

School of Computing and Analytics Student Learning Objectives

Applied Software Engineering Major

- Reliable software creation
- User experience design
- Development process management
- Experiential learning
- Communication and presentation

Business Information Systems Major

- Demonstrate strong analytical skills and technological expertise in developing business systems
 - Demonstrate sound programming knowledge and skills
 - Effectively apply database design concepts
- Apply theoretical information systems concepts in real world
 - Demonstrate practical application of IT project management concepts
 - Demonstrate understanding of IT project risk management concepts
- Evaluate and adopt new technology
 - Demonstrate skills identifying and comparing software alternatives
 - Demonstrate skills on understanding tangible and intangible benefits for the new system and the feasibility of the process
- Work effectively in diverse project teams
 - Demonstrate understanding of concepts pertaining to individual and team accountability
 - Demonstrate understanding of JAD and roll of users in system development
- Demonstrate the ability to integrate IS/IT with other functional areas of the organization
 - Demonstrate skills using productivity tools to solve common business problems
 - Demonstrate ability to apply strategic IT value configurations in various business areas

Information Technology Major

IT – ALL IT majors

Programming

- Learn the fundamentals of computer programming Design, implement, and debug program code

System Administration

- Administer Windows/Linux systems
- Perform standard system administration tasks such as installation, configuration, and troubleshooting

IT – Networking & Security Track

Networking

- Learn network protocols and deploy networks by configuring network devices
- Apply concepts of switching and routing

Security

- Describe threats and identify security controls to mitigate those threats
- Apply appropriate concepts and tools to secure networks

IT – Web and Database Track

Web Development

- Learn the fundamentals of developing web applications
- Apply web design concepts in real world setting

Database

- Demonstrate ability to write SQL queries
- Use appropriate constraints (such as primary key, unique, check, not null, and foreign key) when designing/implementing databases

Computer Science Major

Programming and algorithms

- Learn fundamentals of computer program with the ability to design, implement and debug program code
- Select, design and implement the proper data structure(s) and preferred algorithms for a given problem

Systems

- Understand the underlying systems of computers
- Learn the role of the CPU and fetch-execute cycle, and the memory hierarchy
- Understand the role of synchronization and system calls

Software Engineering

- Obtain experience with each stage of the software engineering lifecycle
- Obtain experience in team work in designing and implementing a large-scale software product

Cybersecurity Major

- Computer systems security
- Business process protection
- Information technology management
- Computer science foundations
- Business informatics integration
- Risk assessment and security controls

Data Science Major

- Collect, transform and prepare data for analysis; Understand and apply various data analyses or data exploration methods to solve problems.
- Communicate data analysis findings with appropriate visualizations and/or verbal and written reporting.
- Define problem; formulate methodology for collecting data, preparing and organizing data, and analyzing and/or modeling data; develop program that automates future analytic and/or modeling efforts.

Health Informatics Major

- Design Information systems to ensure data collection, storage, analysis and reporting health data.
 - Demonstrate sound programming knowledge & skills
 - Effectively apply database design concepts
- Use health information technology systems, and databases.
 - Demonstrate practical application of IT project management concepts
 - Demonstrate understanding of IT project risk management concepts
- Evaluate organizational readiness and compliance with federal and state regulations and policies for health information.
 - Demonstrate skills identifying and comparing software alternatives
 - Demonstrate skills on understanding tangible and intangible benefits of new system and the feasibility of process
- Demonstrate the ability to work with transdisciplinary healthcare teams with patient-centric delivery models.
 - Demonstrate understanding of concepts pertaining to individual and team accountability
 - Demonstrate understanding of JAD and roll of users in systems development
- Apply informatics concepts and approaches as they relate to specific healthcare problems.
 - Demonstrate skills using productivity tools to solve common business problems
 - Demonstrate ability to apply strategic IT value configurations in various business areas
- Employ healthcare operational and organizational knowledge in the personnel and service management within healthcare organizations.
 - Demonstrate understanding of concepts pertaining to individual and team accountability
 - Demonstrate skills using productivity tools to solve common business problems