

Instructor: Yi Hu
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Office Hours: MWF 10:00pm - 11:00pm, TR 5:00pm-6:00pm, or by appointment

Class Meeting Time: MWF 11:00am - 11:50am

Class Meeting Place: ST 361

Textbook: Practical Unix & Internet Security, 3rd Edition (ISBN: 978-0596003234)

Counter Hack Reloaded: A Step-by-Step Guide to Computer Attacks and Effective Defenses (2nd Edition) (ISBN: 978-0131481046)

Prerequisites: C or better in CIT 370.

Course Content: An introduction to the concepts and technologies of computer security, with a focus on the practical aspects of securing computers, including common security threats and computer crime, authentication, cryptography, malware, operating systems security, and network security.

Course Topics: This course will introduce programming concepts to undergraduate students. It will cover the following topics:

- Security Policy
- Authentication
- File System Security
- Cryptography Basics
- Network Security
- Anatomy of an computer attack
- Secure Programming
- Security Incident Handling
- Penetration Testing
- Malware
- Web Security

Student Outcomes: By the end of the course, students will

- Understand cryptography basics, security policy, and access control mechanisms
- Understand the mechanisms of various attacks targeted at computer systems
- Be able to pursue vulnerability assessment for applications and information infrastructures
- Be able to development skills for secure programming
- Be able to use tools to secure networked computer system and learn various skills to tackle computer incidents

Student Assessment Information:

Students will be assessed through homework/lab assignments and tests that are designed to demonstrate the student's understanding of each concept.

Grading:

Assignments and Lab report: 35%
 Project: 15%
 Test 1 (11:00am-11:50am, Friday, Sep. 25, 2009): 15%
 Test 2 (11:00am-11:50am, Friday, Oct. 30, 2009): 15%
 Final exam (10:10am-12:10pm, Monday, Dec. 14, 2009): 20%

Grading Scale		
Letter Grade	% Equal to or Greater than	Grade Point
A	93	4.00
A-	90	3.67
B+	87	3.33
B	83	3.00
B-	80	2.67
C+	77	2.33
C	73	2.00
C-	70	1.67
D+	67	1.33
D	60	1.00
F	0	0

Grading Procedure for Assignments:

Students should turn in their assignments through Blackboard system before/on the due date. For an assignment turned in after the due date, 10% of your score will be deducted for every calendar day that the assignment is late. Also, once the solution to an assignment has been discussed in the class or posted on NKU's Blackboard System, no late assignment will be accepted.

Absentee Policy:

Students should make their best efforts to attend each class. If you missed any class, you are responsible for any content covered in that class.

Make-up Test:

Only for a reasonable reason a student can be allowed to have a make-up test for one of the missed tests. The student needs to notify the instructor immediately after the missed test with a verifiable reason. After getting the permission for the make-up test from the instructor by email, the student will be given a make-up test. A student can only have one make-up test for this class.

Disability Disclosure: Students with disabilities who require accommodations (academic adjustments, auxiliary aids or services) for this course must register with the Disability Services Office. Please contact the Disability Service Office immediately in the University Center, Suite 320 or call (859)572-6373 for more information. Verification of your disability is required in the Disability Services Office for you to receive reasonable academic accommodations.

(P)-Practical Unix & Internet Security (C) - Counter Hack Reloaded			
Week	Date	Readings	Topics
1	M, 8/24/09 W, 8/26/09 F, 8/28/09	(P) Chapter 1, 3	Intr. to Computer Security Authentication
2	M, 8/31/09 W, 9/2/09 F, 9/4/09	(P) Chapter 4, 5	Users and Groups Authentication
3	M, 9/7/09 (no class)	(P) Chapter 6	Filesystems and Security Cryptography Basics
	W, 9/9/09 F, 9/11/09		
4	M, 9/14/09 W, 9/16/09 F, 9/18/09	(P) Chapter 7	Cryptography Basics
5	M, 9/21/09 W, 9/23/09 (review)	(P) Chapter 8 Physical Security	Physical Security Review and Exam
	F, 9/25/09 (Exam 1)		
6	M, 9/28/09 W, 9/30/09 F, 10/2/09	(P) Chapter 8, cont'd, Chapt11	Physical Security TCP/IP
7	M, 10/5/09 W, 10/7/09 F, 10/9/09	(P) Chapter 11 cont'd	TCP/IP
8	M, 10/12/09 W, 10/14/09 F, 10/16/09	Additional: Web Security	Web Security
	M, 10/19/09 (no class)		
9	W, 10/21/09 F, 10/23/09	Additional: Web Security	Web Security
10	M, 10/26/09 W, 10/28/09 (review)	(P) Chapter 12	Securing TCP and UDP Services Review and Exam
	F, 10/30/09 (Exam 2)		
11	M, 11/2/09 W, 11/4/09 F, 11/6/09	(C) Chapter 12 cont'd, 5	Securing TCP and UDP Services Reconnaissance
12	M, 11/9/09 W, 11/11/09 F, 11/13/09	(C) Chapter 6	Scanning
13	M, 11/16/09 W, 11/18/09 F, 11/20/09	(C) Chapter 7	App. and OS attacks
14	M, 11/23/09	(C) Chapter 8	Network Attack and IDS
	W, 11/25/09 (no class) F, 11/27/09 (no class)		
15	M, 11/30/09 W, 12/2/09 F, 12/4/09	(C) Chapter 8, 9	Network Attack and IDS Denial of Service Attack
16	W, 12/7/09 M, 12/9/09	(C) Chapter 10	Trojan, Backdoors, Rootkits
	F, 12/11/09		
	M, 12/14/09 Final Exam		