



DFOR 637 DL2: Cloud Forensics

Syllabus – Fall 2024

COURSE INFORMATION

Course: DFOR 637 DL2
Format: Online
Semester: Fall 2024
Date/Time: Wednesdays, 7:20PM - 10:00PM
Location: Online Via Blackboard Collaborate

INSTRUCTOR INFORMATION

Name: Akette Cowart
Email: acowart@gmu.edu
Phone: N/A
Office Hours: Schedule = 24 hours in advance
Office Location: Online Via Blackboard Collaborate

COURSE OBJECTIVES AND COURSE CONTENT SUMMARY

Review the link for further details on the GMU Website.

(<https://catalog.gmu.edu/search/?P=DFOR%20637>)

COURSE DESCRIPTION

Introduces students to various cloud platforms and their features and prepares students to acquire memory, disk and other cloud resources from cloud providers. Students may perform some forensics on gathered artifacts. The course will take students from understanding what resources are available in a cloud provider to what artifacts exist and how to capture and analyze them.

COURSE PREREQUISITES/CO-REQUISITES

Recommended Prerequisite: CFRS 510 or permission from instructor.

Registration Restrictions: Enrollment limited to students with a class of Advanced to Candidacy, Graduate or Non-Degree. Students in a Non-Degree Undergraduate degree may not enroll.

Schedule Type: Lecture

TECHNICAL COMPETENCIES

Basic Blackboard knowledge is assumed. Blackboard can be accessed via the following link:

<https://mymason.gmu.edu>. Students must have a working knowledge of the Unix command line and basic Windows command line.

RECOMMENDED TEXTBOOKS FOR THIS CLASS

Textbook Title: Contemporary Digital Forensic Investigations of Cloud and Mobile Applications

Version: Published - October 12, 2016

Author: Ali Dehghantanha

Publisher: Elsevier Science; Syngress

ISBN: 9780128054482, 0128054484



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Textbook Title: Cloud Storage Forensics

Version: 1st edition (November 16, 2013)

Author/Editors: Darren Quick, Ben Martini, Kim-Kwang Raymond Choo

Publisher: Syngress

ISBN-13: 978-0124199705

Textbook Title: Security, Privacy, and Digital Forensics in the Cloud

Version: Published – (February 5, 2019)

Author: Edited by Hassan Takabi, Lei Chen, Nhien-An Le-Khac

Publisher: Wiley

ISBN-13: 978-1119053378, **ISBN-10:** 1119053374

Textbook Title: Cybercrime and Cloud Forensics: Applications for Investigation Processes

Version: 1st Edition (Dec 31, 2012)

Author/Editors: Keyun Ruan

Publisher: Packt Publishing

ISBN-13: 978-1800564411 **ISBN-10:** 1466626623

Textbook Title: Cloud Forensics Demystified: Decoding Cloud Investigation Complexities for Digital Forensic Professionals

Version: 1st Edition, (February 22, 2024)

Author/Editors: Ganesh Ramakrishnan, Mansoor Haqanee

Publisher: IGI Global

ISBN-13: 978-1466626621, **ISBN-10:** 1466626623

Minimum Technical Requirements for Online Classes

You will need a computer, a reliable Internet connection, and basic word processing software such as Microsoft Word. Access to GMU Blackboard is a requirement (<https://mymason.gmu.edu>).

Recommend the student use a Windows – Based Operating System (preferably Windows 10) with a minimum 8 GB of RAM and a Google Chrome Web Browser installed. Student will also need a functional webcam and microphone attached to their computer/laptop for weekly meeting sessions.

COURSE GRADING, EXAMINATIONS, AND GRADE COMPOSITION

Grading

Grading is based on several weighted factors including, but not necessarily limited to, student participation, Blackboard Discussion Boards, Lab assignments, Research papers, and exams. **The instructor has the right to add or subtract the number of assessments (i.e., exams, tests, quizzes, assignments, discussions, papers, etc.) assigned during the course of the semester as he/she deems appropriate.**



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Grade Scale

GMU Graduate level courses follow the AP 3.2 Grading Policies, which can be found here:

<https://catalog.gmu.edu/policies/academic/grading/>

Grade Composition

Final Course Grade Calculations

A student's final course grade is calculated using an average calculation. The average calculation for each grade category is based on the formula below which will generate a real number.

$$\left(\frac{\text{Maximum Student Points Earned}}{\text{Maximum Possible Points possible}} \right) = \text{Grade Point Average}$$

