CYBERSECURITY (CYB)

CYB 540 Network Theory
Lecture/theory course considers the current methods, practices, and standards used to enable communication on computer and voice networks. This includes a study of the physical layers, architectural layers, design, operation, management, and ISO standards, with particular and telephony technologies. Both local and wide area networks are examined.

CYB 604 The Computer and Internet Fraud
Computers have made organizations easier to run. All accounting information, inventory records, customer data, and intellectual property that an organization possesses is contained somewhere in an electronic file. As such, these electronic files are vulnerable to attacks from both employees and outsiders from around the world. This course will provide the student with an understanding of how computer fraud and manipulation is accomplished and what security measures should be instituted to prevent it.

CYB 612 Ethics, Issues, and Government Regulations
This course considers privacy both on- and off-line; legal background of intellectual property and e-mail; ethics and codes of ethics; effects of computers on work and society; and responsibilities and risks of computing, including topics such as accuracy of information, e-waste, and multitasking. This course includes an examination of government policies and regulations related to data security and information assurance.

CYB 628 Cybercrime, Cyber Warfare and Cyber Espionage
This course introduces students to the differences between cybercrime, cyber espionage, and cyber warfare by discussing the relationship of cyber intrusions and cybersecurity to nations, businesses, society, and people. Students will use case studies to analyze the threats, vulnerabilities and risks present in these environments, and develop strategies to reduce the breaches and mitigate the damages.

CYB 644 Information Security
This course explores all aspects of computing and communications security, including policy, authentication, authorization, administration, and business resumption planning. It examines key security technologies, such as encryption, firewalls, public-key infrastructures, smart cards, and related technologies that support the development of an overall security architecture. Coursework includes plans for developing and implementing a technology security strategy focused on business needs. Prerequisite(s): CIS 540

CYB 652 Leadership Assessment and Evaluation
This experiential course emphasizes the importance of feedback and self- assessment for leadership development. It includes extensive assessment of each participant's management style and skills based on self-evaluations (using structured questionnaires) and feedback from coworkers, faculty, and other participants. Leadership development experiences emphasize time and stress management, individual and group problem-solving, communication, power and influence, motivation, conflict management, empowerment, and team leadership. Each participant identifies skills he or she needs to develop and reports on efforts to develop those skills.

CYB 665 Computer Digital Forensics
This course examines techniques used to conduct computer crime investigations and gather probative evidence to secure a conviction under state and federal laws. Students will simulate a computer forensic investigation: developing an investigation plan, securing the crime scene, analyzing evidence, preparing the case for court, and testifying in a moot court situation.

CYB 668 Computer and Network Security
Students will study and implement basic computer and network security strategies on Window and Linux networks. Students examine and analyze network traffic, including investigating wireless transmission, install firewalls and define Internet Protocol Security Controls (IPSEC). Labs include system hardening, dissecting network packet structure and creating encryption formats; managing authentication and access controls. Students study implementing a public key infrastructure and best strategies for using intrusion detection systems.

CYB 880 Integrative Capstone
The capstone project is an opportunity to pursue an independent learning experience focused on a specific aspect of economic crime forensics based on the student interest. The capstone is intended to extend students beyond the coursework and cases to apply knowledge in ways that are relevant to their professional goals. Students will work on a research project or in an experiential learning environment. Each student will be required to present his/her capstone both as an oral presentation and a summary written document. Students are expected to complete the capstone with a grade of B or better in order to graduate from the program.