TCOM/CFRS 510 Sec 001 – Digital Forensics Analysis
Department of Electrical and Computer Engineering
George Mason University
Fall 2014

Syllabus (8 Aug 2014)

Class time/location: Monday 7:20 pm – 10:00 pm / Fairfax Campus: Nguyen Engineering Building 4457

Administrative Information

Instructor: Eric J. Eifert, Special Agent USAF
Adjunct Professor
E-mail: eefert2@gmu.edu
Phone: 703-966-9998
Office Hours: By Appointment

Course Description

TCOM/CFRS 510 Sec 001 – Digital Forensics Analysis
Explains Computer Forensics crime scene procedures, beginning with initial walk-through and evaluation; identification and collection of potential evidence; preparation of intrusion investigation; aspects of working with investigators and attorneys; reverse engineering with file identification and profiling; application of critical thinking in determination of significance of artifacts; and analysis and reporting of evidence.

Credits: 3
Prerequisite(s): Graduate standing or permission of instructor

Text book

Title: Digital Evidence and Computer Crime, 3rd edition
Author: Eoghan Casey
Publisher: Academic Press
ISBN: 9780123742681
Pages: 807

Lab book

Title: Guide to Computer Forensics and Investigations Lab Manual
Author: Andrew Blitz and Christopher Steuart
Publisher: Course Technology
ISBN: 9781435498853
Pages: 224

Grading

Homework assignments, individual presentation, mid-term exam, and group presentations will be evaluated to create the final grade. All group members will receive the same grade.
Homework (4 assignments): 20%
Individual Presentation #1: 10%
Midterm Exam: 25%
Individual Presentation #2: 20%
Final Exam: 25%

## Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Reading Assignment / Lab</th>
<th>Projects Assigned / Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>25-Aug-14</td>
<td>Introduction and case study “Complicated”</td>
<td>Chapter 1 / Lab 1</td>
<td>Assigned: Homework #1 - Introduction to Digital Forensic Tools</td>
</tr>
<tr>
<td>Labor Day</td>
<td>1-Sep-14</td>
<td>No Class this week</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 2</td>
<td>8-Sep-14</td>
<td>Foundations of Digital Forensics</td>
<td>Chapter 2 / Lab 2</td>
<td>Due: Individual presentation topics (Computer forensics in the news)</td>
</tr>
<tr>
<td>Week 3</td>
<td>15-Sep-14</td>
<td>Language of Computer Science Investigation</td>
<td>Chapter 3 / Lab 3</td>
<td>Due: Homework #1</td>
</tr>
<tr>
<td>Week 4</td>
<td>22-Sep-14</td>
<td>Digital Evidence in the Courtroom</td>
<td>Chapter 4 / Lab 4</td>
<td>Due: Individual Presentation #1</td>
</tr>
<tr>
<td>Week 5</td>
<td>29-Sep-14</td>
<td>Cybercrime Law: A United States Perspective</td>
<td>Chapter 6 / Lab 5</td>
<td></td>
</tr>
<tr>
<td>Week 6</td>
<td>6-Oct-14</td>
<td>Conducting Digital Investigations</td>
<td>Chapter 7 / Lab 6</td>
<td>Assigned: Homework #2 - Cryptographic Hash Functions</td>
</tr>
<tr>
<td>Week 7</td>
<td>Tuesday</td>
<td>Handling a Digital Crime Scene / Investigative Reconstruction with Digital Evidence</td>
<td>Chapter 8 / Lab 7</td>
<td>Due: Homework #2</td>
</tr>
<tr>
<td></td>
<td>14-Oct-14</td>
<td></td>
<td></td>
<td>Assigned: Individual Presentation #2 topics</td>
</tr>
<tr>
<td>Week 8</td>
<td>20-Oct-14</td>
<td>MIDTERM EXAM</td>
<td></td>
<td>Assigned: Individual Presentation #2 topics</td>
</tr>
<tr>
<td>Week 9</td>
<td>27-Oct-14</td>
<td>Computer Basics for Digital Investigators</td>
<td>Chapter 15 / Lab 8</td>
<td>Due: Individual Presentation #2 topics</td>
</tr>
<tr>
<td>Week 10</td>
<td>3-Nov-14</td>
<td>Applying Forensic Science to Computers</td>
<td>Chapter 16 / Lab 9</td>
<td>In class Project (Homework #3): Crime Scene Collection</td>
</tr>
<tr>
<td>Week 11</td>
<td>10-Nov-14</td>
<td>Digital Evidence on Windows Systems</td>
<td>Chapter 17 / Lab 10</td>
<td>Due: Crime Scene Collection report (Homework #3)</td>
</tr>
<tr>
<td>Week 12</td>
<td>17-Nov-14</td>
<td>modus Operandi, Motive, and Technology</td>
<td>Chapter 9 &amp; 10/ Lab 11 and 12</td>
<td>Assigned: Homework #4 - Forensic Examination of Hard Drive Image</td>
</tr>
<tr>
<td>Week 13</td>
<td>24-Nov-14</td>
<td>Violent Crime and Digital Evidence &amp; Digital Evidence as Alibi</td>
<td>Chapter 11 &amp; 12 / Lab 13 and 14</td>
<td></td>
</tr>
<tr>
<td>Week 14</td>
<td>1-Dec-14</td>
<td>Sex Offenders on the Internet</td>
<td></td>
<td>Due: Homework #4 and Individual Presentation #2</td>
</tr>
<tr>
<td></td>
<td>8-Dec-14</td>
<td>Reading Day</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 15</td>
<td>15-Dec-14</td>
<td>Final Exam</td>
<td></td>
<td>Final Exam</td>
</tr>
</tbody>
</table>
**Blackboard Learn**
We will be utilizing the new Blackboard Learn capability to post material, manage assignments, chat and other activities. You can access the Blackboard at: [http://myMason.gmu.edu](http://myMason.gmu.edu).

**Attendance Policy**
Students are expected to attend each class, to complete any required preparatory work (including assigned reading) and to participate actively in lectures, discussions and exercises. As members of the academic community, all students are expected to contribute regardless of their proficiency with the subject matter. Students are expected to make prior arrangements with Instructor if they know in advance that they will miss any class and to consult with the Instructor if they miss any class without prior notice.

Departmental policy requires students to take exams at the scheduled time and place, unless there are truly compelling circumstances supported by appropriate documentation. Except in such circumstances, failure to attend a scheduled exam may result in a grade of zero (0) for that exam.

**Communications**
Communication on issues relating to the individual student should be conducted using e-mail or telephone. E-mail is the preferred method – for urgent messages, you should also attempt to contact the Instructor via telephone. E-mail messages from the Instructor to all class members will be sent to students' GMU email addresses – if you use another email account as your primary address, you should forward your GMU email to that account.

**Honor Code**
Students are required to be familiar and comply with the requirements of the GMU Honor Code. The Honor Code will be strictly enforced in this course.

**Accommodations for Disabilities**
If you have a documented learning disability or other condition that may affect academic performance you should: 1) make sure this documentation is on file with Office for Disability Services (SUB I, Rm. 4205; 993-2474;http://ods.gmu.edu) to determine the accommodations you need; and 2) talk with me to discuss your accommodation needs.