

# COMPUTER SCIENCE (CSC)

## CSC 500 Research Methods in Information Systems and Technology Credits: 3

**Course Description:** This course focuses on the research methods, tools, instruments, and devices used in Information Sciences and Information Technology; it appraises the logic of the scientific method, research design, qualitative and quantitative analysis of data for the purpose of conducting and reporting basic research in a scholarly and academic setting. The course will cover the concepts and methods for creating an annotated bibliography and a literature review. It will investigate current trends, legal and ethical issues, global and societal impact, policies, and applications in the fields of information technology, information security, cyber law, digital forensics, and media management. This course evaluates methods to collect, classify, categorize, evaluate, assess, and report research data, to formulate valid research questions, and to derive logical conclusions. The principles, practices, tools, and methodologies presented in this course are applicable throughout the program of graduate studies. **Prerequisite(s):** Admittance to ITAA or approval by instructor.

## CSC 520 Advance Networking and Network Administration Credits: 3 Typically Offered: Spring.

**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 605 Software Implementation and Integration Credits: 3 Typically Offered: Fall.

**Course Description:** The review of major advances in software technology (focusing particularly on database technologies) to better understand the challenges associated with data integration, including \*workarounds\* that IT shops use in making products address the realities of supporting the actual business; data warehousing; business process management through content management and knowledge management; development of large enterprise IT infrastructure; and the criteria used in evaluating products and methodologies. **Prerequisite(s):** Admittance to the Information Technology Assurance Administration program.

## 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: Fall.

**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 640 Applied E-Commerce Credits: 3 Typically Offered: Spring.

**Course Description:** This course focuses on the technology foundations and e-business applications in electronic commerce. The topics include the E-Commerce infrastructure, the World Wide Web, E-Commerce site administration, shopping cart and security, etc. **Prerequisite(s):** Admittance to ITAA or approval by instructor.

## 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.

**CSC 694 Thesis Preparation Credits: 3**

**Typically Offered:** Fall, Spring.

**Course Description:** This course will prepare graduate students for a Master's Thesis—a substantive paper of publishable quality that involves original collection or treatment of data and/or results. The final thesis will be completed during the CSC 695 Professional Project/Thesis course.

**Prerequisite(s):** Admittance to ITAA and CSC 500 or its equivalent.

**CSC 695 Professional Project/Thesis Credits: 1-3**

**Typically Offered:** Fall, Spring.

**Course Description:** Focuses on the implementation of ideas developed and proposed from CSC 694. The students can either write a thesis paper or develop a software. Deliverables include finished thesis paper or project documentation. The students must do a PowerPoint presentation of all aspects of the completed project/thesis and demonstrate their project if applicable. **Prerequisite(s):** CSC 694.