School of Computing and Analytics
Student Learning Objectives

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 role 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

Computer Information Technology Major

CIT – ALL CIT 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

CIT – 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

CIT – 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

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 role 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