COURSE SCHEDULE

SCHEDULE – FULL TERM - 16 WEEKS

WEEK	MEETING DATES	TOPICS TO COVER	PROJECTS DUE
Week 1	August 28, 2024	Course/Class Introduction Syllabus Review	N/A
		Introduction to the Cloud	
Week 2	September 04, 2024	Security in the Cloud	Week 2 Discussion Assignment 1
Week 3	September 11, 2024	Confidentiality/Access Control	Week 3 Discussion
Week 4	September 18, 2024	Cloud Storage	Week 4 Discussion Assignment 2
Week 5	September 25, 2024	Privacy Management	Week 5 Discussion
Week 6	October 2, 2024	Attacking the Cloud	Week 6 Discussion Assignment 3
Week 7	October 09, 2024	Managing Risks within the Cloud	Week 7 Discussion
Week 8	October 16, 2024	Mid-Term	Mid Term Exam/ Paper/Project
Week 9	October 23, 2024	Digital Forensics	Week 9 Discussion
Week 10	October 30, 2024	Digital Forensics Process	Week 10 Discussion Assignment 4
Week 11	November 06, 2024	Data Acquisition	Week 11 Discussion
Week 12	November 13, 2024	Evidence Management	Week 12 Discussion Assignment 5
Week 13	November 20, 2024	Data Analysis	Week 13 Discussion

November 27, 2024 – December 1, 2024 - No Class – Thanksgiving Recess



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WEEK	MEETING DATES	TOPICS TO COVER	PROJECTS DUE
Week 14	December 04, 2024	Presentation and Reporting	Week 14 Discussion
Week 15	December 11, 2024	Review	Semester Review
Week 16	December 18, 2024	Final Exam	Final Paper/Project

Note: The instructor has the right to alter or change the course schedule as he/she deems appropriate.

UNIVERSITY GENERAL POLICIES

Please refer to the General Policies sections of the GMU Website:

<https://catalog.gmu.edu/policies/general-policies/>

<https://universitypolicy.gmu.edu/university-policies/general-policies/>

Student Rights and Responsibilities

Please refer to the Student Rights and Responsibilities section of the GMU Website:

<https://catalog.gmu.edu/policies/student-rights-responsibilities/>

The safety of students and personnel is the primary reason for closure of college facilities and the cancellation of campus-based activities. An additional concern is to reduce activities on campuses to enable the Facilities staff to prepare the campuses for reopening as soon as possible.

Honor Code and System

Please refer to the Honor Code and System section of the GMU Website:

<https://catalog.gmu.edu/policies/honor-code-system/>

UNIVERSITY ACADEMIC POLICIES

Please refer to the Academic Policies section of the GMU Website:

<https://universitypolicy.gmu.edu/university-policies/academic-policies/>

IMPORTANT DATES

Please refer to the GMU Academic Calendar for specifics regarding important dates and info.

https://registrar.gmu.edu/calendars/fall_2024/

INFORMATION AND ENGINEERING TECHNOLOGIES (IET) DIVISION POLICIES

Continuity of Instruction

In the event the College is not open to physical class meetings, scheduled exams and/or final exams with no make-up exam date scheduled, the instructor will provide the student with instructions via



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Blackboard announcements and student email on how to take the exam using Blackboard in a way that will maintain the integrity of the testing environment. For example, the instructor may opt to use Respondus LockDown browser (with no back tracking and strict time restrictions enabled) to administer the exam.

INSTRUCTOR POLICIES

Academic Integrity Violation Penalties

The GMU Academic Integrity policy is addressed under the College Policies section. To promote a stronger sense of mutual responsibility, respect, trust, and fairness among all members of the George Mason University community and with the desire for greater academic and personal achievement, we, the student members of the university community, have set forth this honor code: Student members of the George Mason University community pledge not to cheat, plagiarize, steal, or lie in matters related to academic work.

A full reading of the Honor Code and the associated system can be found at our website.

Please note there is a separate process for individuals accused of research misconduct. As it states in policy 4007, "Allegations of academic misconduct against graduate students are governed solely by the university honor code, except for:

1. research activities as defined above regardless of sponsorship; and
2. master's theses and doctoral dissertations, both of which are governed by this policy.

Allegations of academic misconduct against undergraduate students are governed solely by the university honor code, except for sponsored research activities which are governed by this policy."

