DFOR 510 Digital Forensics Analysis
Department of Electrical and Computer Engineering
George Mason University
Spring 2023

Administrative Information:

Class time: Thursdays, 7:20pm – 10:00pm
Location: Nguyen Engineering (ENGR) 5358
Instructor: Brienne Douglas
E-mail: bdougla4@gmu.edu
Office hours: by appointment only

Course Description:

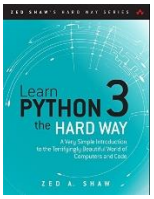
DFOR 510 – Digital Forensics Analysis

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



Title: Learn Python 3 the Hard Way: A Very Simple Introduction to the Terrifyingly Beautiful World of Computers and Code
Author: Zed Shaw
Publisher: Addison-Wesley Professional
ISBN-13: 978-0134692883

Grading Policy:

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

Homework:	15%	**Quizzes:**	20%
Presentation (PR):	20%	**Midterm Exam:**	20%
		Final Exam:	25%

- 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 Foundations	**Assigned:** PR Topics
02	Hard Drives, File Systems, Operating Systems	**Assigned:** HW1 BRING **USED** THUMB DRIVE TO CLASS
03		**Due: PR Topics**
04	Python Basics – Data Types & Conversions, Libraries, Loops, Conditional Statements	**Due: HW 1** **Assigned:** HW2
05	Graphic Files & Forensic Image Validation	
06	Python – Control Flow, Date/Time stamps, Functions	**Due:** HW2
07	**~~ MIDTERM~~**	
08	**Spring Break – NO CLASS**	
09	Python – Files and Error (Try/Except) Handling	**Assigned:** HW3
10	Virtualization & Cloud Forensics	
11	Python – Generators, Iterators & Regular Expressions	
12	Unknown Code Analysis	**Due:** HW3 **Assigned:** HW4
13	Memory Analysis	
14	Presentations	**Due: P**resentations
15	Presentations	**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.**

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.