

**TSYS Department of Computer Science @ Columbus State University**  
**Course Syllabus: CPSC 6126- Information Systems Assurance**  
**Fall 2009**

**Instructor Information:**

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**(via email and by appointment)**

**Course Title:** CPSC 6126- Information Systems Assurance

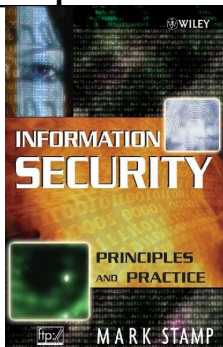
(This is an online course, taught through CougarVIEW. Go to <http://colstate.view.usg.edu> to access course material, complete assignments, take exams, and view announcements.)

**Official Course Description:**

This course focuses on the protection of information systems against unauthorized access to or modification of information whether in storage, processing or transit, and against the denial of service to authorized users, including those measures necessary to detect, document, and counter such threats. This course creates sensitivity to the threats and vulnerabilities of information systems, recognition of the need and means to protect data and information, and builds a working knowledge of principles and practices in information security.

**Prerequisites:** CPSC 5157 (Computer Networks)

**Required Textbook:**

	<p><b>Information Security : Principles and Practice</b> (Hardcover) By Mark Stamp Publisher: Wiley-Interscience (October 28, 2005) ISBN-10: 0471738484</p> <p>Available at <a href="http://www.amazon.com/Information-Security-Principles-Mark-Stamp/dp/0471738484">http://www.amazon.com/Information-Security-Principles-Mark-Stamp/dp/0471738484</a></p>
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**Supplementary Materials:**

- Materials available on the course web site through CougarVIEW
- Software found on campus and on the Internet
- Materials available on Dr. Wayne Summers web site at <http://csc.colstate.edu/summers>

**Additional Reference:**

Security in Computing (4th Edition)

by Charles P. Pfleeger and Shari Lawrence Pfleeger (Prentice Hall PTR, 2006)

ISBN-10: 0132390779

**Course Objectives:**

- 1) Students will understand the major issues of information assurance.
- 2) Students will be able to identify threats to information systems.
- 3) Students will be able to identify data, computer, and network exploits.
- 4) Students will be able to identify ways to secure information systems.
- 5) Students will understand the use of encryption to protect data.
- 6) Students will understand the use of security software and security topologies.

**Major Topics:**

- 1) Security Threats, Vulnerabilities, and Controls
- 2) Encryption
- 3) Network Security
- 4) Database Security
- 5) Program Security, including Operating Systems
- 6) Legal, Privacy and Ethical Issues in Computer Security

**Instructional Methods and Techniques:**

- 1) This course will be taught online via threaded discussions. See <http://cs.colstate.edu/Academics/Online/OnlineInfo.asp> for information on taking an online course.
- 2) Students are expected to take part in threaded discussions.
- 3) All students must have access to a networked computer to complete their assignments and regularly visit the course website for new assignments, reading materials and announcements.
- 4) Students will experiment with a number of security tools to reinforce their understanding of the material.

**Assignments for Course:**

- Readings from the textbook
- Readings from popular computing periodicals
- Online research and reporting of findings
- Contributing to online discussions
- Several homework assignments which may involve working with security tools
- Writing a research paper

**Assessment Criteria:**

Your performance will be evaluated using several homework assignments that may include hands-on activities, your timely contributions to threaded online discussions, a midterm test, a final exam, and a research paper. The final exam will be closed-books, closed-notes.

The final exam will be proctored. Information about testing centers is available at [www.ncta-testing.org/cctc](http://www.ncta-testing.org/cctc).

Students must locate a (preferably professional) proctor to administer their final exam. A supervisor at work or a public library official may also serve as a proctor. Students must contact the instructor no later Wednesday, September 30, to get the instructor's approval for their chosen proctor. The name and full contact information of the proctor, as well as the proctor's affiliation must be communicated to the instructor no later than Wednesday, September 30.

A discussion topic will be posted by the instructor at the beginning of each week. A minimum of two *high-quality timely* contributions to the online discussion group will be required each week. A high-quality timely contribution to the online discussion group is one that addresses one of the issues raised by the discussion topic of the week, or one raised by another student during that week. Contributions such as "I agree" are not considered high-quality and will not get credit. Students are expected to interact in a professional and courteous manner. No non-topic-related issues are to be brought up on the board. No vulgarities, personal attacks, or offensive language of any sort will be allowed.

The research paper must be approved in advance by the instructor. Before they start working on their paper, students must get approval for their research topic. A list of suggested topics will be posted by the instructor on the course website, and updated as we progress through the semester. Guidelines on writing a scientific research paper will also be available on the course website. Students must have a topic approved and start working on their paper no later than 11:59 pm EST, September 28, 2009. Each student paper will be peer-reviewed by a classmate. (Guidelines on reviewing scientific papers will also be posted on the course's website.) It is then the author's responsibility to update their paper accordingly and submit a final draft for grading. All reviews must be thorough, careful, and to the point and will be graded as a homework assignment.

Assessment criteria will be weighted as follows.

