

# INFORMATION SYSTEMS (INFS)

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## INFS 401 - INFORMATION RESOURCE MANAGEMENT

Information processing systems; information technology infrastructure; database and information management; computer networks and telecommunications; information security; enterprise applications; e-commerce; building information systems; fundamental management; strategic, and organizational issues in the use of information systems.  
Credits: 3

## INFS 402 - BUSINESS ANALYSIS

This course provides the fundamental concepts of business analysis that are essential to the practice and further advanced study in the field. The course will cover the International Institute of Business Analysis BABOK® knowledge areas, business analysis skills and techniques. Topics will include business analysis planning and monitoring, elicitation, requirements management and communication, enterprise analysis, requirements analysis, solution assessment and validation.  
Credits: 3  
Prerequisites: INFS 401

## INFS 410 - INTRODUCTION TO BUSINESS ANALYTICS AND INTELLIGENCE

Introductory course that provides an overview of business analytics and intelligence. Introduces the CRISP methodology model and provides basic coverage of topics including: data preparation and cleansing; the role of information systems in assisting management decision making to increase business effectiveness; decision support and business intelligence systems; modeling and analysis methods; data warehousing and data mining, including descriptive and predictive analytics; artificial intelligence systems; and knowledge management.  
Credits: 3  
Course Notes: No additional credit granted for INFS 451 "Decision Support Systems"

## INFS 412 - DATABASE SYSTEMS

Logical database organization, analysis, and design. Alternatives for database organization in business environment. Database management with emphasis on security and responsibilities of database administrator. Survey of major database management software.  
Credits: 3  
Prerequisites: INFS 401

## INFS 413 - DATA ANALYTICS AND MANAGEMENT

Organizations today are inundated with data, gathered from both inside and outside the organization. To improve business decisions, analytics for big data-at-rest and big data-in-motion must be explored. This course introduces the concept of business analytical methods, models and in particular the analysis of big data, that is, data sets so large that traditional relational database management systems and computing platforms are insufficient. Hadoop architecture with MapReduce and its ecosystems will be discussed. Students will have a chance to work with big data analytic tools from IBM and Microsoft.  
Credits: 3  
Prerequisites: INFS 401  
Course Notes: No additional credit granted for "BIG DATA ANALYTICS"

## INFS 414 - DATA PREPARATION & CLEANSING

This course provides in-depth examination and application of the data preparation and cleansing processes, which yield high-quality data that appropriate for subsequent analysis. Topics include: Importance of data cleansing, planning in data collection, Sampling Theory and Group Analysis, using large datasets with probability, screening data, dealing with missing or incomplete data, dealing with extreme and influential data points (outliers), data transformation, and reliability. This class also provides basic instruction in the use of R statistical software.  
Credits: 3  
Prerequisites: INFS 412 and INFS 413  
Course Notes: This course is part of the MS in Business Analytics Program

## INFS 415 - BUSINESS ANALYTICS AND STATISTICAL INFERENCE MODELS

Business decision-making often relies on analysis of quantitative data for support. Transforming quantitative data into valued information in support of decision-making often involves various aspects of mathematical analysis, including probability, descriptive and predictive statistics, and optimization modeling. This course addresses the fundamental concepts of the emerging field of business analytics and provides vital tools in understanding how data analysis works in today's organization.  
Credits: 3  
Prerequisites: INFS 401

## INFS 417 - PREDICTIVE BUSINESS DATA ANALYTICS

Predictive analytics is the process of discovering interesting and meaningful patterns in data. This course focuses on using data-driven algorithms and induction algorithms to reveal patterns and trends from business data. This course also uses the language "R" to manage data. Various techniques such as Market Basket Analysis, K-means clustering, Classifications using Decision Trees and Rules, Nearest Neighbors classifications and Specialized Machine Learning.  
Credits: 3  
Prerequisites: INFS 401

## INFS 420 - DATA VISUALIZATION

Credits: 3  
Prerequisites: INFS 410 and INFS 412 and INFS 413

## INFS 421 - ACCOUNTING INFORMATION SYSTEMS

Systems development and systems applications within accounting and financial areas. Topics include security, control, information needs, decision requirements, processes, techniques, and data flows.  
Credits: 3

