CIS 2513
Principles of Information Systems Security

Spring 2008
(All Sections)

Wed 5:30 – 8 PM or Online Weekly

Course Description:
An introduction to the various technical and administrative aspects of Information Security and Assurance. This course provides the foundation for understanding the key issues associated with protecting information assets, determining the levels of protection and response to security incidents, and designing a consistent, reasonable information security system, with appropriate intrusion detection and reporting features.

The purpose of the course is to provide the student with an overview of the field of Information Security and Assurance. Students will be exposed to the spectrum of Security activities, methods, methodologies, and procedures. Coverage will include inspection and protection of information assets, detection of and reaction to threats to information assets, and examination of pre- and post-incident procedures, technical and managerial responses and an overview of the Information Security Planning and Staffing functions.

Prerequisites:
• CIS 1113 Computer Concepts OR
• CIS 1103 Fundamentals of Computers OR
• Department Head Approval

Textbook and Resources:

Instructor: Calvin Weeks

Email Address: calvin.weeks@gmail.com
Phone: (405) 623-9658

Primary Instructor: Diana Wolfe
Phone: (405) 945-9177
Email Address: wolfedc@osuokc.edu
Course Objectives:

- Comprehend the history of computer security and how it evolved into information security.
- Outline the phases of the security systems development life cycle (SDLC).
- Understand the role of professionals involved in information security in an organizational structure.
- Understand the business need for information security.
- Understand a successful information security program.
- Understand the threats posed to information security and the more common attacks associated with those threats.
- Differentiate threats to information security from attacks against information systems.
- Identify major national laws that relate to the practice of information security.
- Understand the role of culture as it applies to ethics in information security.
- Define risk management and its role in the SDLC.
- Understand how risk is identified.
- Assess risk based on the likelihood of occurrence and impact on an organization.
- Know the risk mitigation strategy options for controlling risks.
- Be aware of the conceptual frameworks that exist for evaluating risk controls, and be able to formulate a cost benefit analysis when required.
- Understand management’s role in the development, maintenance, and enforcement of information security policy, standards, practices, procedures, and guidelines.
- Become familiar with what viable information security architecture is, what it includes, and how it is used.
- Know the six steps to contingency planning.
- Define and identify the various types of firewalls.
- Identify and describe two strategies behind intrusion detections systems.
- Identify and discuss common approaches to cryptography.
- Understand the conceptual need for physical security.
- Discuss critical physical environment considerations for computing facilities.
- Discuss countermeasures to the physical theft computing devices.
- Understand how the organization’s security blueprint becomes a project plan.
- Understand the need for professional project managers for complex projects.
- Understand where and how the information security function is positioned within organizations.
- Understand the special requirements needed for the privacy of personnel data.
- Understand the need for ongoing maintenance of the information security program.
- Become familiar with recommended security maintenance models.
POLICIES

Attendance:
The Instructor expects your attendance/participation weekly or at each and every class meeting; however, actual attendance is up to the student. Grade performance is a demonstrated function of attendance, preparation and participation. You can get behind very easily by skipping classes, resulting in a poor understanding of the material, which will show up as a poor grade for the class. Any class sessions missed by the student are the student's responsibility to make up, not the instructor's. Late arrival that causes disruption, early departure that causes disruption, excessive conversation among students (a disruption in its own right), inappropriate use of electronic devices that cause disruptions and other actions that disrupt the classroom are unacceptable.

Assessment:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Points</th>
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<tbody>
<tr>
<td>Lab 1</td>
<td>150</td>
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<tr>
<td>Lab 2</td>
<td>150</td>
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<tr>
<td>Class Participation</td>
<td>100</td>
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<tr>
<td>Exam I</td>
<td>100</td>
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<tr>
<td>Midterm Exam</td>
<td>200</td>
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<td>Exam III</td>
<td>100</td>
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<tr>
<td>Final Exam</td>
<td>200</td>
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<tr>
<td>Total</td>
<td>1000</td>
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Grade Evaluation:

