DFOR 671
Legal and Ethical Issues in Computer Forensics

Department of Electrical and Computer Engineering
Volgenau School of Information Technology and Engineering
George Mason University

Instructor

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(Note: You MUST use your GMU account to contact me using my GMU account, *per University privacy guidelines*.)

Office Hours: Available by Appointment
Office Location: Zoom/Teams/FaceTime Video Conference or Adjunct Office (Room 3707)

Location and Time

Enterprise Hall, Room 275
January 23, 2024 through May 8, 2024
Thursdays, 7:20 PM to 10:00 PM

Course Description

This course will present and discuss legal and ethical topics in the context of computer forensics such as executing search warrants in the collection of digital evidence, the Computer Fraud and Abuse Act, the differences in working in law enforcement, Intelligence, and commercial environments, and more. Additionally, it will *greatly* cover practical considerations and concerns in "real world" computer forensics, different specializations in computer forensics, expert/fact witness testimony, and forensic report writing. The course will be **participative, discussion focused**, and most importantly, ***designed to prepare the student for careers in law enforcement, Intelligence, or commercial digital forensics positions.***

While prior work experience in computer forensics is neither expected nor necessary, this course will include discussion about professional computer forensic issues, and students are **highly encouraged** to share their own knowledge and experiences as different work environments produce different experiences.

Prerequisites

DFOR 500—Introduction to Technologies of Value to Forensics (Accepted as a Co-Requisite)

Course Objectives

The objective of this course is to familiarize students with the legal and ethical issues that surround the practice of digital forensics and to prepare the student with an understanding of digital forensics as a career choice. **Legal and ethical issues vary widely** depending upon the environment in which digital forensic examiners practice, and failure to understand the differences between those operating environments can lead to professional disciplinary measures, civil action, or even criminal charges against a practicing forensic professional. Students will learn the differences in performing work in these environments, to include personal, professional, legal, and ethical expectations encountered in each area.

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Grading

Raw scores may be adjusted to calculate final grades. Grades will be assessed by the following components:

Class Participation/Homework/Quizzes	15%
Midterm	25%
Research Paper and Presentation	30%
Final Exam	30%

The overall grading scale used in this course is:

Grade	Range	Quality Points	Status
A+	97-100	4.0	Satisfactory/Passing
A	93-96	4.0	Satisfactory/Passing
A-	90-92	3.67	Satisfactory/Passing
B+	87-89	3.33	Satisfactory/Passing
B	83-86	3.00	Satisfactory/Passing
B-	80-82	2.67	Satisfactory/Passing
C	74-79	2.00	Unsatisfactory/Passing
F	0-73	0.00	Unsatisfactory/Failing

There are no “extra credit” assignments in this course. If necessary, grades will be rounded numerically to the mathematically logical result.

Class Participation, Homework Assignments, and Quizzes

Most weeks (*excluding* the first night, the night of the midterm, the night of research paper presentations, and the night of the final exam), students will be expected to submit a homework assignment assigned during class. Typically the homework assignments are brief (with one or two exceptions) and concentrate on developing understanding of current topics in digital forensics and one’s ability to communicate such understanding via the written word.

Homework assignments are due weekly before the start of class and must be submitted electronically through the Blackboard/Canvas system. **Homework assignments marked late in Blackboard/Canvas will not be accepted and will result in a score of zero for the individual assignment.**

Quizzes may be given throughout the semester to reinforce material and to check that the instructional material is reaching the students. These quizzes will not be highly weighted, but they will serve to assist in student learning and preparation for the midterm and final.

Due to the highly discussion-oriented nature of the program, *students are expected to ask questions*, *discuss topics*, and ***share their own experiences***; these are all key components to this course.

