

# CYBER SECURITY AND INFORMATION ASSURANCE (CSIA)

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## CSIA 401 - INTRO TO COMPUTER SECURITY

This course provides an introduction to computer security. It covers the basic concepts in computer security. The course also provides examples of intrusions and corresponding defense. Some topics in security research will be covered.

Credits: 3

Course Notes: CST 317 OPERATING SYSTEMS IS REQUIRED WITH A GRADE OF C- OR HIGHER.

## CSIA 409 - CLOUD COMPUTING AND SECURITY

This course provides an introduction to cloud computing and cloud computing security. It covers the basic concepts of cloud computing including virtualization architecture, cloud services, and security problems. The course provides examples of virtualization techniques and security problems. Some topics in cloud computing research will also be covered.

Credits: 3

Prerequisites: CSIA 401 (may be taken concurrently)

Course Notes: CSIA 317 AND CSIA 359 Required

## CSIA 410 - PLANNING AND BUDGETING THE CISO LIFECYCLE

The course covers the ways in which the CISO can apply a knowledge of financial and budgeting processes across the full scope of an enterprise to improve decision making, enhance financial monitoring and performance, lead and evaluate resource tradeoff decisions, articulate the return on investment of security systems and investments, comply with best-practices, ethics and financial management policies, and provide the greatest security value for the cost. The first half of the course establishes the context and basics of financial management and budgeting and the second half of the course builds on that knowledge through application in a variety of common financial management scenarios such as security systems acquisitions, contract financial management, program budgeting and justification, and coping with change.

Credits: 3

## CSIA 411 - CYBER ETHICS, PRIVACY, & LEGAL

IT professionals, security professionals, and organizational leaders face new and challenging legal and ethical issues created by escalating security issues as a result of the incredible impact of information technology on businesses, other organizations, and society as a whole. This course explores many of these issues and provides an opportunity for students to discuss their ramifications in depth. This course is organized in a seminar format with a focus on class discussion. Discussion will take place using electronic forums and discussion papers. Real and hypothetical situations will be explored to provide opportunities for discussion and debate.

Credits: 3

## CSIA 414 - ENTERPRISE CONTINUITY & RECOVERY PLANNING

The course covers Enterprise Continuity Planning, a methodology used to create and validate a plan for maintaining continuous business operations before, during, and after disasters or disruptive events. It also covers Disaster Recovery, stopping the effects of disasters, and addressing the immediate aftermath.

Credits: 3

## CSIA 438 - SECURE SOFTWARE ENGINEERING

This course mainly covers the design and implementation of secure software. The characteristics of secure software, security role in the development lifecycle, the designing secure software, and best security programming practices will be covered.

Credits: 3

Prerequisites: CSIA 401

Course Notes: CST 348 and CST 359 are required

## CSIA 451 - NETWORKS SECURITY

The course explores mechanisms for protecting networks against attacks with an emphasis placed on network security applications for the Internet. The course also investigates various networking security problems and defense mechanisms.

Credits: 3

Prerequisites: CSIA 401

## CSIA 475 - COMPUTER FORENSICS

An introduction to the procedures and techniques used to identify, extract, validate, document and preserve electronic evidence. General legal issues such as the proper handling of evidence, chain of custody, and admissibility in court also covered.

Credits: 3

## CSIA 485 - THESIS/PROJECT RESEARCH

Planning and implementation of research component of student's MS thesis or project.

Credits: 3-6

Course Notes: Approval of CSIA thesis sponsor and Dept. Chair required.

Must be taken in a semester prior to either CSIA 490 or, CSIA 499.

Approval of CSIA faculty sponsor and Dept. Chair.

## CSIA 490 - MASTERS THESIS

Completion of the MS Thesis.

Credits: 3

Prerequisites: CSIA 485

Course Notes: Approval of CSIA faculty sponsor and Dept. Chair.

## CSIA 494 - INTERNSHIP

The Internship.

Credits: 3

Course Notes: Approval of CSIA faculty sponsor and Dept. Chair.

## CSIA 499 - MASTERS PROJECT

The MS Project.

Credits: 3

Prerequisites: CSIA 485