

CSI 4480: Information Security Practice

**Credits Hours:** 4 credits, 3.57 contact hours/week.

**Instructor:** Tao Shu, Ph.D.

**Text book:** M. Whitman, H. Mattord, and D. Shackleford. Hands-on Information Security Lab Manual, 4th Edition (Course Technology).

### **Specific course information**

This course surveys the concepts and methods of security policies, models, and mechanisms for secrecy, integrity, availability, and usage controls. Topics covered include security policies; access controls; introduction to cryptography; control and prevention of viruses and other rogue programs; common system vulnerabilities and countermeasures; and legal and social issues.

**Prerequisites:** CSI 2470 and major standing

**Required course** for IT major

**Course Objectives:** Upon successful completion of this course, students should be able to

- Define the key concepts in information security, e.g., confidentiality, integrity, authentication and availability [ABET IT: (j)]
- Gain hands-on experience on information security [ABET IT: (i)]
- Conduct foot-printing, scanning, and enumeration [ABET IT: (i, j)]
- Identify and validate common system vulnerabilities [ABET IT: (b)]
- Practice system remediation and hardening [ABET IT: (m)]
- Explain cryptographic concepts, e.g., encryption, decryption, and key [ABET IT: (i)]
- Interpret intrusion detection [ABET IT: (b)]
- Describe access control and firewalls [ABET IT: (i)]
- Explain security policies [ABET IT: (m)]

### **List of Topics:**

- Logistic preparation
- Introduction to information security (1 week)
- System installation
- Footprinting
- Access control
- Scanning and enumeration
- OS
- Vulnerability and validation
- System hardening
- Intrusion detection and Firewall