The instructor places a strong emphasis on writing ability due to the nature of digital forensic work. Students will be expected to communicate at a graduate student level via the written word for weekly assignments and the research paper. ***Effective use of language, style, and grammar will factor into the grading of written assignments due to the importance of writing and reporting skills in the profession of digital forensics.***

Midterm/Final

Midterm and final examinations will be given during the course and will cover information provided and discussed during lectures, required and supplemental readings, and any information derived from homework assignments. These exams will typically be given in class via Blackboard/Canvas and are usually composed of multiple choice, multiple answer, true/false, matching, and ordering questions. When classes are on campus, if we are normally in a room without student computers, a different room with student computers will be scheduled specifically for those exam nights. If in a remote learning session, the student must have access to a computer with videoconferencing capabilities over Zoom and with Blackboard/Canvas access to take exams.

Research Paper and Presentation

Students will complete a research paper and presentation reviewing a published digital forensics-related case discussing the legal and ethical topics involved. *Further guidance will be given when the paper is assigned.* Papers and presentations are due to be submitted to Blackboard/Canvas by the date and time specified in the assignment. Should an assignment not be submitted on time, the following penalties will apply:

1. An automatic five (5) point reduction will apply to the slides component for being unprepared to present (unless the student has the presentation portion completed and submitted), **and**
2. Five (5) points per day *or any fraction of a day* after the due date will be subtracted from the paper's otherwise assigned grade. For these purposes, a “day” will start at 7:20 PM and end the following day at 7:19 PM based upon the submission time in Blackboard/Canvas. Papers more than four days late will not be accepted and will result in a grade of zero for the assignment.

Note: Because of the nature of the class, the generous length of time given to complete the paper, and the amount of time the paper should take to complete, *no extensions or delays will be granted outside of the handling of late papers as specified above.* **I encourage you to start your papers upon receiving the assignment so that you have more than enough time to complete them**; the assignment is neither tremendously long nor complex, but it will require time for research.

Electronic Devices

Students must have access to a computing platform with Zoom videoconferencing capabilities (camera and microphone) to take this course if/when offered remotely. Screen size should be adequate to see and read materials presented in slides. An additional device such as a smartphone or tablet nearby may be handy to have during different classes for specific assignments, but it is not a requirement. Due to the discussion oriented nature of this course, students are ***strongly encouraged*** to have their cameras on during the lecture (especially the first night), but it is not an absolute requirement. Virtual backgrounds are perfectly fine (the instructor will use many), as are dogs, cats, children, or others occasionally wandering into the session. Should a pet or child appear on camera, we may pause the lecture to introduce said pet or child before continuing.

If you choose to take notes electronically, please feel free, however remember that you need a screen available for any Zoom session. (*Instructor’s Note: While taking notes electronically is convenient and quick,* any number of studies *show that taking handwritten notes is far more effective for memorization and learning, but this is of course up to you.)*

Smartphone and/or tablet use during class for other reasons is permitted, but please be respectful of your peers and your professor. Choosing to read or watch other materials during class does not mean that the professor is required to provide you extra credit assignments at the end of the semester to make up for a poor grade because you were watching primates react to magic tricks.

Textbooks

The following book is optional for this course:

Title: ***Electronic Evidence: Law & Practice, Second Edition***
Author: Paul R. Rice
Publisher: American Bar Association
ISBN: 978-160442084-5

Author's Description: *Electronic Evidence: Law and Practice* explores the range of problems encountered with electronic communications from discovery to trial, and offers practical solutions to both existing and potential problems. Particular emphasis is given to the unique problems evolving around the way in which parties are asserting the attorney-client privilege and judges are applying it to e-mail communications.

Recommended reading will be discussed during lecture. Students are encouraged to review recommended reading as needed and/or indicated by the instructor. **The material covered in the midterm and final will come from the instructor's slides and presentations, hence, effective note taking is critical to your success in this class.** Copies of slides are provided, but the slides often have only talking points for the instructor.

