CSCI 3500  Information Security and Assurance

Credit Hours:  3

Contact Hours:  4

Course Coordinator:  Michael Lehrfeld

Text(s):  
Principles of Information Security, Whitman, M; Mattord, H, 2012 (Required)

Catalog Description:

The course presents critical concepts and skills that are related to protecting information assets from harm. Topics include the history of information security, basic security-related terminology and concepts, major classes of threats to information security, model strategies for understanding and protecting against those threats, and best practices in information security.

Prerequisite(s):  CSCI 3400 OR PERMISSION OF INSTRUCTOR

CS:  REQUIRED
IS:  REQUIRED
IT:  REQUIRED

Course Outcomes:

Present a broad overview of the history of information security, including some of the key security incidents that have helped to shape the field. - ETSU Outcome 2a; ABET Outcomes e.2, e.3, e.4

Demonstrate an understanding of general security concepts and terminology. - ETSU Outcome 5b; ABET Outcomes e, e.4

Demonstrate an understanding of the critical concerns that need to be addressed by an organization to secure its information assets, including issues related to the facilities and resources that an organization uses, and its standard operating protocols - ETSU Outcomes 4b, 5b; ABET Outcomes e.1, e.4, IT-m

Demonstrate an understanding of the fundamentals and basic principles of infrastructure security and the impact of physical security on network security - ETSU Outcomes 4b, 5b, IT-2; ABET Outcomes e.4, IT-m

Demonstrate an understanding of the role of people and policy in information security - ETSU Outcome 5b; ABET Outcomes c, e, e.4
Demonstrate an understanding of different kinds of threats to and attacks on information security, including standard forms of malware - ETSU Outcome 5b; ABET Outcomes e.4, IT-1

Demonstrate a basic understanding of intrusion detection system and security baselines - ETSU Outcome 5b; ABET Outcome e.4

Discuss risk management, disaster recovery, business continuity, and organizational policies - ETSU Outcome 4b; ABET Outcomes e.3, e.4, IT-j

Demonstrate an understanding of the basic concepts of computer forensics - ETSU Outcome 5b; ABET Outcomes e.3, e.4

Discuss ethical issues in information security - ETSU Outcome 2a; ABET Outcomes e, IT-1

**Major Topics:**

- Introduction of history and concepts of information security
- Security threats, attacks, and hacking
- Security models
- Basic concepts of cryptography and public key infrastructure Policies, standards and people
- Risk management
- Attacks and malware
- E-mail security
- Intrusion detection and prevention
- Disaster recovery and organizations policy
- Ethical issues in information security
- Computer forensics