

IT3072 Computer and Network Forensics Syllabus

Spring Semester 2025

Instructor

Instructor:

Email:

Office:

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Course Description

This course introduces the learner to the concepts and techniques of computer forensics. Topics include forensic methodology, legal issues, evidence collection and acquisition, Windows forensics, mobile device forensics, network analysis, courtroom testimony, anti-forensics and data hiding, tools and techniques. Hands-on active learning is required.

Prerequisites

Please check the University of Cincinnati School of Information Technology for the official course prerequisites.

Credit Hours and Course Format

3 credit hours; online instruction via asynchronous format.

Course Learning Outcomes

Upon completion of this course, the student will be able to:

1. Define the science of digital forensics
2. Recognize the legal, ethical, and policy implications of digital forensics
3. Demonstrate techniques to digital evidence analysis
4. Identify the needs for digital forensic tools and techniques
5. List the major steps in the investigation process
6. Recognize and explain the challenges to the digital forensics process
7. Prepare a digital forensics report and present findings

Course Materials

All course materials are accessible through [Canvas](#).

Textbooks

"The Basics of Digital Forensics, 2nd Edition" by John Sammons (December 2014)

The textbook is available online through UC's partnership with O'Reilly.

"Learn Computer Forensics, 2nd Edition" by William Oettinger (July 2022)

The textbook is available online through UC's partnership with O'Reilly.

"Windows Registry Forensics, 2nd Edition" by Harlan Carvey (March 2016)

The textbook is available online through UC's partnership with O'Reilly.

Note: If you haven't signed up, the [SoIT Guide to Resources](#) has the Safari Books Online link. Additional textbook chapters may be used in the course for a thorough understanding of the subject matter.

LinkedIn Learning Videos

"Cybersecurity Foundations: Computer Forensics" by Jungwoo Ryoo (December 2023)

"Operating System Forensics" by Jungwoo Ryoo (released January 2024)

"Learning Autopsy for Digital Forensics" by Bennett Hendrix (released February 2022)

The videos are accessible through LinkedIn Learning. The [SoIT Guide to Resources](#) has the information on how to register.

Required Technology

The Ohio Cyber Range (OCR) Sandbox and virtual machines will be utilized in this course.

Recommended Resources

There are resources recommended on the Canvas site under Modules > Additional Course Resources.

Course Policies and Grading

Participation Expectations

Class participation is expected. Students cannot be successful without regular participation in the course labs and timely completion of the weekly summary workbook. Some course materials require more research.

Code of Conduct:

By your participation in this class, you acknowledge that you have read and understood the University of Cincinnati Student Code of Conduct and agree to abide by it. Violations will be handled in accordance with University policy. The University Rules, including the Student Code of Conduct, and other documented policies of the department, college, and university related to academic integrity will be enforced. Any violation of these regulations, including acts of plagiarism or cheating, will be dealt with on an individual basis according to the severity of the misconduct.

Absences

The student is responsible for understanding the weekly course learning materials and submitting the assignments on time. There is a course Late or Missing Assignment Policy.

Communication Policy

Check Canvas for course announcements and assignments. If you have course material questions or concerns over class attendance, please email the instructor. A typical response time to emails is 48-hours. The instructor will communicate through Canvas Inbox and UC email. Please consider the weekly deadlines when sending an email for assistance.

Feedback

The instructor provides feedback on your labs and submitted assignments at an individual level. Please take the time to review this feedback carefully in Canvas Grades.

Assignments and Submission Expectations

Quizzes

- There will be quizzes on course material.

Participation and Assignments

- There will be weekly summaries or a quiz required for course learning materials. Please submit your weekly summary workbook on time via the assignment submission process.