The following book is optional, ***but highly recommended,*** *for this course and for life in general (and will cost you about $6.00 in paperback or $3.00 on a Kindle):*

Title: ***The Elements of Style, Fourth Edition***
Author: William Strunk and E.B. White
Publisher: Pearson
ISBN: 978-0205309023

Honor Code

GMU is an Honor Code university; please see the Office for Academic Integrity for a full description of the code and the honor committee process. The principle of academic integrity is taken very seriously and violations are treated gravely. What does academic integrity mean in this course? Essentially this: when you are responsible for a task, you will perform that task. When you rely on someone else's work in an aspect of the performance of that task, you will give full credit in the proper, accepted form. You will not plagiarize the work of another. Another aspect of academic integrity is the free play of ideas. **Vigorous and sometimes uncomfortable discussion and debate are encouraged in this course**, with the firm expectation that all aspects of the class will be conducted with civility and respect for differing ideas, perspectives, and traditions. Digital Forensics, as a practice, often deals with difficult, upsetting, or controversial topics. When in doubt (of any kind) please ask for guidance and clarification.

As this is an ethics course specifically, violations of the Honor Code (especially and including plagiarism) will be taken extremely seriously and handled similarly.

The material provided in the course is proprietary. Uploading this material anywhere without the express permission of the instructor is strictly prohibited and a violation of the Mason Honor Code. https://oai.gmu.edu/

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 the instructor to discuss your accommodation needs.

Sexual Harassment/Misconduct

As a faculty member and designated "Responsible Employee," the instructor is required to report all disclosures of sexual assault, interpersonal violence, and stalking to Mason's Title IX Coordinator per university policy 1412. If you wish to speak with someone confidentially, please contact the Student Support and Advocacy Center (703-380-1434), Counseling and Psychological Services (703-993-2380), Student Health Services, or Mason's Title IX Coordinator (703-993-8730; cde@gmu.edu).

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Preliminary Schedule (Subject to Change)

Week	Date	Topic
1	Jan 23	Student and Instructor Introductions and Course Overview, Expectations, and Background of Computer Forensics as a Profession
2	Jan 30	Computer Forensics as a Career—Discussion, Job Expectations, Working Conditions, and Industry Background **THIS WILL MOST LIKELY BE A ZOOM-SESSION.**
3	Feb 6	Personal Ethics in Computer Forensics, Understanding and Controlling Biases, Allowing the Evidence to Speak for Itself, Types of Evidence
4	Feb 13	Ethics of Computer Forensics in a Law Enforcement Environment
5	Feb 20	Legal Issues in Computer Forensics in a Law Enforcement Environment, Fourth Amendment, Search Warrants & Affidavits
6	Feb 27	Legal Issues in Computer Forensics in a Law Enforcement Environment, Chapter 8: Frye/Daubert, Chapter 4: Best Evidence/Original Writing Rule, ANAB/ASCLD Accreditation **RESEARCH PAPER ASSIGNED**
7	Mar 6	Digital Forensic Report Writing, Note Taking, Worksheets/Checklists, Chain of Custody
8	Mar 13	**SPRING BREAK - NO CLASS**
9	Mar 20	**MIDTERM EXAM - LOCATION TBD**
10	Mar 27	Intended Guest Speaker on Courtroom Testimony in Digital Forensics
11	Apr 3	Ethics/Laws of Computer Forensics in an Intelligence Environment, Legal Issues in an Intelligence Environment, FISA: Foreign Intelligence Surveillance Act
12	Apr 10	**RESEARCH PAPER PRESENTATIONS**
13	Apr 17	Intended Guest Speaker on Commercial Forensics, Commercial Ethics, Doing Forensics in a Business Environment
14	Apr 24	Legal Issues of Computer Forensics in a Commercial Environment, Chapter 3: Attorney/Client Privilege, PI Laws, State Courts
15	May 1	GDPR & CCPA or “Professor’s Choice” Topic
16	May 8	**FINAL EXAM - LOCATION TBD**