

COURSE OUTLINE		
TERM: Fall 2024	COURSE NO: LAW 374	
INSTRUCTOR:	COURSE TITLE: Digital Forensics for Legal Professionals	
OFFICE: LOCAL: E-MAIL: @capilanou.ca	SECTION NO(S):	CREDITS: 3.0
OFFICE HOURS:		
COURSE WEBSITE:		

Capilano University acknowledges with respect the Liłwat7úl (Lil'wat), xʷməθkʷəʔəm (Musqueam), shíshálh (Sechelt), Sk̓wxwú7mesh (Squamish), and Səlílwətaʔ/Selilwitulh (Tsleil-Waututh) people on whose territories our campuses are located.

COURSE FORMAT

This course will be offered in a synchronous or asynchronous online format or a synchronous in-person format, four hours per week for a 15-week semester (or equivalent), including two weeks (or equivalent) for final exams. For either synchronous or asynchronous online format, the instructor will provide weekly readings, and students will complete exercises and discussions. Three of the four instructional hours will be completed with lectures, and a fourth hour will consist of at-home and online work supported through eLearn.

COURSE PREREQUISITES

LAW 101, LAW 110, and LAW 210; OR 45 credits of 100-level or higher coursework

CALENDAR DESCRIPTION

Legal actions are either won or lost on case evidence. In today's world, most evidence comes in the form of data. This course equips students with essential knowledge and hands-on experience in digital forensics, a must-have skill for today's legal professionals. Students will learn the stages of digital forensic investigations, understand storage systems, devices, and networks, and learn when to raise flags regarding anti-forensic techniques. Students will also learn the fundamentals of Windows, Mac and Linux machines and mobile devices for the purpose of forensic investigations. Students will consider the dark web, Tor browser, malicious communications, files, and software as they relate to cybercrime and digital forensics. Finally, students will learn to evaluate the volatility of data and best practices for preserving and collecting digital evidence.

REQUIRED TEXTS AND/OR RESOURCES

- Craig D. Ball, [Electronic Evidence Workbook 2024](#)
- [Drafting Forensic Examination Protocols 2018 \(craigball.com\)](#)
- Hassan, N. A. (2019). *Digital Forensics Basics: A Practical Guide Using Windows OS* (1st ed.). Apress L. P. <https://doi.org/10.1007/978-1-4842-3838-7>

Optional Text and/or Resources

- Le-Khac, N.-A., & Choo, K.-K. R. (2020). *Cyber and Digital Forensic Investigations: A Law Enforcement Practitioner's Perspective* (1st edition, Vol. 74). Springer International Publishing AG.
<https://doi.org/10.1007/978-3-030-47131-6>
- Updated PC Computer with available space to download programs as required.

COURSE STUDENT LEARNING OUTCOMES

On successful completion of this course, students will be able to do the following:

1. Effectively describe and explain:
 - a. the importance of digital forensics as it relates to case evidence.
 - b. the stages of a forensic investigation.
 - c. surface web, deep web, and dark web as sources of evidence.
2. Understand the nature of file storage systems and devices and apply appropriate tools to preserve evidence.
3. Recognize and explain Windows, Mac and Linux systems and the nature of Networks.
4. Recognize and analyze anti-forensic techniques and generate strategies to salvage evidence.
5. Consider web applications as sources of evidence and generate strategies/consider appropriate tools to collect the data in accordance with privacy laws, and web application regulations.
6. Through a series of course activities:
 - a. Analyze mobile devices and use appropriate tools to extract sound evidence.
 - b. Discuss the role of digital forensics and metadata in legal cases.
 - c. Apply knowledge of metadata and appropriate forensic tools to assess evidence.

COURSE CONTENT

COURSE CONTENT	
WEEK	CONTENT
1	Computer forensics, cybercrime, rules on evidence
2	Role of Forensics in the legal field and the stages of the forensic process
3	Data Storage and disk images
4	Windows OS
5	Windows Registry
6	MAC and Linux
7	MID-TERM EXAM
8	Anti-Forensics
9	Volatile and Non-Volatile data, network traffic
10	Web applications, attacks, dark web, Tor, Apache
11	Forensics and the cloud Malicious communications, malware, and other applications

COURSE CONTENT	
WEEK	CONTENT
12	Mobile forensics
13	Mobile forensics (continued)
14-15	FINAL EXAM PERIOD

EVALUATION PROFILE

Mid-Term Exam	30-35%
Final Exam	30-35%
Group Discussions & Participation	5-10%
Assignments	<u>25-30%</u>
TOTAL	100%

Assignments

This course will include practical assignment(s) relating to forensic collection.

Participation

If a participation grade is provided, then it is allocated to the consistency, quality, and frequency of contributions to class discussions, weekly activities, and class presentations. Consistency means attending every class and actively contributing to discussions on a regular basis. Quality means demonstrating respect for peers and their contributions, listening attentively during lectures and when other students speak, and participating in all activities with an open and inquisitive mind.

