

INFORMATION TECHNOLOGY (INTE)

INTE 120: 4 s.h.

Integrated Information Technology Application Projects

Introduction to the use of information technology to retrieve, filter, process, classify, sort, and evaluate data and information in a business environment. Developing word processing, spreadsheets, database, scripting, and presentation skills to create integrated projects for business and workplace environments.

INTE 130: 4 s.h.

Fundamentals of Information Technology

This course provides students with a working knowledge of the terminology, processes, and components associated with information technology. Students will be introduced to the creation, organization, analysis, storage, retrieval, representation, and transmission of data and information as well as work force considerations, and related societal and ethical issues with respect to IT.

INTE 230: 4 s.h.

Network Concepts, Security and Administration

An introduction to computer network concepts that includes fundamental protocols and administration. Computer network communications will be discussed including LAN and WAN topologies, protocols and services, such as TCP/IP, and Ethernet, within the context of the OSI Reference Model, multimedia, and content distribution networks. Topics in network management will also be covered, including users/groups, file permissions, system maintenance, and trouble shooting. Network management, packet analyzer, and network simulation tools may be used.

INTE 240: 4 s.h.

The Fundamentals of Web Technology

Introduction to web-based information systems that includes the principles and practices of website development process, website project implementation, and evaluation of web-based applications including related software, databases, programming interfaces, and platforms. Security and privacy issues related to web-based information systems are explored. Applications of architectural principles of scalability, reliability, and redundancy in website development are discussed.

INTE 255: 3 s.h.

Intro to Data Analytics

Introduction to data analysis techniques and programming that enables real-time decision making in IT organizations. Includes skills and applications in pre-processing, preparing, and reporting data for further analysis. (Cross-listed with MATH 255, credit may not be received for both courses.)

INTE 300: 3-12 s.h.

Co-Op/Internship in INTE

Internship in Information Technology

INTE 335: 3 s.h.

Advanced Computer Networking

This is an advanced-level course on computer networks. This course is the continuation discussion on INTE 230 Network Concepts. The course has a comprehensive overview on advanced topics in network protocols, and networked systems. This course starts with a brief overview of TCP/IP protocol suite and reference model. The main discussions are fundamentals of network technology, Routing Algorithms, Routing Among the ISPs, Software Defined Networking (SDN), Network Management and SNMP, Error-Detection and Correction Techniques in Link Layer, Link-Layer Addressing and ARP, Virtual Local Area Networks (VLANs), Data Center Networking, Wireless and Mobile Networks, Mobility Management, and Security in Computer Networks. Some Network security topics are discussed such as: Principles of Cryptography, Digital Signatures, End-Point Authentication, Securing E-Mail, Transport Layer Security (TLS), Virtual Private Networks (VPNs), and Firewalls. Prerequisites: INTE 230

INTE 350: 4 s.h.

Cybersecurity

Investigate vulnerability of computer networks, systems, and computer applications. Learn methods of mitigation and/or prevention of cybercrime. Attributes of cybercrime such as virus attacks, identity theft, electronic funds transfers, and phishing will be examined along with an introduction to the cybersecurity script programming paradigm.

INTE 350H: 4 s.h.

Hon:Cybersecurity

INTE 360: 4 s.h.

IT Risk Management and Security

Explores Networking Security from the perspective of risk management to develop strategies to mitigate and manage risks. Focuses on assessment strategies for effective mitigation measures and risk management practices in terms of cybersecurity. Risk Management Fundamentals and Managing Risks as Threats, Vulnerabilities, and Exploits will be covered and methods on how they are applied in cyber security decisions will be investigated.

INTE 365: 3 s.h.

Health Care Information Management

Students will apply fundamental skills in information technology to database design, data structures, software applications, and their management functions in health services organizations. Techniques in database design and management in the health care system will be discussed.

INTE 400: 3-12 s.h.

Co-Op/Internship INTE

Internship in Information Technology

INTE 410: 4 s.h.

IT Project Management

This course covers technical and behavioral aspects of the successful management of information systems developments. Topics include needs identification, system project manager and team, system project organizations, project communications, system project planning, scheduling, control, associated costs, and using project management software tools. Examples of IT project management process will be explored for different industry lines with respect to system development activities and System Development Life Cycle. INTE 360 is recommended.

INTE 420: 4 s.h.**Fundamentals of Operating Systems Management**

This is an introduction to the foundational principles of operating systems. Topics include system management in memory, processor, process and thread mechanics, devices, network, file and directory, graphical and command line user interfaces. Essentials for effective administration and maintenance of an operating system and its services will be discussed. In addition, students will learn to install, manage, and secure an operating system.

INTE 425: 3 s.h.**Data Explor and Visualization**

Students will learn dataset elements, data collection, representation and querying techniques, visual variables and statistical tools for graphing, and preparation of data for further analysis, with emphasis on issues related to healthcare. Students will also be introduced to data science tools and related coding techniques.

INTE 435: 3 s.h.**IT Security, Privacy & Ethics**

Examination of information technology security and privacy issues in the context of law and ethics. This course explores the civil and common law issues that apply to information technology. The course studies jurisdictional, statutes, and constitutional issues related to cybercrime and privacy issues in the information age.

INTE 440: 4 s.h.**Human-Computer Interaction**

This course studies the effective and productive information systems, including interactive computer systems, input and output devices, screen layouts, machine design, health issues, organizational impacts, and access for people with disabilities. Topics include interaction system design, conceptualizing interaction, cognitive aspect of users, social interaction, emotional interaction with systems, and interfaces. The process of designing user-friendly interfaces will be discussed including data gathering, data analysis, interpretation, and presentation.

INTE 465: 3 s.h.**Data Analytics in Health Care**

An introduction into the uses of data analytics in population health practices and their administration. Students will explore the development of validated predictive analytics and their application in clinical interventions. The intersection of data analytics with ethics will also be discussed.

INTE 466: 3 s.h.**Ethical Hacking and Penetration Testing**

Discussion of advanced topics in Cybersecurity, such as security testing, system defense, and countermeasures. The implications of information security vulnerabilities in systems, networks, and applications are explored. Students will be able to identify solutions before adversaries exploit the flaws. In this course, students discover techniques that attackers use to compromise network and systems security. Demonstrating how an adversary could hack into systems by simulate a hack of systems to uncover and exploit vulnerabilities in an isolated penetration test computer laboratory. The course offers learning on how to protect network and systems through hands-on lab activities utilizing the tools and methods that intruders use. Methods of security assessments for the strength of the organizational cybersecurity posture are discussed. Additional topics include firewall and intrusion detection system exploration, denial of service attack issues, Internet security mechanisms, spoofing, session hijacking, and sniffers.

INTE 489: 1-4 s.h.**Honors Course**

Honors Course Information Technology

INTE 498: 1-4 s.h.**Independent Study****INTE 499: 1-4 s.h.****Departmental Honors**

Departmental Honors Thesis Course