

DFOR 510 Digital Forensics Analysis
Department of Electrical and Computer Engineering
George Mason University
Fall 2022

Administrative Information:

Class time: Thursdays, 7:20pm – 10:00pm
Location: Zoom link provided on Blackboard
Instructor: Brienne Douglas
E-mail: bdougl4@gmu.edu
Office hours: by appointment only

Course Description:

DFOR 510 – 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

Optional Texts:



Title: Python In A Day
Author: Richard Wagstaff
Publisher: CreateSpace Independent Publishing Platform
ISBN-13: 9781490475578

NOTE: 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.

Grading Policy:

Homework assignments, presentations, quizzes and exams will be calculated to render a final grade.

Homework:	10%	Presentation (PR):	15%
Quizzes:	15%	Midterm Exam:	25%
		Final Exam:	35%

- Homework assignments will not be accepted **one week passed the due date**.
- Presentations must be given on the assigned date or no credit will be given.
- Quizzes and exams must be taken by the due date and time. **NO EXCEPTIONS.**
- All times are in the Eastern Time zone (ET).
- **A final exam score of less than 70% results in an F for the course.**

Schedule (subject to change)

Week	Topic	Assigned/Due Items
01	Digital Forensics Foundation, Data Acquisition & Processing	Assigned: PR Topics
02	Python Basics – Data Types & Conversions, Libraries, Loops, Conditional Statements	Due: PR Topics Assigned: HW1
03	Hard Drives, File Systems, Operating Systems (Windows)	
04	Files Systems (part 2) & Operating Systems (*nix & MacOS)	Due: HW 1
05	Python – Control Flow, Date/Time stamps, Functions	Assigned: HW2
06	Graphic Files, Analysis & Validation	
07	Presentations	Due: Presentations
08	Presentations (cont.)	Due: HW2
09	~~ Midterm ~~	
10	Virtualization & Cloud Forensics	Assigned: HW3
11	Python – Files and Error (Try/Except) Handling, Web Scraping	
12	Static & Dynamic Analysis	Due: HW3 Assigned: HW4
13	Memory Analysis	
14	~~ Thanksgiving Break ~~	
15	Python – Generators, Iterators & Regular Expressions	Due: HW4
16	~~ Final Exam ~~	

GMU Semester Calendar available [here](#).

Technology Note

Please be aware that [Apple MacBook M1 is incompatible with Windows Virtual Machines](#). Therefore, if you are operating on a MacBook with this configuration, it may be beneficial use to use a different system, utilize software labs on campus (ENGR 1506) or an online VM service (e.g., [GMU's Citrix VM](#)) to complete some assignments. **No assignment extensions will be granted due to software compatibility issues and will result in point deductions or a 0 (zero) grade for incomplete/unsubmitted assignments.**

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[Black Board Learn & Communication](#)

Blackboard Learn will be used to post material, manage assignments, chat and other activities. You can access Blackboard at: <http://mymasonportal.gmu.edu>.

GMU policy requires that faculty and student course related communication be done via their respective **@GMU.EDU** email addresses. 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.

[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 acquire the proper technology to virtually attend class. This includes a computer system, microphone and camera. Cameras are expected to be turned on during class lecture to maximize learning.

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.

[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 and can be accessed at <http://oai.gmu.edu/the-mason-honor-code-2/>.

[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; 703-993-2474; <http://ods.gmu.edu>) to determine the accommodations you need; and 2) talk with me to discuss your accommodation needs.

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