

Standard Course Outline

I. General Information

- ♦ Course number: IS 556
- ♦ Title: Information Systems Security and Assurance
- ♦ Units: 3
- ♦ Prerequisites: Graduate standing required
- ♦ Course Coordinator: H. Michael Chung
- ♦ SCO Prepared by: H. Michael Chung
- ♦ Date prepared/revised: October 9, 2012

II. Catalog Description

Foundation and applications of information security and assurance. Principles and methodologies of security risk and assessment. System protection and design, cryptography, and hardware and software tools. Assurance and management control. Security plans and policies. Integrated Project. Letter grade only (A-F).

III. Curriculum Justification(s)

In real time systems, global operations, and the e-business environment, the reliability and security of information systems are critical. As information assets in business enterprise has high value, the repercussions can be devastating if they are lost, destroyed, or placed in the wrong hands. It is important for students to gain integrative knowledge and skills in addressing the complex and interdisciplinary nature of information security and assurance, develop protection schemes, perform auditing to ensure policy compliance, and to evaluate its managerial impact on business.

Information security and assurance is the practice of managing risks related to the use, processing, storage, and transmission of data or information. Information security and assurance also involve corporate governance issues such as privacy, compliance, audits, business continuity, and disaster recovery among others. The course draws relevant knowledge from information systems, computer science, accounting, management, psychology, and criminology.

IV. CBA Graduate Program Learning Goals:

Upon completion, students will meet the following CBA learning goals:

General

- Learning Goal - Critical Thinking
- Learning Goal - Team and Interpersonal Skills

Management Specific

- Learning Goal - Business Functions
- Learning Goal - Quantitative and Technical Skills
- Learning Goal - Domestic and Global Environment

The course has several components that allow each individual's analytic and integrating talents to emerge: lecture and readings, case analyses, lab assignments, and an integrated project. Students are required to actively participate in in-class discussions, work in groups as well as individually, and build interpersonal, communication, and presentation skills that prepare them in a diverse business environment.

V. Course Objectives, Measurable Student Learning Outcomes, Evaluation Instruments, and Instructional Strategies for Skill Development

- (i) To understand the importance and issues of information systems security and assurance. Students will construct persuasive arguments that address the managerial issues of security and assurance.
- (ii) To identify the financial and managerial impact of information systems security, to conduct a gap analysis of various systems, and develop a risk management plan for an organization. Students will construct persuasive arguments that address the security issues.
- (iii) To understand technologies behind malicious threats including external attacks, intrusion, viruses and worms and to be able to develop defensive measures, develop technical solutions, and manage changes. Students will demonstrate how to apply hardware and software tools onto given tasks and to plan a reliable and secure system.
- (iv) To utilize technologies and tools to ensure information systems assurance and compliance. Students will demonstrate how to apply the tools and models onto given tasks.
- (v) To demonstrate how to create a security policy in an organization and to develop a disaster recovery plan. Students will construct persuasive arguments that address the managerial and technical issues of implementing a security and assurance project.

Student master of course content and skills will be evaluated using case reports, assignments, oral presentations, an integrated project, and essay exams among others. For both written and oral tasks, feedback will be provided to students regularly for their continuous improvement.

VI. Outline of Subject Matter

A broad outline of topics by week is listed below. Subject matter and sequence of topics could be revised.

Week	Topics:
1	Introduction to Security and Assurance
2	Risk Management

3	Assurance, Information Technology Auditing and Control
4	Security Planning, Program, and Policy
5	Security Management Model
6	Security Technology and Protection
7	Cryptography, Firewall, Virtual Private Network
8	Intrusion Detection and Prevention, Digital Forensics
9	Authentication and Authorization
10	System Design and Reliability
11	Contingency Planning
12	Disaster Recovery
13	Compliance and Implementation
14	Security Management Practice
15	Law and Ethics
16	Exam

VII. Methods of Instruction

The course has four main components that allow each individual's analytic and integrating talents to emerge: (1) lecture and readings, (2) case analyses, (3) lab and homework assignments and (4) an integrated project. Students are required to actively participate in in-class discussions, work in groups as well as individually, and build interpersonal, communication, and presentation skills.

VIII. Extent and Nature of Technology Use

Instructors assign homework, hands-on exercises, and projects on managing and developing a secure and reliable information systems.

IX. Textbooks

The following is a short list of textbooks that are most likely to be used for this course. Instructors may assign one or more of these and/or include other relevant texts/readings.

- Principles of Information Security (4th edition), M. Whitman and H. Mattord, Course Technology 2012
- Information and Network Security Hands-On (3rd edition), M. Whitman and H. Mattord, Course Technology 2011
- Computerworld, Wired articles
- Business Cases and articles
- The Economist, Wall Street Journal, Business Week articles

X. Instructional Policies Requirements

Grading

Suggested workload and grading:

Assignments	25%
Project	25%
Exams	20%
Case Analysis	20%
<u>Participation</u>	<u>10%</u>

TOTAL	100 %
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Attendance, Academic Integrity, Withdrawal Policy and Disabilities:

As specified in the university policies and regulations.