Labs

- Labs are required to meet the course learning objectives and the due dates are clearly communicated. If you do not understand the lab questions, please ask for help via email or during office hours.
- **Individual work on course assignments is required.**
- Late assignments will be accepted at a reduced value. Assignments will only be accepted via the Assignments section on Canvas. Some labs are necessary to build on other labs, so **PLEASE DO THEM WHEN THEY ARE ASSIGNED. YOU DO NOT WANT TO GET BEHIND IN THIS COURSE.**
- Labs will be graded on successful and timely completion of the lab assignment and responses to the lab questions (if any), including appropriate screen shots. If you are unsure about any part of the assignment, please contact the instructor right away. Do not wait until Sunday evening to contact the instructor and request for assistance that day to meet the deadline.

Projects

- There will be two projects in the class: an INDIVIDUAL and a FINAL PROJECT. Details will be provided.

Exams

- Exams will be posted on Canvas during a designated time period. If you are going to miss a quiz or an exam due to an emergency, contact (prior to the exam, if at all possible) the instructor for a makeup assignment.
- If you are unsure what is being asked during an exam or quiz, let the instructor know! If the instructor is not available during your examination time, please send an email to the instructor with your concerns and it will be addressed.
- Written exams may be given and will cover material from course topic information slides and notes, labs, books, and other class resources.

Late or Missing Assignment Policy

Students are responsible for submitting labs, assignments and discussion topics **on time each week**. If you have an emergency and are not able to complete the assignments on time, email the instructor before the assignment due date. Exceptions will be made for technical issues of our learning environment.

Late assignments will be accepted at a reduced rate of 3% per day. This feature has been enabled on Canvas. The course instructor will evaluate and correct late submission entries if prior approval for the late submission has been discussed. The late assignment point reduction applies to submissions that are blank or the “wrong file”. The instructors can only grade what is submitted, so if you submit a blank file for grading that is what will be graded. Please double-check your work prior to submission.

Check Canvas for your grades to make sure there are no mistakes or missing grades.

Grading Scale

93.00% and above = A
 90.00%-92.99% = A-
 87.00%-89.99% = B+
 83.00%-86.99% = B
 80.00%-82.99% = B-
 77.00%-79.99% = C+
 73.00%-76.99% = C
 70.00%-72.99% = C-
 67.00%-69.99% = D+
 63.00%-66.99% = D
 60.00%-62.99% = D-
 less than 60.00% = F

The course grades are weighted as follows:

Assignments	Weight	Points Assigned
Labs	40%	Labs have between 10-25 points each
Participation/Weekly Summary	10%	Summaries have variable points (10-35 points)
Individual Project	10%	Three LinkedIn Learning Courses
Final Project	15%	TBD
Quizzes	10%	Quizzes are between 10 and 25 points
Midterm Exam	15%	TBD

Course Schedule

The course schedule is located in Canvas. Adjustments may need to be made to the course schedule based on the availability of class resources.

UC Policies

Course Evaluations: The Department of Information Technology requires that each course is evaluated each time it is taught. The Department uses a confidential web-based system, CourseEval, for these evaluations.

You will receive an email from the Department Head, with "CourseEval" as the topic. There is a link on that email that takes you directly to the evaluation.

The online system is confidential and anonymous. I will receive only a summary report of combined data after final grades have been submitted. As an instructor, I value your input regarding the strengths and areas for improvement of this course. Your feedback is essential for me to continually improve instruction and provide for quality student learning and outcomes.

Attendance: Students at the University of Cincinnati are expected to attend classes in order to meet the learning objectives for the course. Students are expected to follow the class attendance policy as outlined by the instructor. Students participating in official University sponsored activities, where the student is representing the University, will meet with instructor related to absences due to university-sponsored activities. When such absences occur, students need to provide documentation of the event(s), and work with the professor to develop a written plan for completion of missed assignments or other course requirements with as much advance notice as possible.

Communication: All university business must be conducted *using a University assigned email account*. The use of a personal, or non-university assigned email account to conduct university business is strictly prohibited. [See full policy here](#).

