COMPUTER SCIENCE (CSC)

CSC 520 Advance Networking and Network Administration Credits: 3
Typically Offered: Fall.
Course Description: Exploration of protocols and methods needed to plan, deploy, and manage network resources at the small business through corporate scale. Includes the use of network monitoring tools and exploration of emerging technologies. **Prerequisite(s):** Admittance to ITAA or CSC 294 or approval by instructor.

CSC 550 Applied Cryptography Credits: 3
Typically Offered: Fall.
Course Description: This course focuses on the issues associated with the design, provision and management of security services for modern communication and information systems. Students will learn different practical encryption methods for data protection. **Prerequisite(s):** Admittance to ITAA or approval by instructor.

CSC 570 Ethical Hacking Credits: 3
Typically Offered: Fall.
Course Description: This course will introduce the student to the essential concepts and skills in ethical hacking. A practical, hands-on approach will be adopted to examine computer/networking security for protection of sensitive data. Topics include security policy, vulnerability assessment, port scanning, penetration testing, WIFI hacking, foot printing, social engineering, etc. This course helps the student prepare for an ethical hacking certification test. **Prerequisite(s):** Admittance to ITAA or approval by instructor.

CSC 580 Cloud Computing Security Credits: 3
Typically Offered: Spring.
Course Description: Enterprise-scale cloud computing is proliferating because of its cost effectiveness and enhanced resource manageability. The primary objective of this course is to equip students with solid understanding of cloud computing. It covers cloud computing and services in both business and technical viewpoints. Cloud security architecture will also be covered with an emphasis on the four major categories of security controls. **Prerequisite(s):** Admittance to ITAA or approval by instructor.

CSC 590 Information Technology Project Management Credits: 3
Typically Offered: Fall.
Course Description: This course will provide coverage of core project management concepts and their application to managing information technology projects such as software development. Course content will prepare students for both the CompTIA Project+ and PMI Certified Associate of Project Management certification exams. Students will apply project management concepts through a significant semester-long project. Prerequisite(s): Admittance to the ITAA program or by instructor approval.

CSC 615 Routing and Switching Credits: 3
Typically Offered: Spring.
Course Description: This course introduces students to the vendor-specific knowledge in designing, implementing, maintaining, and troubleshooting local and wide-area enterprise networks. Students will acquire understanding of network infrastructures and protocols, and how they work together in practice. In addition, they will learn about the concept of quality of service (QoS) elements and their applicability, securing networks by setting up firewalls, and configuring wireless controllers and access points. Students will also learn to work with IPv6. After the completion of this course, students may apply the knowledge and skills they have learned to related technologies such as cloud, data center, and advanced network security. Prerequisite(s): Admittance to the ITAA program or by instructor approval.

CSC 625 Network Information Systems Security Credits: 3
Typically Offered: Fall.
Course Description: This course is designed to instruct students on various facets of network security and to introduce students to the tools that are available to secure and monitor TCP/IP-based networks. Students will have an opportunity to see both commercial and open source tools in action and to learn about the technology behind each tool. Some of the technologies discussed include public keys cryptography, firewalls, authentication, intrusion detection and control of malicious code. Students also learn about OS hardening fundamentals as well as security assessment tools and techniques. A research project is required. **Prerequisite(s):** Admittance to the ITAA program or approval by instructor.

CSC 630 Database Management and Security Credits: 3
Typically Offered: Spring.
Course Description: This course will introduce the student to the essential best practices in database security strategies. The student will be provided with the tools, techniques and industry accepted methodologies so that upon completion of the course the student will be able to describe key concepts database security and how to apply those concepts to securing database management systems within their organization. It will also acquaint the student with key concepts in database security. The student will learn DBMS concepts: modeling, modeling languages, relational database theory as applied to database security/integrity and concurrency. **Prerequisite(s):** Admittance to ITAA or approval by instructor.

CSC 635 Software and Computer Security Credits: 3
Typically Offered: Spring.
Course Description: This course covers fundamental issues and first principles of software and computer security. This course will discuss basics of physical security, operating system security, and network security, web/e-commerce security as well as distributed application security. Security models and policies, standards and methodologies for security evaluation and certification will also be covered. Prerequisite(s): Admittance to the ITAA program and CSC 550, or approval by instructor.

CSC 650 Information Assurance Credits: 3
Typically Offered: Spring.
Course Description: This course will explore cyber-security principles by examining security policies and procedures for managing critical and sensitive data. Implications for government compliance, professional ethics, and organizational risk management will be addressed in relation to the task of preserving the confidentiality, authenticity, integrity, and availability of such data. Prerequisite(s): Admittance to the ITAA program and CSC 550, or by instructor approval.

CSC 660 Graduate Research and Internship Practicum Credits: 3
Typically Offered: Fall, Spring, Summer.
Course Description: This course offers graduate students in the Information Technology Assurance Administration program an opportunity to integrate theory with practice. Students work full-time or part-time for a company in a position related to their graduate research. Anticipated learning objectives are established in a contract agreed to by the student, the company supervisor, and the departmental faculty sponsor. May be repeated for credit, but at most 3 hours may count towards the total number of hours required for the master's program. International students should enroll in this course when completing their CPT training.