CSCI 395.82 - TOPICS: COMPUTER FORENSICS
FALL - 2014

Class meeting time & room:
Wednesdays 10:10am - 1:00pm, HN C112
Instructor:
Anna Wisniewska
Office hours: By appointment
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Prerequisites:
Students are expected to have a good knowledge of C (C++) programming language; be familiar with computer architecture; have basic familiarity with Unix and Windows, and be able to install application software.

Learning Objectives: Learn basic concepts of computer forensics. Topics include evidence collection and preservation, file systems, cryptography, steganography, memory management, and vulnerabilities in communication protocols. Students will get a basic overview of tools used in a forensic investigating and experience some common vulnerabilities through lab work. Students will develop a fundamental knowledge of the following types of digital forensics:

- Disk Forensics
- Network Forensics (Cybercrime)
- Source-Code Forensics
- Volatile Data Forensics (Live Forensics)
- Anti-Forensics (Encryption, steganography)

Grading: The grade for this class will be based on assignments, a term project and a final exam.
Assignments: 60% of final grade
Project: 20% of final grade
Final: 20% of final grade

Hardware Requirements:
Students are expected to have access to a computer where they have administrative privileges.

Software Requirements:
VMware Player (for windows)
Backtrack
Ubuntu
Windows 7
Wireshark
gcc
Autopsy

Reference Texts (optional):
Casey, *Digital Evidence and Computer Crime, Third edition,* Academic Press.
Taylor, *Unix in 24 Hours, Fourth Edition,* Sams Publishing.
Altheide & Carvey, *Digital Forensics with Open Source Tools,* Syngress.
Carrier, *File System Forensic Analysis*, Addison-Wesley.
Russinovich & Solomon, *Windows Internals* 4th or 5th Ed, Microsoft Press.
Hoglund & Butler, *Rootkits: Subverting the Windows Kernel*, Addison-Wesley. Eilam, Reversing: *Secrets of Reverse Engineering*, J. Wiley Publishing.
Anley et al. *The Shellcoders Handbook*, J. Wiley Publishing

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