Mid-Term and Final Exams

There will be a mid-term exam in Week 7 covering Weeks 1-6 and a final exam covering Weeks 8-13. The format of the exams will be determined by the instructor and may include a combination of true/false, multiple choice, matching, short answer, and essay questions. The final exam will be scheduled at a date determined by the Registrar's Office.

GRADING PROFILE

A+ = 90-100	B+ = 77-79	C+ = 67-69	D = 50-59
A = 85-89	B = 73-76	C = 63-66	F = 0-49
A- = 80-84	B- = 70-72	C- = 60-62	

Incomplete Grades

Grades of Incomplete "I" will not be assigned in this course.

Late Assignments

Homework assignments are due at the **start of class** on the due date unless otherwise advised by your instructor. Late assignments will only be accepted if prior approval for a late submission date has been given by the instructor.

Missed Exams/Quizzes/Labs etc.

Make-up exams, quizzes and/or tests are given at the instructor's discretion. They are generally given only in medical emergencies or severe personal crises. Some missed labs or other activities may not be able to be accommodated. Please consult with your instructor. *Accommodations can be made to honour community needs and traditional practices.

Attendance

Students are expected to attend all classes and associated activities.

English Usage

Students are expected to proofread all written work for any grammatical, spelling and stylistic errors. Instructors may deduct marks for incorrect grammar and spelling in written assignments.

Electronic Devices

Students may use electronic devices during class for note-taking only.

On-line Communication (email, eLearn, etc)

Outside of the classroom, instructors will (if necessary) communicate with students using either their official Capilano University email or eLearn; please check both regularly. Official communication between Capilano University and students is delivered to students' Capilano University email addresses only.

UNIVERSITY OPERATIONAL DETAILS**Tools for Success**

Many services are available to support student success for Capilano University students. A central navigation point for all services can be found at: <https://www.capilanou.ca/student-services/>

Capilano University Security: download the [CapU Mobile Safety App](#)

Policy Statement (S2009-06)

Capilano University has policies on Academic Appeals (including appeal of final grade), Student Conduct, Academic Integrity, Academic Probation and other educational issues. These and other policies are available on the University website.

Academic Integrity (S2017-05)

Any instance of academic dishonesty or breach of the standards of academic integrity is serious and students will be held accountable for their actions, whether acting alone or in a group. See policy and procedures S2017-05 Academic Integrity for more information:

<https://www.capilanou.ca/about-capu/governance/policies/>

Violations of academic integrity, including dishonesty in assignments, examinations, or other academic performances, are prohibited and will be handled in accordance with the Student Academic Integrity Procedures.

Academic dishonesty is any act that breaches one or more of the principles of academic integrity. Acts of academic dishonesty may include but are not limited to the following types:

Cheating: Using or providing unauthorized aids, assistance or materials while preparing or completing assessments, or when completing practical work (in clinical, practicum, or lab settings), including but not limited to the following:

- Copying or attempting to copy the work of another during an assessment;
- Communicating work to another student during an examination;
- Using unauthorized aids, notes, or electronic devices or means during an examination;
- Unauthorized possession of an assessment or answer key; and/or,
- Submitting of a substantially similar assessment by two or more students, except in the case where such submission is specifically authorized by the instructor.

Fraud: Creation or use of falsified documents.

Misuse or misrepresentation of sources: Presenting source material in such a way as to distort its original purpose or implication(s); misattributing words, ideas, etc. to someone other than the original source; misrepresenting or manipulating research findings or data; and/or suppressing aspects of findings or data in order to present conclusions in a light other than the research, taken as a whole, would support.

Plagiarism: Presenting or submitting, as one's own work, the research, words, ideas, artistic imagery, arguments, calculations, illustrations, or diagrams of another person or persons without explicit or accurate citation or credit.

Self-Plagiarism: Submitting one's own work for credit in more than one course without the permission of the instructors, or re-submitting work, in whole or in part, for which credit has already been granted without permission of the instructors.

Prohibited Conduct: The following are examples of other conduct specifically prohibited:

- Taking unauthorized possession of the work of another student (for example, intercepting and removing such work from a photocopier or printer, or collecting the graded work of another student from a stack of papers);
- Falsifying one's own and/or other students' attendance in a course;
- Impersonating or allowing the impersonation of an individual;
- Modifying a graded assessment then submitting it for re-grading; or,
- Assisting or attempting to assist another person to commit any breach of academic integrity.

Sexual Violence and Misconduct

All Members of the University Community have the right to work, teach and study in an environment that is free from all forms of sexual violence and misconduct. Policy B401 defines sexual assault as follows:

Sexual assault is any form of sexual contact that occurs without ongoing and freely given consent, including the threat of sexual contact without consent. Sexual assault can be committed by a stranger, someone known to the survivor or an intimate partner.

Safety and security at the University are a priority and any form of sexual violence and misconduct will not be tolerated or condoned. The University expects all Students and Members of the University Community to abide by all laws and University policies, including B.401 Sexual Violence and Misconduct Policy and B.401.1 Sexual Violence and Misconduct Procedure (found on Policy page <https://www.capilanou.ca/about-capu/governance/policies/>)

Emergencies: Students are expected to familiarise themselves with the emergency policies where appropriate and the emergency procedures posted on the wall of the classroom.