

Introduction to Information Systems Security

Overview

This course introduces the student to the principles of enterprise information systems security. Relevant principles are examined within operational, technical, and administrative contexts. Specific operational issues examined include continuity planning, physical security and operations management. Specific technical issues examined include networking and cryptography. In addition to policy, specific administrative issues examined include risk assessment and evaluation. Security standards and related models as well as certification and accreditation are also examined here. The course also surveys the current enterprise legal and regulatory context.

Class modules are augmented by laboratory and active learning group activities. Laboratory modules are facilitated by the use of Open Source Tools and Live CD based security toolkits. These activities provide students a “hands on” opportunity to apply security principles. Laboratory modules focus on several areas including system and network evaluation as well as applied cryptography.

Learning Objectives

At the end of this course, you will be able to:

1. Draw and explain two major enterprise security models
2. Define and explain the relationship between security i.e. vulnerabilities, assets, threats, and risk.
3. Explain the relationship between security and an organization's mission.
4. Define access control and present three access control models.
5. Describe security policy. Differentiate it from related constructs such as guidelines, procedures and standards.
6. Explain how risk analysis and risk management relate to Information Assurance.
7. Articulate possible risk responses.
8. Draw and explain layered communication models including OSI/ISO and TCP/IP.
9. Define and demonstrate relate telecommunication/LAN issues including vulnerability, threat, risk and countermeasure (control).
10. Define, compare, and contrast Disaster Recovery and Business Continuity Planning
11. Identify and discuss personnel related security issues.
12. Articulate enterprise security assessment and evaluation methodologies.
13. Within an IA context, define and explain ethics. Identify two established IT security codes of conduct.

Textbooks

Required

Schou and Shoemaker; Information Assurance for the Enterprise; McGraw-Hill, Higher Education. 2007 ISBN: 978-0-07-225524-9

Matthews, Jeanna; Computer Networking, John Wiley & Sons. 2005 ISBN: 0-471-66186-4

NIST Manuals (Online)

Stoneburner, Goguen, and Feringa, Risk Management Guide for Information Technology Systems, NIST 800-30, 2002.

Swanson and Guttman, Generally Accepted Principles and Practices for Securing Information Technology Systems, NIST 800-14, 1996.

Grading

Final grades determined through a weighted average that is projected to include examinations, labs, activities, and an online class Portfolio. The Portfolio consists of a Class Project, a security journal, a "Hands On" section, an external security links section, as well as related materials.

Exam(s)/Quizzes	40%
Class Portfolio	40%
Poster	10%
Class Activities	10%

Projects Labs and Activities

Class participation, that is, the active engagement in questions and answers, taking part in analyses, and contribution of comments, is expected from all students. There will be the frequent class discussions. There will be frequent "Hands On" activities as well as journal discussions. Students that cannot be present for these activities should drop the class.

Class Meetings

Attendance is expected. Each class will have participatory activities. Since students not present can not participate, they cannot make up these activities.

Exams

Arrangements for missing an exam must be made prior to the day of the exam.

Note Makeup exams are **not** an option.

Class Interruptions

During class, mobile phones and pagers must have their audible alarms turned off. Failure to observe this rule can have a negative impact.

Class	Introduction to Information Systems Security
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