

Master of Science in Information Quality

Course Descriptions

Courses in Information Quality

INFQ 7303 Introduction to Information Quality

Prerequisites: IFSC 2300 or equivalent. This course provides a rigorous exploration of information quality concepts, assessment, and problems in organizational information systems, databases and data warehouses. A combination of state of the art literature review and hands-on projects is used to develop knowledge and ability to meet objectives. Three hours lecture. Three credit hours

INFQ 7318 Total Quality Management and Statistical Quality Control

Prerequisites: STAT 3352 or equivalent. This course provides an understanding of how the concepts and techniques of Total Quality Management may be applied to information products. Topics include continuous improvement strategies, statistical process control, experimental design, capability analysis, quality cost assessments, benchmarking, acceptance testing, and auditing. Three hours lecture. Three credit hours

INFQ 7322 Information Quality Theory

Prerequisites: INFQ 7303 and INFQ 7318. This course is designed to provide students with the theoretical foundations critical for developing a deep understanding of the state-of-the-art information quality research from the technical, organizational and strategic perspectives. This course will prepare students to work on their thesis, project, and conduct research in the field of information quality. More specifically, students will be exposed to concepts, principles, tools, and models, and techniques that are essential for information quality definitions, measurement, analysis, and improvement. Additionally, students will be exposed to most current, cutting-edge research that go beyond current industry practice in information quality. Three hours lecture. Three credit hours

INFQ 7337 Project and Change Management

Prerequisites: INFQ 7303 and INFQ 7318. A course on how to manage information quality improvement projects within an organizational context, including the processes related to initiating, planning, executing, controlling, reporting, and closing a project. Additional topics include identifying project champions, working with user teams, training, documentation, project integration, scope, time, cost-benefit studies, risk analysis, and change management. Three hours lecture. Three credit hours

INFQ 7342 Information Quality Tools and Industry Landscape

Prerequisites: INFQ 7303 and INFQ 7318. This course is designed to develop and increase capability and skills that students need to critically understand what IQ software tools, techniques, and prototypes are currently used in industry, government, and research laboratories. The course will prepare students to make software tool recommendations on corporate data quality programs. Students will conduct a survey of academic literature and industry practices in terms of IQ tools such as data cleansing, profiling, and auditing, and will participate in a hands-on workshop on commercial IQ tools from participating vendors in the field. Two hours lecture and three hours lab per week. Three credit hours

INFQ 7353 Case Studies for Information Quality Professionals

Prerequisites: INFQ 7322 and INFQ 7342. This intensive and interactive course is designed to develop and increase the student's capability and skills to critically understand what constitutes data quality, how to analyze and solve data quality problems, and how to institutionalize data quality projects in an organization where data quality is not the most critical priority. Three hours lecture. Three credit hours

INFQ 7367 Information Quality Policy and Strategy

Prerequisite: INFQ 7322. This course explores the top management, strategic perspective for aligning competitive strategy, core competencies, and information quality. Topics include the development and implementation of IQ policies and plans to achieve organizational goals; how to define systems that support the operational, administrative, and strategic IQ needs of the organization, its business units, and individual employees; approaches to managing technology and the information systems function in organizations, role of the CIO. Three hours lecture. Three credit hours

INFQ 7686 Graduate Project

Prerequisites: Graduate standing and consent of the student's graduate advisor. Students, under faculty supervision, will conduct directed research on a particular problem or area of information quality and will produce reports and other deliverables appropriate to the project. Six credit hours.

INFQ 7698 Thesis

Prerequisite: Consent of thesis advisor. Student's should have completed at least 15 hours of the program core, or have had substantial professional experience in information quality management.

Courses in Information Science

IFSC 5330 Database Security

Prerequisite: IFSC 3330 or equivalent. Focus on security issues in databases systems and introduction of how current and future commercial systems may be designed to ensure secrecy and confidentiality. Topics include security models, basic security mechanisms and software, statistical database security, intrusion detection, security models for next generation databases, tested techniques and proven strategies for securing an Oracle environment - from the operating system to the database to the network, and how to implement security using Oracle's built-in tools. Three hours lecture. Three credit hours

IFSC 5345 Information Visualization

Prerequisite: IFSC 2300 and MATH 1304 or equivalent. The design and presentation of digital information. Use of graphics, animation, sound, visualization software, and hypermedia in presenting information to the user. Methods of presenting complex information to enhance comprehension and analysis. Incorporation of visualization techniques into human-computer interfaces. Three hours lecture. Three credit hours

IFSC 7310 Information Systems Analysis

Prerequisite: IFSC 2300 or equivalent. Methods of problem identification and definition, data collection and measurement, feasibility study methods, work measurement techniques, task analysis, simulation studies, impact analysis, evaluation methods, forms and display design, proposal writing, documentation and programming standards, design strategies, documentation, and evaluation. Three hours lecture. Three credit hours

IFSC 7320 Database Systems

Prerequisite: IFSC 3320 or equivalent. Database systems and data modeling, including entity-relationship model, relational data model, normalization, structured query language (SQL), transaction management, object-oriented databases, and basics of physical database design and query evaluation. Three hours lecture. Three credit hours

IFSC 7325 Advanced Data Mining

Prerequisite: IFSC 3320 or equivalent. Advanced techniques for knowledge discovery and data mining from large databases. graphical and kernel-based machine learning, active and online learning, mining with uncertainty, spatial and temporal data mining, data mining large micro array and protein array data sets. Three hours lecture. Three credit hours