Class Cancellation Policy: In the rare case that a class must be cancelled, faculty will post an announcement on the LMS that will be emailed to students. Faculty will attempt to communicate class cancellations with as much advance notice as possible. Students should be sure that their LMS email is current and valid to ensure emails are received. If the University closes due to inclement weather or other emergency situations, there will be an announcement posted on Canvas (LMS) and if possible on the local news channels (TV and radio). Communications related to University closures will also be sent to the student's cell phone number on record through the automatic University emergency text messaging system. Students should notify the University if they change their cell phone number to ensure they will receive these important emergency communications.

Academic Integrity: The University of Cincinnati is committed to academic integrity. A formal articulation of this commitment is articulated in the Student Code of Conduct. Any violation of these rules, including plagiarism or cheating will be handled on a case-by-case

basis. At the least, you should anticipate a zero on an assignment, at the fullest extent, your violation will be reported to the university and the incident will be documented on your permanent record.

Accessibility and Special Needs: The University of Cincinnati is committed to providing all students with equal access to learning opportunities. [Accessibility Resources](#) is the official campus office that works to arrange for reasonable accommodations for students with an identified physical, psychological or cognitive disability (learning, ADD/ADHD, psychological, visual, hearing, physical, cognitive, medical condition, etc.) Students are encouraged to contact the Accessibility Resources Office to arrange for a confidential meeting to discuss services and accommodations. Contact should be initiated as soon as possible to allow adequate time for accommodations to be arranged.

Counseling Services: All UC students have access to counseling and mental health care through University Health Services (UHS), which can provide both psychotherapy and psychiatric services. In addition, Counseling and Psychological Services (CAPS) can provide professional counseling upon request; students may receive five free counseling sessions through CAPS without insurance. Students are encouraged to seek assistance for anxiety, depression, trauma/assault, adjustment to college life, interpersonal/relational difficulty, sexuality, family conflict, grief and loss, disordered eating and body image, alcohol and substance abuse, anger management, identity development, and any other issues or concerns. After hours, students may call UHS at 513-556-2564 or CAPS Cares at 513-556-0648. For urgent physician consultation after-hours, students may call 513-584-7777.

Artificial Intelligence: While artificial intelligence (AI) may be a valuable learning tool, it will not be permitted for use in the course for assignments, labs, quizzes, exams, or research projects. You are expected to be the original author of your work. Violations for use of AI will be considered academic misconduct.

Religious Accommodation: Ohio law and the University's Student Religious Accommodations for Courses Policy 1.3.7 permits a student, upon request, to be absent for reasons of faith or religious or spiritual belief system or participate in organized activities conducted under the auspices of a religious denomination, church, or other religious or spiritual organization and/or to receive alternative accommodations with regard to examinations and other course requirements due to an absence permitted for the above-described reasons. Not later than fourteen days after the first day of instruction in the course, a student should provide the instructor with written notice of the specific dates for which the student requests alternative accommodations. For additional information about this policy, please contact the Executive Director of the Office of Equal Opportunity and Access at (513) 556-5503 or oeohelp@UCMAIL.UC.EDU

Title IX: Title IX is a federal civil rights law that prohibits discrimination on the basis of a person's actual or perceived sex, gender, gender identity, gender expression, or sexual orientation. Title IX also address instances of sexual violence, dating or domestic violence, and stalking. If a student discloses a Title IX issue to a faculty member, the faculty member is required to forward that information to the Title IX Office. The Title IX office will follow up with the student and discuss how the University can take steps to address the impact on the student and the community. They will also inform the student of their rights and direct them to available resources. The priority is to make sure students are safe and successful here at the University of Cincinnati. Students are not required to talk to anyone in the Title IX Office. Students may also directly report any instance of sex or gender-based discrimination, harassment or violence to the Title IX office at 513-556-3349. Students who wish to know more about their rights and resources on campus, they can consult the [Title IX website](#) or contact the Title IX office directly at 513-556-3349.

NOTE: The instructor reserves the right to update this syllabus as class needs arise. Be assured that they will communicate to you any changes to the schedule, syllabus or policies quickly and efficiently.