CST 368/468 – Internet Security – Spring 2010

Michael Ruth, Ph.D.

Course Meetings: Wednesdays, 6:30 to 9:00pm @ Schaumburg, Rm. 621
Office(s) & Hours: (Also by appointment – email to schedule time/location)
SCH 600WW: M/W 11am – 12pm, W 5pm – 6:30pm | **Gage, Rm 506A**: T/Th 1:30pm to 3pm
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Course Description:

An in-depth study of Internet security focused on contemporary threats and countermeasures. A number of threats will be discussed including protocol vulnerabilities, denial of service attacks, malware, and other readily available hacking tools. The security mechanisms used to thwart these threats include firewalls, proxy servers, and other security techniques and tools.

Course Prerequisites:

CST 246 with a minimum grade of C-

Course Objectives:

- Appreciate the importance of information security in an increasingly digital world and understand the tradeoffs between user/system functionality and information security.
- Explain the development of security policies: identify and prioritize assets and risks including and analyze computing needs/situations with respect to security.
- Identify, classify, and describe a variety of Internet threats in terms of attackers, goals, and basic operation: protocol vulnerabilities, denial of service attacks, and malware.
- Explain the functionality and design of administrative internet security mechanisms such as bastion hosts, firewalls, intrusion detection systems, proxy servers, and honey pots.
- Demonstrate mastery of open source firewall (iptables), proxy server (squid), and IDS configuration (tripwire) using Linux-based solutions.

Textbook:

Firewalls and Internet Security, 2nd Edition by W. Chesnick, S. Bellovin, & A. Rubin
ISBN: 978-0201634662

Grading (+/- grading is used)

- Midterm (25%)
- Final Exam (35%)
- Class Participation (10%)
- Assignments (40%)

Academic Honesty:

Each assignment/exam must represent ***your own work.*** You may discuss assignments with other students, but you cannot share any assignment artifacts. Any instance of academic dishonesty will result in a **zero** grade on that assignment/exam. Any second instance will result in an 'F' in the course. The grievance procedure is at: **http:// roosevelt.edu/current/judicial/**

Disabilities:

If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact the Office of Disabled Student Services, 310 Herman Crown Center, 312-341-3810, or e-mail nlitke@roosevelt.edu as early as possible in the term.

Course Policies:

- You only have **two free** absences. After that, you will be penalized a letter grade for each additional absence. ***Make each of them count!***
- ***You are responsible*** for all material covered including all lectures, handouts, labs, and announcements regardless of delivery method (in-class, email, etc.).
- ***There will be no make-up examinations.***
  - *If you miss the midterm **due to an emergency**, the final exam will count for both exam grades (roughly 60% of your final grade).*
- Late homework will be accepted, with or without penalties, at my discretion.
- ***More is expected from Graduate Students***
  - *Additional Assignments & Requirements*
- Arrive in class ***on time*** and ***silence all noise-producing equipment***!
- Depending on classroom behavior, any of the above policies may be waived or altered.

***Tentative* Schedule:**

Date	Topic	Reading(s)
1/27	Introduction to 368/Introductory Material	1
2/3	Review of Networking Concepts	2, 3
2/10	Threats & Dangers of Internet Security	5
2/17	Hacker Tools (Sniffers/Port Scanners)	6
2/24	Introduction to Firewalls/Packet Filtering	9.1, 10.1, & 13
3/3	Firewall Engineering/Review	11, TBA
3/10	**Midterm**	
3/24	Introduction to Proxy Servers & Squid	9, 10
3/31	Intermediate Squid	TBA
4/5	**Last Day To Drop With a "W"**	
4/7	Intrusion Detection Systems	15/TBA
4/14	Introduction to Tripwire	TBA
4/21	Authentication/Host Hardening (Windows/Unix)	6, 14
4/28	End-to-End Security/Secure Protocols	TBA, 18
5/5	Secure Software/Review	TBA
5/12	**Final Exam**	