CprE 531: Information System Security
Department of Electrical and Computer Engineering
Iowa State University

Coordinates: Fall 2004
ISU: 11:00-12:15 Tuesday and Thursday, Howe 1324
NTU: ST 760-U

Instructor: Thomas Daniels, Department of Electrical and Computer Engineering
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Ames, Iowa 50011
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Office Hours
Teaching Asst: Tues/Thurs. 8–9 AM and 3:30–5:00 in Active Learning Center, Village C, Cubicle 9. Other times by email appointment.

Dr. Daniels: Tues/Thurs. 8:30–10 AM in Coover 3222, Other times by email appointment.

Teaching Asst: Ben Anderson
cpre531ta@iastate.edu
See Ben about all homework and project grading issues. Dr. Daniels will handle unresolved disputes.

Prerequisites: Course work in computer architecture and networks. ISU: ComS 586 or CprE 489 or CprE 530 or MIS 535

Textbook: Computer Security: Art and Science. Matt Bishop. Addison-Wesley-Longman. Selected readings will be assigned throughout the semester and made available as links on the course web site. Photocopying textbooks is a violation of United States copyright laws. You may not use photocopied textbooks in class or during exams.

Website: http://clue.eng.iastate.edu/~daniels/cpre531/

Objectives: Understand information security concepts, threats, vulnerabilities, and countermeasures.
Understand and apply risk assessment techniques to information systems and their use. This process includes: Asset identification and valuation, determining threats to and vulnerabilities in those assets, prioritizing and selecting countermeasures, implementing and deploying countermeasures, and continuing maintenance and assessment of security mechanisms.
Be able to apply various host and network-based security techniques to enhance the security of computing systems.
Be able to analyze policy models to determine their access control implications.

Grading: Your grade for the course is based on two tests, homework exercises, and a project. Each test is 25% of the grade. The homework will count for 20% of the grade. Project scores will account for 30% of your final grade. Exceptional work on the project may count for an additional 5% extra credit. The letter grades will be assigned based on the ranges: 92–100=A, 80–92=B, 70–80=C, 60–70=D, 0–59=F. The ranges may be lowered to your benefit, but will not be increased.

Homework:
ISU: Homework is due on the date stated when assigned. Homework received one day late is worth 80% of the original value. Homework received greater than one day late will not be accepted.

Distance Education: The due date for homework is one week later for Distance Education students because of the delay in mailing out videotapes.

Working in groups is an excellent way to learn. Unless otherwise specified, groups may work together on homework, but each student must complete their own writeup and state the members of the group collaborating. Identical writeups may result in no credit for their owners.

Homework must be either typewritten or very neatly handwritten. I do not have time to deduce your intentions so make them clear. Illegible homework will not be graded.

Homework will be turned in to the TA.

Academic Conduct:

Plagiarism, Cheating, and other forms of academic dishonesty will not be tolerated! I will follow the University Academic dishonesty policy when dealing with suspected problems in this area. The policy is at http://www.iastate.edu/~catalog/2001-03/acad-dishonest.html.

I will:

Keep the course focused on essential skills and knowledge.
Make additional material available in the form of web resources and readings.
Keep the content of the course updated and tie it into current events.
Bring you a variety of viewpoints in information assurance by bringing in external speakers from government, industry, and academia.

I expect you to:

Attend class and participate. Your ideas and opinions are important!
Early is “on time,” “on time” is late.
Stay for the entire semester. I will proctor early exams only in extreme situations. Going home before semester end is not an extreme situation.
Keep a notebook for the class along with my handouts.
Share security news and issues of general interest with the class.
Let me know if there are concepts that you do not understand. It is possible to set up help sessions or study groups to help everyone be successful. Let me know as soon as possible if this is the case.
Have fun learning about this diverse and interesting field!

Topic list:

Fundamental Information Assurance Concepts, Policy: Explicit and Implicit
Risk Assessment and Management, Information Assurance
Communications Security: Historical and Modern Cryptography, Various Communication Security Issues
Malicious Mobile Code: Viruses, Worms, Trojan Horses
Special Needs If you have a documented disability and anticipate needing accommodations in this course, please make arrangements to meet with me soon. Please request that a Disability Resources staff send a SAAR form verifying your disability and specifying the accommodations you will need.

25th August 2004