CGS 5131, Computer Forensics I

S. Lang, Fall 2012   **Syllabus**   <mark>August 16,</mark> 2012

Instructor: Dr. S. Lang (207 HEC, 407-823-2474, lang@cs.ucf.edu or slang@ucf.edu)

<mark>**Office Hours**: Monday and Tuesday: 4 to 5 pm, Rm. 207 HEC; Thur. 6 to 9 pm, 315 NCFS</mark>

(Strongly) Recommended Text: File System Forensic Analysis, by Brian Carrier, Addison-Wesley, 2005, ISBN 0-32-126817-2

Other References:
(1) Computer Forensics: Principles and Practices, by Volonino, Anzaldua, and Godwin, Prentice Hall, 2006
(2) Digital Evidence and Computer Crime, 3rd edition, by Eoghan Casey, Academic Press, 2011
(3) Hacking Exposed Computer Forensics, 2nd edition, by Davis, Cowen, and Philipp, McGraw-Hill/Osborne, 2009
(4) Real Digital Forensics, by Jones, Bejtlich, and Rose, Addison-Wesley, 2006

Topics:

Part A. Fundamentals:
1. Overview of computer forensics
   Forensic science, digital evidence, disk imaging, forensics tools
2. PC hardware, computer operating systems, file systems
   Disk geometry, DOS partitions, Windows and Linux file systems
3. File signatures, string searching, data carving
   File types, metadata, regular expressions, grep command
4. Data hiding techniques
   Deleted file recovery, recycle bin, alternate data streams, encryption, anti-forensics tools

Part B. Investigative Techniques:
5. Windows registry files
6. Live system analysis and incident response
7. Email analysis
8. Internet activity analysis
9. Computer forensics tools
10. Documentation and reports

Part C. Legal Issues:
11. Computer crimes
12. Cyberlaw and case studies

Course Work:
- Class and/or online participation (10%)
- Homework assignments, including exams of thumb drive image (using hex editor or similar tools) and hard disk image (using FTK demo version), and use of Linux-based tools and other open source tools (40%)
- Midterm exam (20%)
- Final exam (30%)

Grading Policy:
- Class attendance or online participation (via online postings in discussion groups) is expected
- Homework assignments are to be submitted to UCF's WebCourses site by the due dates; no late assignments are accepted unless prior arrangements are made
- Exams are given online on WebCourses, each open for a period of 5 days
- Homework (and exams) represent individual work, no "team" work or plagiarism will be tolerated
- Grades are based on the straight-percentage scale, i.e., A (90% or up), B (80 – 89.99%), C (70 – 79.99%), D (60 – 69.99%), and F (below 60%); plus/minus grades will be used sparsely (if at all)

Academic Integrity and Student Conduct: Please read and understand student rights and responsibilities including conduct rules clearly stated in UCF's **golden rules**, available at http://www.goldenrule.sdes.ucf.edu/

<mark>**Disability Statement:**</mark>

The University of Central Florida is committed to providing reasonable accommodations for all persons with disabilities. This syllabus is available in alternate formats upon request. Students with disabilities who need accommodations in this course must contact the professor at the beginning of the semester to discuss needed accommodations. No accommodations will be provided until the student has met with the professor to request accommodations. Students who need accommodations must be registered with Student Disability Services, Student Resource Center Room 132, phone (407) 823-2371, TTY/TDD only phone (407) 823-2116, before requesting accommodations from the professor.

Course Website: available on UCF WebCourses (under construction)