

**Course ID/Name:** Comp 855 Digital Forensics

(rev 8/26/25)

**Semester:** Fall 2025

**Instructor:** Michael Jonas (**office:** room 141. **email:** mcy59@unh.edu)

**Time and Location:** Tuesday, 5:40 – 8:30pm, room 142

**Office Hours:** by appointment

**Web Presence:**

Website: <http://stem.unh.edu/mcy59/comp/855>

**Course Description:**

This course studies cyber-attack prevention, planning, detection, response, and investigation with the goals of counteracting cybercrimes. The topics covered in this course include fundamentals of digital forensics, forensic duplication and analysis, network surveillance, intrusion detection and response, incident response, anti-forensics techniques, anonymity and pseudonymity, computer security policies and guidelines, and methods and standards for extraction and preservation of digital evidence.

**Learning Objectives:**

Students should develop understanding of main goals of digital forensics, which include identifying and preserving digital evidence, conducting in-depth data analysis using forensic tools, documenting findings, and presenting them in a detailed comprehensive manner. It also involves understanding the principles of computer and network systems, data storage, and developing critical thinking and communication skills to build a narrative of events from digital artifacts.

**Textbook:**

Primary: *None*

**Tools and Systems:**

Modern operating systems including Windows, MacOS and UNIX/Linux, and associated utility software.

**Student Work and Class Pedagogies:**

Class will include discussions, lectures, and hands-on lab activity. Lectures will take the form of board presentations with questions and answers, although at times we may break into groups to take on a specific topic. The course is 3 credits for graduate students and the expectation is a minimum of 4 hours engaged time per week per credit over 16-week semester.

### Lab Work:

Some labs will be guided by the instructor whereas others, students will be given a task to solve in pairs or groups. Most lab work will translate to further assignments where student show individually what they have learned. Homework assignments will be reviewed upon completion and exam reviews will be held.

### Homework Assignments:

A total of 3 projects are given during the semester covering topics discussed in class as well as requiring further investigation outside of class. All homework is expected to be done individually.

### **Schedule:**

<b>Date</b>	<b>Class Topics</b>	<b>Class Work</b>	<b>Assignment Due</b>
Aug 26	Class beings: <i>overview of digital forensics</i>	Lab 1	
Sep 2	Fundamentals: <ul style="list-style-type: none"><li>• <i>operating systems</i></li><li>◦ <i>deep dive</i></li><li>• <i>data storage</i></li><li>• <i>networking</i></li></ul>		
Sep 9		Lab 3	
Sep 16		Lab 4	
Sep 23	Project Presentations: <i>case studies</i>		Project 1
Sep 30			
Oct 1	Forensic tools: <ul style="list-style-type: none"><li>• <i>analysis</i></li><li>• <i>recovery</i></li><li>• <i>monitoring</i></li><li>• <i>preservation</i></li></ul>	Lab 5	
Oct 14		Lab 6	
Oct 21		Lab 7	
Oct 28			Project 2
Nov 4	Project Presentations: <i>tools</i>		
Nov 11			
Nov 18	Miscellaneous: <ul style="list-style-type: none"><li>• <i>Anti-forensic techniques -or- AI</i></li></ul>	Lab 8	
Nov 25	Project Presentations: <i>case studies / tools</i>		Project 3
Dec 2			

## **Grading:**

10% Participation

This includes attendance, timeliness, and preparedness

24% Lab work

Work done on 8 labs at 3 points each

66% Projects

There will be 3 projects worth 22 points each

Proposal worth 2 points

Project Summary worth 4 points

Presentation worth 16 points (5 points quality of talk, 11 points technical content)

## **Policies**

### Academic Honesty and Collaboration:

Collaboration is supported in the classroom through lab activities. No collaboration outside the classroom is permitted. Note that homework assignments and tests you submit must be entirely your own work. Deviation from this policy will result in dismissal from the course.

See the University policy on **Academic Honesty** for more information.

### Attendance:

Is mandatory and you will lose on class participation grade for absences. Since work is based off lecture and class activities it becomes difficult to do well with too many absences.

### Late Assignments and Make-Up Exams:

Policies for late assignments and make-up exams are very strict and apply only in exceptional cases of student illness, accident, or emergencies that are properly documented. It is your responsibility to make arrangements with instructor before the deadline as soon as you are aware you will miss a deadline, exam or class. Unexcused late assignments are penalized 20% per day.

### Use of Electronic Devices in Classroom:

Not allowed during examinations. Absolutely no cell phone use during class time.

### Accessibility Services:

The University is committed to providing students with documented disabilities equal access to all university programs and facilities. If you think you have a disability requiring accommodations, you must register with Student Accessibility Services (SAS) office. The Student Accessibility Coordinator at UNHM is Jenessa Zurek (email [jenessa.zurek@unh.edu](mailto:jenessa.zurek@unh.edu)).

### Mental Health and Wellness

In partnership with The Mental Health Center of Greater Manchester, UNH Manchester offers free mental health sessions for students. For scheduling a session email [unhm.advising@unh.edu](mailto:unhm.advising@unh.edu).