<table>
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<tr>
<th>Grade</th>
<th>Percentage</th>
<th>Points</th>
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<tbody>
<tr>
<td>A</td>
<td>90% - 100%</td>
<td>900 – 1000</td>
</tr>
<tr>
<td>B</td>
<td>80% - 89%</td>
<td>800 – 899</td>
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<tr>
<td>C</td>
<td>70% - 79%</td>
<td>700 – 799</td>
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<tr>
<td>D</td>
<td>60% - 69%</td>
<td>600 – 699</td>
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<tr>
<td>F</td>
<td>59% or below</td>
<td>0 – 599</td>
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Evaluation criteria explained:
- Students are expected to be active participants in each class meeting. Student’s grades can be positively affected by students who regularly ask questions, share observations, and contribute relevant personal experiences.
- The final examination will consist of objective questions and will require a technological comprehension that covers the lecture/lab material and assigned readings.
- The assignments will consist of a number of individual in class meeting and homework tasks. Students will be given specific guidance on the amount of collaboration permitted for each assignment. Unless otherwise specified, all assignments are individual assignments, and thus must be completely the original work of the student submitting them and include proper citations to the published work of others.

Exams:
There will be three (3) non-cumulative examinations and a final exam. The content will come from the text and other material presented in lecture sessions and/or labs. Note that material presented in class and in lab will supplement the assigned reading. Therefore, class attendance and good note taking are essential tactics for success. The final exam will be a cumulative exam.

There will be no make-up examinations. It is the student’s responsibility to arrange for an excused absence before the exam. A grade of zero will be assigned for all exams missed without an excused absence. If an emergency arises on the day of the midterm, and the instructor deems that the absence is excused, then the weight of the final exam may be increased to replace the midterm.

Enrollment Policy:
Only those students who are enrolled in the class may attend lectures, receive assignments, take quizzes and exams, and receive a grade in the class. If a student is administratively withdrawn from this course, they will not be permitted to attend class nor will they receive any grade for the class.
Electronic Devices:
In order to minimize the level of distraction, all watches, beepers and cellular phones must be on quiet mode during class meeting times. Students who wish to use a computer/PDA for note taking need prior approval of the instructor since key clicks and other noises can distract other students. Recording of lectures by any method requires prior approval of the instructor.

Email Messages:
Remember to put the course name and section number in the subject field of every e-mail message that you send me. E-mail messages that are missing this information are likely to be automatically redirected to a folder the instructor will seldom check. Always check to make sure that you are receiving your email correctly through your OSU email account. Class communications will be sent using the OSU email system only.

Homework Assignments:
Homework assignments are assigned throughout the term and will not be graded.

You may keep assignments to study for exams.

Quizzes:
Quizzes will be available throughout the term. You may take quizzes as many times as you like to prepare for exams.

Attendance:

Attendance is not required, but I strongly encourage you to attend every class meeting.
**Academic Dishonesty or Misconduct:** Academic dishonesty or misconduct is not condoned nor tolerated at institutions within the Oklahoma State University system. Academic dishonesty is behavior in which a deliberately fraudulent misrepresentation is employed in an attempt to gain undeserved intellectual credit, either for oneself or for another. Academic misconduct is behavior that results in intellectual advantage obtained by violating specific standard, but without deliberate intent or use of fraudulent means. Academic dishonesty or misconduct cases are governed by the OSU-Oklahoma City Campus Student Rights and Responsibilities Code (see Student Handbook).

**Honors Credit:** A student may receive Honors credit by completing a Request for Honors Credit by Contract – Conditions form with the instructor’s permission and submitting it to the program coordinator.

**A.D.A Policy:** If any member of the class feels that he/she has a disability and needs special accommodations of any nature whatsoever, the instructor will work with you and the Office of Services to Students with Disabilities to provide reasonable accommodations to ensure that you have a fair opportunity to perform in this class. Please advise the instructor of such disability and the desired accommodation at some point before, during or immediately after the first scheduled class period.

**General Education Goal Statement:** Upon completion of General Education Curriculum, students should be proficient in demonstrating the following competencies:

**Goal #1: Critical Thinking:**

Explanation:
Critical thinking skills include, but are not limited to, the ability to comprehend complex ideas, data, and concepts; to make inferences based on careful observation; to make judgments based on specific and appropriate criteria; to solve problems using specific processes and techniques; to recognize relationships among the arts, culture, and society; to develop new ideas by synthesizing related and/or fragmented information; to apply knowledge and understanding to different contexts, situations, and/or specific endeavors; and to recognize the need to acquire new information.

*All courses will contain assignments that demonstrate critical thinking, but not all courses will include all critical thinking elements listed.

**Goal #2: Effective Communications**

Explanation:
Effective communication is the ability to develop organized, coherent, unified written or oral presentations for various audiences and situations.

**Goal #3: Computer Proficiency**

Explanation:
Computer proficiency includes a basic knowledge of operating systems, word processing, and Internet research capabilities.

