Experiential Learning
Program Learning Goals
Computer Science Department

I. 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

II. 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
III. 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.