Assignments	30%
One midterm test	15%
One final exam	25%
Class Participation	10%
Research paper	20%

Letter grades will be assigned as follows:

A (90%-100%); B (80%-89%); C (70%-79%); D (60%-69%); F (0%-59%)

**Tentative Schedule (Subject to change as we progress through the semester):**

*Week 0*

08/17/09	Syllabus & Introduction to CougarVIEW	
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*Week 1*

08/24/09	Introduction to Information System Assurance	Read Chapter 1
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<i>Week 2</i>		
08/31/09	Cryptography Basics	Read Chapter 2
<i>Week 3</i>		
09/07/09	Symmetric Key Cryptography	Read Chapter 3; Assignment 1 due on Sep. 07
<i>Week 4</i>		
09/14/09	Public Key Cryptography	Read Chapter 4
<i>Week 5</i>		
09/21/09	Access Control: Authentication	Read Chapter 7 Assignment 2 due on Sep. 21
<i>Week 6</i>		
09/28/09	Access Control: Authorization	Read Chapter 8 Sep. 28 is the deadline to get a research topic approved.
<i>Week 7</i>		
10/05/09	Simple Authentication Protocols	Read Chapter 9 Assignment 3 due on Oct. 05
<i>Week 8</i>		
10/12/09	<b>Review for midterm Exam</b>	Midterm Exam Oct.16
<i>Week 9</i>		
10/19/09	Real-World Security Protocols	Read Chapter 10
<i>Week 10</i>		
10/26/09	Software Flaws	Read Sections 11.1. and 11.2 Readings from course website
<i>Week 11</i>		
11/02/09	Malware	Read Sections 11.3, 11.4, 11.5 Assignment 4 due on Nov. 03
<i>Week 12</i>		
11/09/09	Insecurity in Software	Read Chapter 12 1 <sup>st</sup> draft of paper due on Nov. 09
<i>Week 13</i>		
11/16/09	Operating Systems and Security	Read Chapter 13 Assignment 5 due on Nov. 16
<i>Week 14</i>		
11/23/09	Prepare final draft of research paper	Peer-reviews due on Nov. 23
<i>Week 15</i>		
11/30/09	Legal Privacy and Ethical Issues in Computer Security	Readings from course website Research Paper Due on Dec. 03
<i>Week 16</i>		
12/07/09	<b>Review for Final Exam</b>	Final Exam, Dec. 9-15 (Tentative)

### **General Policies:**

You are responsible for all class work missed, regardless of the reason for having missed the work. Late assignments will not be accepted. No make-up exams or quizzes will be given, so please make sure you are present for all exams/quizzes. Refer to the CSU Catalog (<http://aa.colstate.edu/advising/a.htm#Absence Policy>) for more information on class attendance and withdrawal.

Students are responsible for keeping pace with the progress of the course. Should any concerns about the course's contents be addressed, students should immediately consult with the instructor by email or during office hours. In addition to regularly reading from

the text book, students must visit the course's website at least once a day for recent updates and announcements.

### **Academic dishonesty**

Academic dishonesty includes, but is not limited to, activities such as cheating and plagiarism. It is a basis for disciplinary action. Collaboration is not permitted on assignments or exams/quizzes in this course. Any work turned in for individual credit must be entirely the work of the student submitting the work. You may share ideas but submitting identical assignments (for example) will be considered cheating.

**You may discuss course material and help one another with debugging, however, I expect any work you hand in for a grade to be your own. Written and programming assignments may not contain sections that have been imported verbatim from an outside source, be it online (such as web page) or offline (such as a book or an article). The penalty for the first occurrence of this type of academic dishonesty is a zero grade on the assignment; the penalty for the second occurrence is a failing grade for the course.**

A simple way to avoid inadvertent plagiarism is to talk about the assignments, but don't read each other's work or write solutions together. Keep scratch paper and old versions of assignments until after the assignment has been graded and returned to you. **If you have any questions about this, please see me immediately.**

For assignments, access to notes, textbook, books and other publications is allowed. Stealing, giving or receiving any code, diagrams, drawings, text or designs from another person (CSU or non-CSU) is not allowed. Having access to another person's work on the system or giving access to your work to another person is not allowed. It is your responsibility to keep your work confidential.

No cheating in any form will be tolerated. The penalty for the first occurrence of academic dishonesty is a zero grade on the assignment or exam/quiz; the penalty for the second occurrence is a failing grade for the course. For exams/quizzes, access to any type of written material or discussion of any kind (except with me) is not allowed. ([http://aa.colstate.edu/advising/a.htm#Academic Dishonesty/Academic Misconduct](http://aa.colstate.edu/advising/a.htm#Academic%20Dishonesty/Academic%20Misconduct))

### **CSU ADA Statement**

If you have a documented disability as described by the Rehabilitation Act of 1973 (P.L. 933-112 Section 504) and Americans with Disabilities Act (ADA) and would like to request academic and/or physical accommodations please contact Joy Norman at the Office of Disability Services in the Center for Academic Support and Student Retention, Tucker Hall (706) 568-2330, as soon as possible. Course requirements will not be waived but reasonable accommodations may be provided as appropriate.