision. Prereq. Junior or senior standing and permission of instructor and undergraduate committee.

IS U701 Information Science Thesis Continuation  4 SH
Focuses on student continuing to prepare an undergraduate thesis under faculty supervision. Prereq. IS U700 and permission of instructor and undergraduate committee.

IS U900 Information Science Topics  4 SH
Offers a lecture course in information science on a topic not regularly taught in a formal course. Topics may vary from offering to offering. Prereq. IS U470 and permission of instructor; may take three times for credit with permission of undergraduate committee.

IS U910 Information Science Project  4 SH
Focuses on student working on a substantial project in information science under faculty supervision. Prereq. 64 SH toward degree and permission of instructor and undergraduate committee; may repeat three times for credit.

IS U921 Directed Study  1 SH
IS U922 Directed Study  2 SH
IS U923 Directed Study  3 SH
IS U924 Directed Study  4 SH
Focuses on student examining standard information science material in fresh ways or new information science material that is not covered in formal courses. Prereq. IS U470 and permission of instructor; maximum 12 credits in CS/IS directed study.

IS U970 Junior/Senior Honors Project  4 SH
Focuses on in-depth project in which a student conducts research or produces a product related to the student’s major field. Culminating experience in the University Honors Program. Combined with Junior/Senior Project 2 or college-defined equivalent for 8-credit honors project. Prereq. Honors program participation.

IS U971 Junior/Senior Honors Project  4 SH
Focuses on second semester of in-depth project in which a student conducts research or produces a product related to the student’s major field. Culminating experience in the University Honors Program. Prereq. IS U970 and honors program participation.