

CFRS 510- 001 Digital Forensics Analysis
Department of Electrical and Computer Engineering
George Mason University
Spring 2021

Administrative Information:

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

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

Optional Texts:



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

Grading:

Homework assignments, presentations, and exams will be evaluated to create the final grade.

Homework:	20%	Presentation (PR):	20%
Midterm Exam:	25%	Final Exam:	35%

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.

Schedule *(subject to change)*

Week	Topic	Assigned/Due Item
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 Analysis	Due: HW3
13	Dynamic Analysis	Assigned: HW4
14	Python – Generators, Iterators & Regular Expressions	
15	Python – Classes; Review	Due: HW4
16	~~ Final ~~	

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.

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.

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

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.