

TCOM/CFRS 661–Digital Media Forensics

Department of Electrical and Computer Engineering

George Mason University

Spring 2017

Syllabus (revised 2017-January 22)

Administrative Information

Instructor: **John J. Larkin II**

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Phone: 703-944-2592

Office hours: By appointment

Teaching Assistant: N/A

Classes: Monday 7:20 pm – 10:00 pm

Location: Innovation Hall Room 317

Course Description

TCOM/CFRS 661 - Digital Media Forensics (3:3:0)

Prerequisites: TCOM 548 and TCOM 556 or TCOM 562; a working knowledge of computer operating systems (e.g. CS 471 or equivalent) or permission from instructor. This course deals with the collection, preservation, and analysis of digital media such that the evidence can be successfully presented in a court of law (both civil and criminal). The relevant federal laws will be examined as well as private sector applications. The seizure, preservation, and analysis of digital media will be examined in this course.

Textbooks

- Digital Forensics Workbook by Michael K. Robinson (ISBN: 1517713609/ISBN-13: 978-1517713607) - **MANDATORY**
- Additional required supplies for this course will be discussed the first week of class.

Grading

The grade for the course is determined from a calculation of points on a 0 to 100 point scale, which will be assessed on the following components:

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|---|-----|
| Homework (3@10% each) | 30% |
| Article Posting/Presentations (4@5% each) | 20% |
| Mid-term exam | 20% |
| Final Project | 20% |
| Class participation | 10% |

Homework

Three small projects (Homework) will be assigned during the semester (see schedule). Homework must be posted to Blackboard before the beginning of class the day it is due.

Article Postin/Presentations

Students must prepare and post to blackboard a one page writeup on an article relative to course content or they may present a 5-minute PowerPoint presentation in class. The article should not come from advertisement or blogs. Students must either post to blackboard or present on four different topics during the semester (see schedule for presentation time). Students are expected to ask questions of each other's posting and presentations throughout the semester for full class participation points.

Mid-term exams

The mid-term exam will be taken in class and will cover material discussed in Weeks 1-7.

Final Project

The final project must be uploaded to Blackboard by 10pm on the final week (see schedule). Students will be responsible for conducting an individual forensic analysis of a drive that will be issued during the during the course. Students are not allowed to collaborate on the final project.

Schedule

| Week | Date | Topic | Reading Assignments | Projects Due |
|-------------|-------------|---|---|---|
| Week 1 | 1/23/2017 | Introduction/Legal Issues *WILL NOT MEET IN CLASS/Blackboard only | | See Introduction PowerPoint for assignment |
| Week 2 | 1/30/2017 | Computer Incident Response (Crime Scene documentation) | News article Pres. | |
| Week 3 | 2/6/2017 | Data Acquisition and Duplication | DFW – Chapters 1-3 | Complete exercises |
| Week 4 | 2/13/2017 | Crime Scene Practical | | Homework 1 due |
| Week 5 | 2/20/2017 | Windows File System FAT | DFW – Chapters 4-6 News article Pres. | Complete exercises |
| Week 6 | 2/27/2017 | Windows File System NTFS | News article Pres. | |
| Week 7 | 3/6/2017 | Mid term | | |
| Week 8 | 3/13/2017 | Spring Break | | |
| Week 9 | 3/20/2017 | Windows Registry/Anchor Relative Time (ART) *Tentative* | DFW – Chapters 7-10 | Complete exercises |
| Week 10 | 3/27/2017 | Managing a Computer Forensics Lab | DFW – Chapters 11-12 News article Pres. | Homework 2 due Complete exercise |
| Week 11 | 4/3/2017 | Forensics Laboratory Visit *Tentative | | |
| Week 12 | 4/10/2017 | Analysis Methodology | DFW – Chapters 13-15 News article Pres. | Complete exercises |
| Week 13 | 4/17/2017 | Windows Forensics Nuix | News article Pres. | |
| Week 14 | 4/24/2017 | Windows Forensics Blacklight | DFW – Chapters 17,18,21 News article Pres. | Complete exercises |

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|---------|-----------|---|--|----------------|
| Week 15 | 5/1/2017 | Courtroom Presentation | | Homework 3 due |
| Week 16 | 5/8/2017 | Reading Day (NO CLASS) | | |
| Week 17 | 5/15/2017 | No Class – Final Project must be uploaded to Blackboard by 10pm | | |

This schedule is subject to revision before and throughout the course.

Call 703-993-1000 for recorded information on campus closings (*e.g.* due to weather).

Important Dates

Religious holiday calendar <http://ulife.gmu.edu/calendar/religious-holiday-calendar/>

Attendance Policy

Students are expected to attend each class, whether on-line or in person, 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 email or telephone. Email is the preferred method – for urgent messages, you should also attempt to contact the Instructor via telephone. Email 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.

Lecture slides are complements to the lecture process, not substitutes for it - access to lecture slides will be provided as a courtesy to students provided acceptable attendance is maintained.

Honor Code

Students are required to be familiar and comply with the requirements of the [GMU Honor Code^{\[1\]}](#).

The Honor Code will be strictly enforced in this course.

All assessable work is to be completed by the individual student.

Students must **NOT** collaborate on the exam or final project.

In order to be able to fully exchange information and insure complete candor in discussions, the policy of non-attribution will be **STRICTLY** enforced.

^[1] Available at <http://catalog.gmu.edu/content.php?catoid=5&navoid=410#Honor> and related GMU Web pages.

Disability Accommodations:

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 of 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.

If you are a student with a disability and you need academic accommodations, please see me and contact the Office of Disability Services (ODS) at 993-2474, <http://ods.gmu.edu>. All academic accommodations must be arranged through the ODS.

If you have a learning or physical difference that may affect your academic work, you will need to furnish appropriate documentation to the Office of Disability Services. If you qualify for accommodation, the ODS staff will give you a form detailing appropriate accommodations for your instructor. In addition to providing your professors with the appropriate form, please take the initiative to discuss accommodation with them at the beginning of the semester and as needed during the term. Because of the range of learning differences, faculty members need to learn from you the most effective ways to assist you. If you have contacted the Office of Disability Services and are waiting to hear from a counselor, please tell me.

Privacy:

Students must use their MasonLive email account to receive important University information, including messages related to this class. See <http://masonlive.gmu.edu> for more information.