CS 574: Computer Security, Spring 2014

Lecturer: Peter Bartoli pbartoli@mail.sdsu.edu
Time/Location: Monday 7:00 PM - 9:45 PM in EBA 343
Office Hours: Monday 6:00 PM – 7:00 PM, GMCS 564
Traffic/work can make me late, so also after class sometimes, or by request in advance
Final Exam: Monday 5/12/2014 7 PM

Required Texts: Smith, Elementary Information Security
McClure, et al., Hacking Exposed, 7th Edition

Recommended: (strongly) Armstrong, Teach Yourself the Unix C Shell in 14 Days (see Amazon)
(strongly) Nemeth et. al., Unix System Administration Handbook
Schwartau, Information Warfare, 2nd Edition (out of print; try Amazon)
Stoll, The Cuckoo’s Egg

Course Goals: to provide students with:
- a broad & deep introduction to computer/information security fundamentals
- the ability to discuss network attack and defense methods
- the ability to assess risk to systems, networks, and information on computers

Laptops: Lab exercises and homework will make heavy use of laptops. Get one if you don’t have one.
- use of attack, defense, and traffic analysis tools
- active network wargames / intrusion attempts
- firewall construction and configuration

Outline: We may deviate from slightly as the course goes on. This is not in order.
1. introduction to and history of computer security
2. threats, vulnerabilities, and exploits
3. security in programming
4. operating systems security
5. network security and architecture
6. attack and defense methodologies
7. multi-level security systems
8. database / application security
9. security and privacy
10. encryption: algorithms and applications

Project: An OPTIONAL security-pertinent coding project or research paper of approximately ten pages, in three parts:
1. selection of a pertinent topic, due for approval by TBD
2. preparation of a bibliography of publications for your topic, due by TBD
3. research paper demonstrating your understanding of the topic, due TBD
(specific requirements will be passed out during the class)

Grading: 70% exams (one mid-term and one final), 20% project if chosen.
If no project is done, grade will be 100% exams.
90%+ = A, 80%+ = B, 70%+ = C
Any academic dishonesty will result in an “F” grade.
You may not cut-and-paste any section of anybody else’s work.
Mid-term may be down-weighted—at my sole option—if final is a lot better!

Disabled Students: Please come see me in my office and make me aware of your needs.