Schedule

Information Assurance
INLS 566, Fall 2013

Instructor: Lewis Hassell, Ph.D. **Email:** lhassell@email.unc.edu

Office Hours: Tuesday, 5pm-6pm, and by appointment

Notes:

This **tentative** schedule lists the assignments and readings for each of the topics we'll cover. Other readings or assignments may be assigned as appropriate.

All readings will come from the Internet: either from UNC's electronic reserves, from the Web, or provided electronically by the instructor.

If you want to access an e-journal from off campus, you may need to add the proxy prefix to the URL: see Off-Campus Access for more information.

You should bring your laptops (or other Web accessible device) to each class.

N.B. This schedule is not chiseled in stone.

Week 1 – Aug. 20

Topics

Introduction to the Class; General Introduction to Information Assurance; Organizations of Importance (SANS, NSA, CERT, *other academic institutes*); Defense in Depth

Readings

B&K Chapters 1 & 2

Wood, "Why information security is now multi-disciplinary, multi-departmental, and multi-organizational in nature"

Kim et al, "A Comparative Study of Cyberattacks"

"Defense in depth"

NATIONAL INFORMATION ASSURANCE (IA) GLOSSARY

Week 2 – Aug. 27

Topics

Physical Security; Social Engineering; Basic Electronic Security Issues

Readings

B&K Chapters 3-6

Hong, "The State of Phishing Attacks" in Sakai

Thomas R. Peltier, "Social Engineering: Concepts and Solutions" in Sakai

Vijayan, "Corporate IT risks and physical threats are changing security deployment" in Sakai

RSA, "The Year in Phishing, January 2012" in Sakai

(Matt Blaze, "Cryptology and Physical Security: Rights Amplification in Master-Keyed Mechanical Locks" in Sakai OR

Matt Blaze, "Notes on Picking Pin Tumbler Locks" in Sakai

Glance through the Blaze article for fun)

Week 3 – Sept. 3

Topics
The Internet and the Web; Browsers and Extensions; HTTP; Viruses, Worms, and Trojans; Network Security; DNS

Readings
B&K Chapters 12 & 13

"Assuring the security of IPv6"

"Fighting back against click-spam"

"Spoofing server-to-server communication: How you can prevent it"

"Making Browser Extensions Secure"

Week 4 – Sept. 10

Topics
Botnets; DDoS; Buffer Overflow; Wireless; Email Security; IDS/IPS; IPv6; Steganography

Readings
B&K Chapters 12 & 13

"7 levels of hackers"

"DDoS attacks on financial service firms explode"

Week 5 – Sept. 17

Topics
Authentication and Passwords; Encryption; Smart Cards; Biometrics; (Quantum) Cryptography

Readings
B&K Chapters 13, 14

"Encryption is less secure than we thought"

"Weak passwords still subvert IT security"

Week 6 – Sept. 24

Topics

DB Security; Mobile Security

Readings

"Security Issues in Databases", Imran and Hyder

"Database Security—Concepts, Approaches, and Challenges", Bertino and Sandhu

"Why NoSQL Equals NoSecurity", Davis

"Researcher Breaks Wi-Fi Passwords Using Cloud Computing Power"

Week 7 – Oct. 1

Topics

Corporate Information Security; APT; SDLC; Building a Robust IT Department; Standards

Readings

B&K Chapters 7, 8, 10, 11

Week 8 – Oct. 8

Topics

Audit and Insurance; Forensics

Readings

TBD

Week 9 – Oct. 15

Topics

Forensics

Readings

TBD

Week 10 – Oct. 22

Topics

Writing Security Documents: Policies and Procedures; Information Security Economics

Readings

"Information Security Economics"

"Proof of Work can Work"

Week 11 – Oct. 29

Topics

Trust, Affect, Emotions, and Other Theoretical Issues

Readings

Hassell & Weidenbeck, "Human Factors and Information Security" in Sakai

Whitten & Tygar, "Why Johnny Can't Encrypt" in Sakai

McDermott, "Emotion and Security" in Sakai

Sasse, Brostoff & Weirich, "Transforming the 'weakest link' — a human/computer interaction approach to usable and effective security" in Sakai

Week 12 – Nov. 5

Cyber Warfare and Cyber Terrorism; SCADA; Security Information Analysis

Readings

B&K Chapter 9

Conway, "Against Cyberterrorism" in Sakai

Washington Times, "Computer-based attacks emerge as threat of future, general says" in Sakai

Topics

Week 13 – Nov. 12

Topics

Cloud security; Government (state and federal) laws and issues; Privacy Concerns: Governmental and Business; the Patriot Act

Readings

Folder on Cloud Security

Folder on Government

B&K Chapter 15

Week 14 – Nov. 19

Topics

Course summary and review; The Future; Certifications and Careers

Week 15 – Nov. 26

Topics

Plan to get employees to pay attention to training presentations

Week 16 – Dec. 3

Topics

Plan to get employees to pay attention to training due to professor