

## CSCE 201 - Introduction to Computer Security

**Credit Hours:** 3 hours

**Contact Hours:** 3 lecture hours

**Instructor:** Dr. N. Stiffler

**Required Textbooks:** *Computer Security Fundamentals (2nd Edition)* by William (Chuck) Easttom II, Pearson IT Certification; 2 edition (December 30, 2011), ISBN-10: 0789748908, ISBN-13: 978-0789748904.

**Bulletin Description:** Introduction to the theory and practice of computer security, including security policies, authentication, digital certificates, firewalls, malicious code, legal and ethical issues, and incident handling.

**Prerequisites:** Prereq or coreq: CSCE 101 or CSCE 102 or CSCE 145

**Required Course** in CE, CIS, and CS programs

**Learning Outcomes:** Students will be able to:

1. Understand basic concepts and practices of information security
2. Understand tools and techniques used by attackers to penetrate computer systems
3. Understand tools and techniques used by defense to protect computer systems
4. Be able to check for security updates, apply and use patches and other defense mechanisms
5. Be able to understand and follow security and privacy policies
6. Understand the ethical implications of using attack tools on computer systems

**Student (Program) Outcomes addressed by course** (Detailed mappings available.)

Student Program Outcomes	SOs supported	SOs Moderately supported
Computer Engineering		
Computer Information Systems	e, g, i	h
Computer Science	e, g, i	h

**Topics covered and approximate weight:**

1. Weeks 1—5: Basic Security Concepts
2. Week 1: Overview of computer security, ..., risks and threats.
3. Week 2: Operating Systems. Security capabilities of different platforms
4. Week 3: Identification and authentication. Passwords, spoofing attacks. ...
5. Week 4: Access Control and Firewalls, ownership. Basic cryptography
6. Week 5: Assessing and Securing a system
7. Weeks 6—10: Home Computer Security – Hardening the System
8. Week 6: Software security. Malware: Viruses, worms, freeware and spyware
9. Week 7: Network security, TCP/IP primer. Firewall and Router security, PKI.
10. Week 8: Web security. Web application security
11. Week 9: Internet Fraud and Cyber Crime.
12. Weeks 11—15: Popular applications, ethics, security and privacy