Questions related to research misconduct that fall under this category should be directed to the Office of Research Integrity and Assurance at the following link: <https://rdia.gmu.edu/topics-of-interest/research-misconduct/>

Instructor/Student Communications

The **primary** means of communication outside the classroom between the Instructor and the student is via Blackboard Announcements and email. Students should check Blackboard and their email daily for any instructor communications. Failure on the part of the student to check Blackboard and email on a regular basis is not an excuse for missed/late assignments or exams. Instructors will make every effort to respond to phone voice messages and emails within 2-business days Monday through Friday, excluding weekends and holidays.

GMU Student Email Account

All student email communications with the instructor are to be conducted with the student's GMU email account. Student emails received by the instructor from any email account other than the GMU email account will be ignored. Student emails sent directly from the GMU student email account should include the course number and section in the subject line of the email message (Blackboard includes this information automatically when students use the Email Instructor link on Blackboard).



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Assigned Reading

It is the student's responsibility to complete any required reading, recommended reading, or research topics **prior** to the class in which the material will be presented. Assigned readings or research topics will be listed in the course schedule.

Classroom and Blackboard Attendance

Students are expected to attend all online lecture classes and are required to login to Blackboard at least three times a week. Classroom and Blackboard attendance will be monitored each week for the records of the instructor. It is strongly recommended that students attend class regularly since exams may include material from class discussions.

Students missing class should make arrangement to get class notes from classmates, not the instructor.

Students who do not attend a minimum of one class meeting, or the distance learning equivalent, by the last day to drop with tuition refund or change to audit (Census Date) will be subject to GMU admission and administrative policies and actions. In order to receive any letter grade, a student must have attended a minimum of one class meeting or the equivalent in the case of a distance learning course.

Assignments and Late Assignments

Students are expected to manage their time accordingly and so it is important that students pay attention to when course assignments are due by the dates and times posted on Blackboard. Students should not assume or expect partial points to be awarded for late assignment submissions.

Late work will not be accepted or graded beyond the due date and students will receive a grade of zero on the assignment.

Exams and Make-Up Exams

Students are expected to manage their time accordingly and so it is important that students pay attention to when exams are scheduled as posted in the course schedule. Exams may be administered via Blackboard using the computers provided in the classroom. In those situations, students may not use their personal laptops, smartphones, or tablet computers to take exams in the classroom.

Students who miss a scheduled exam will receive a grade of zero for that exam.

Emergency Situations

From time to time, emergency situations beyond a student's control (e.g., work conflict, family emergency, accident, death in the family, etc.) may prevent a student from taking a scheduled exam. Under those circumstances, students are expected to contact the instructor via an office phone voice message or via an email **before** the exam is given to notify the instructor of the situation. Where the student cannot contact the instructor beforehand, students must notify the instructor as soon as possible afterwards and before the next class.

Emergency situations will be handled on a case-by-case basis and are no guarantee that the instructor will allow a student to take a make-up exam.



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The instructor may also require the student to provide documented proof of the emergency that prevented the student from taking the exam when given (e.g., a doctor's note for illness, note from work, etc.).

When allowed by the instructor, make-up exams must be taken within 2-business days of the regularly scheduled exam. Other testing arrangements may be made at the discretion of the instructor.

All regular semester make-up exams must be completed by the last day of regular classes.

Electronic Devices in the Classroom

As a professional courtesy to the instructor and students all mobile phones are to be set to silent vibrate mode during the class. If you receive an emergency call during the lecture, please step outside of the classroom to take the call.

All mobile phones, laptops, and other electronic devices are to be turned off during exams.

Prohibited Classroom Activities

The recording of lectures with audio recording devices is prohibited unless specifically authorized under a GMU Disability Support Services (DSS).

Taking photos or videos of course lectures and/or whiteboard course content is strictly prohibited.

Student Conduct

Students shall conduct themselves in a professional manner while in the classroom and online. That means you are not to interrupt your classmates or the instructor while they are talking. Disparaging comments about classmates or the instructor will not be tolerated.

Students are expected to attend all classes and arrive on time. Students are also expected to participate while in class and should be prepared to answer questions asked of them by the instructor.

Students who display rude and disrespectful behavior will be given a warning. If the behavior continues, students will be asked to leave the class and must then meet with the instructor before being allowed back into the class. If the behavior continues after that, the student will be referred to the Dean of Students to discuss the situation before being allowed back into the class.

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. 2500; 993-2474; <http://ods.gmu.edu>) to determine the accommodations you need; and 2) talk with me to discuss your accommodation needs.