CPE-449/549: INTRODUCTION TO INFORMATION ASSURANCE ENGINEERING
Fall 2011, Tuesday/Thursday, 5:30-6:50, EB 135

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Office Hours: By appointment   By Appointment

Synopsis: Information assurance (IA) is about developing systems to remain
dependable in the face of malice, error, and mischance. As a discipline, IA
focuses on tools, processes, and methods needed to design, implement,
and test systems and to adapt existing systems to survive in a hostile
environment.

Introduction to Information Assurance Engineering will cover topics
ranging from cryptography and computer security through hardware and
physical security to a knowledge of audit methods, security management,
and public law. The course will introduce security engineering skills such
as business process analysis, software security, IA evaluation, and IA
testing.

Grading: Final Exam   **20%**
Labs   **44%**
Homework   **12%**
Project   **20%**
Class Participation   **04%**

Book: Security Engineering, by Ross Anderson (ISBN: 0471389226)

Schedule:

Session #	Date	Lecture/Lab/Test	Topic(s)
1	08/18/2011	Lecture #1	Introduction, definitions, ethics Chapter 1
2	08/23/2011	Lecture #2	Authentication Chapter 2, 15
3	08/25/2011	Lecture #3	Access Control Chapter 4
4	08/30/2011	Lab #1	passwords and ACLs, part 1
5	09/01/2011	Lab #2	passwords and ACLs. Part 2
6	09/06/2011	Lecture #4	Protocols, part 1 Chapter 3
7	09/08/2011	Lab #3	network traffic analysis, part 1
8	09/13/2011	Lecture #5	Protocols, part 2 Chapter 3

9	09/15/2011	Lab #4	network traffic analysis, part 2
10	09/20/2011	Lecture #6	Cryptography Chapter 5
11	09/22/2011	Lab #5	PGP/GPG, MD5, SSL
12	09/27/2011	Lecture #7	Distributed systems, multilevel security Chapter 6, 8, 9, 10
13	09/29/2011	Lecture #8	Physical security, information leakage Chapter 11, 16, 17
14	10/04/2011	Lab #6	Information Leakage
15	10/11/2011	Lecture #9	Protecting ecommerce, e-policy, management, laws, regulations, copyright, privacy protection, telecommunications security Chapter 7, 22
16	10/13/2011	Lecture #10	OPSEC
17	10/18/2011	Lecture #11	Network computer attack Chapter 18, 19, 21, 24
18	10/20/2011	Lab #7	Nmap and netcat
19	10/25/2011	Lecture #12	network/computer defense, best practices, time-based security Chapter 21
20	10/27/2011	No Class	No power in building
21	11/01/2011	Lab #8	Netcat & IIS & NULL user
22	11/03/2011	Lecture #13	software security
23	11/08/2011	Lab #9	Software Hacking
24	11/10/2011	Lecture #14/15	System evaluation / System Assurance Chapter 26
25	11/15/2011	Lab #10	Assessing MS Windows
26	11/17/2011	Lab #11	Assessing Linux/UNIX
27	11/22/2011	Lecture #16	Project Presentations
28	11/29/2011	Lecture #17	Project Presentations & Review for Final Exam
	12/01/2011	Test	Final Exam, 18:30-21:00

Exams: Exams will be open book / notes. Don't miss exams without prior permission. If you do miss an exam with permission, we (Dr. Adhami or Paul) will decide on a makeup day at that time.

Labs: Labs are an extremely important part of this class. A pre-lab assignment will be given for each lab session. If this assignment is not completed before the lab, you will not be permitted to participate in that lab session. If you must miss a lab session, we will attempt to provide a makeup time. A zero will be given for each lab not completed. The Information Assurance Engineering Lab is located in Room EB107.

Project: Each student will complete a research paper on a current topic in information assurance. This paper will require the student to perform research utilizing the internet. The details will be provided in a separate handout. Students will also give a speech summarizing their research.

Homework: Not all homework will be graded. There will be two or three assignments that will be graded. This will be explained when the assignment is given.

Disability Statement:
              The University of Alabama in Huntsville will make reasonable accommodations for students with documented disabilities. If you need support or assistance because of a disability, you may be eligible for academic accommodations. Students should identify themselves to the Disability Support Office (824-6203, UC113) and their instructor as soon as possible to coordinate accommodations.