**Goal #4: Civic Responsibility**

Explanation:
Preparation for civic responsibility in the democratic society of the United States includes acquiring knowledge of the social, political, economic, and historical structures of the nation in order to function effectively as citizens in a country that is increasingly diverse and multicultural in its population and more global in its view and functions.
**Goal #5: Global Awareness**

Explanation:
Global awareness includes knowledge of the geography, history, cultures, values, ecologies, languages, and present day issues of different peoples and countries, as well as an understanding of the global economic, political and technological forces which define the interconnectedness and shape the lives of the world’s citizens.

**Syllabus Modification Statement:** Faculty has the right to change or modify the course syllabus materials during the semester. Any changes will be shared with students. All changes in the instructor’s policies after the semester has begun will be made in writing as part of a written addendum to the course syllabus; this addendum should be clearly labeled as such and dated.

**Institutional Statement:** Each student is responsible for being aware of the information contained in the OSU-Oklahoma City Catalog, Student Handbook, and semester information listed in the Class Schedule.

**Global Education Mission:** Global Education is an institutional commitment to providing learning environments that provide a cross-cultural global perspective through all facets of the educational process. This institutional commitment to Global Education shall manifest itself throughout the entire institution, providing support for diversity, international, and inter-cultural educational opportunities. These opportunities will be institutionalized through curricular and co-curricular activities. This institutional commitment to Global Education will assist OSU-Oklahoma City in accomplishing its mission of preparing students for an increasingly technological and global society.
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<thead>
<tr>
<th>Week</th>
<th>Assignment</th>
<th>Other Assignments</th>
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<tr>
<td>1</td>
<td>Chapter 1: Information Security and Risk Management</td>
<td>Introduction to the course</td>
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<tr>
<td>2</td>
<td>Chapter 2: Access Control</td>
<td>Homework1 (Exercise 1) Quiz1 (Chapter 1, Assessment)</td>
</tr>
<tr>
<td>3</td>
<td>Chapter 3: Telecommunications and Network Security</td>
<td>Quiz2 (Chapter 2, Assessment)</td>
</tr>
<tr>
<td>4</td>
<td>Exam I (Chapters 1-3) Chapter 4: Cryptography</td>
<td>Homework2 (Exercise 2) Quiz3 (Chapter 3, Assessment)</td>
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<td>5</td>
<td>Chapter 5: Security Architecture &amp; Design</td>
<td>Quiz4 (Chapter 4, Assessment)</td>
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<tr>
<td>6</td>
<td>Chapter 6: Operations Security</td>
<td>Homework3 (Exercise 3) Quiz5 (Chapter 5, Assessment)</td>
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<tr>
<td>7</td>
<td>Chapter 7: Application Security</td>
<td>Quiz6 (Chapter 6, Assessment)</td>
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<td>8</td>
<td>Mid-Term Exam (Chapters 4-7) Chapter 8: Business Continuity Planning &amp; Disaster Recovery Planning</td>
<td>Homework4 (Exercise 4) Quiz7 (Chapter 6, Assessment) Lab 1</td>
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<tr>
<td>9</td>
<td>Chapter 9: Legal, Regulations, Compliance, &amp; Investigations</td>
<td>Quiz8 (Chapter 8, Assessment)</td>
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<td>10</td>
<td>Chapter 10: Physical (Environmental) Security</td>
<td>Homework5 (Exercise 5) Quiz9 (Chapter 9, Assessment)</td>
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<td>11</td>
<td>Chapter 11: Understanding Certification &amp; Accreditation</td>
<td>Quiz10 (Chapter 10, Assessment)</td>
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<td>12</td>
<td>Exam III (Chapters 8-11) Chapter 12: Initiation of the System Authorization Process</td>
<td>Homework6 (Exercise 6) Quiz11 (Chapter 11, Assessment)</td>
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<td>13</td>
<td>Chapter 13: The Certification Phase</td>
<td>Homework7 (Exercise 7) Quiz12 (Chapter 12, Assessment)</td>
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<td>14</td>
<td>Chapter 14: The Accreditation Phase</td>
<td>Homework8 (Exercise 8) Quiz13 (Chapter 13, Assessment)</td>
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<td>15</td>
<td>Chapter 15: Continuous Monitoring Process</td>
<td>Quiz14 (Chapter 14, Assessment) Lab 2</td>
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<td>16</td>
<td>Final Exam (Comprehensive)</td>
<td>Quiz15 (Chapter 15, Assessment)</td>
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