## INFS 422 - BUSINESS ANALYTICS CAPSTONE

The capstone for the MS Business Analytics program: this course will integrate the knowledge that students have gained in prior business analytics courses. The class features two components: a seminar and an applied project. The seminar component focuses on advanced business analytics topics and implementation issues in industry. This section will engage students in meaningful discussions about topics that reflect current practices and state of the art in the business world, including ethical issues in Business Analytics (identity, privacy, ownership, and reputation). The applied project component consists of students engaging with real-world companies (in role of a consultant) to formulate and execute a project that examines real-world IT management issues and to provide realistic recommendations to the company.  
Credits: 3  
Prerequisites: INFS 410 and INFS 412 and INFS 413

**INFS 451 - DECISION SUPPORT SYSTEMS**

Role of information systems in assisting management decision making to increase business effectiveness; decision support and business intelligence systems; modeling and analysis; data warehousing and data mining; artificial intelligence systems; knowledge management.

Credits: 3

Prerequisites: INFS 401

Course Notes: No additional credit granted for INFS 410 "Intro to Business Analytics"

**INFS 460 - INFORMATION SYSTEMS SECURITY I**

This course focuses on the fundamental concepts of information systems security. Information systems security is the most important aspect of business and organizational environments. This course will explore all security issues including system authentication and access control, database security, malicious attacks and computer crime, intrusion detection, and system auditing. This course will serve as the foundation course for information systems security.

Credits: 3

Prerequisites: INFS 401

**INFS 462 - INFORMATION SECURITY SYSTEMS II**

This course explores security issues and counter measures related to important information assets. Topics covered include access control, risk management, data, application and network security, malicious software and other types of attacks, cryptography, and cloud security. The course considers various important aspects of relevance to information security both from the perspective of individuals and organizations. It provides the background for people interested in the information security field.

Credits: 3

Prerequisites: INFS 401

**INFS 464 - SECURITY RISK MANAGEMENT AND PRACTICES**

This course provides a detailed, practical view of security risk management and a definitive guide for building and/or running an information security risk management program. It explores each phase of the risk management lifecycle, and presents a roadmap for designing and implementing a security risk management program. Information systems and data center operations with special tools will be a focus in this course.

Credits: 3

Prerequisites: INFS 401

**INFS 485 - MANAGING HIGH PERFORMANCE TEAMS**

This course focuses on how project managers can adopt the most appropriate leadership style under a given set of circumstances. Leading High-Performance Projects helps project managers encourage greater teaming, become more effective decision-makers, reduce incidences of negative conflict, and eliminate opportunities for "negative energy" to permeate a project. The students will learn how to become more efficient, more effective, more productive, and consequently, more successful project managers.

Credits: 3

Prerequisites: INFS 401

**INFS 488 - PROJECT MANAGEMENT**

Applied approach to the study of project management. An integrative framework for understanding principles and practices of project management, including origins, applications, and philosophy. The role of project management in organizations; the use of teams in and implementation of project management practices.

Credits: 3

**INFS 490 - This course focuses on tools and systems of project management. Various systems and methods used in**

This course focuses on tools and systems of project management. Various systems and methods used in project management in a variety of arenas will be discussed. Integrating the Project Management Book of Knowledge (PMBOK), this course focuses on the various tools used in project management, risk management, project planning, project scheduling, and project implementation. MS-Project is heavily used in this course to manage projects.

Credits: 3

Prerequisites: INFS 488 or MGMT 488

**INFS 492 - PROFESSIONAL INFORMATION SYSTEMS INTERNSHIP**

A supervised professional learning experience at a business or non-profit site. Must be arranged with internship coordinator and/or program director. Maximum of 3 credit hours can be applied to graduate business program.

Credits: 1-3

Course Notes: Internship requirements vary by assignment; consent is required by the instructor.

**INFS 494 - PROJECT MANAGEMENT: TOOLS AND SYSTEMS**

This course focuses on tools and systems of project management. Various systems and methods used in project management in a variety of arenas will be discussed. Integrating the Project Management Book of Knowledge (PMBOK), this course focuses on the various tools used in project management, risk management, project planning, project scheduling, and project implementation. MS-Project is heavily used in this course to manage projects.

Credits: 3

Prerequisites: INFS 488 or MGMT 488