School of
Engineering and Computer Science
Te Kura Mātai Pūkaha, Pūrorohiko

Prescription

This course addresses the collection and analysis of the digital footprint left by humans and computers in a way that is reproducible by third-parties and suitable for presentation to a non-specialist audience. Topics include the rules of evidence, preservation of data, file system forensics, network forensics, live forensics, anti-forensics as well as forensics for non-standard devices such as mobile/smart phones, cloud computing and vehicular systems. Practical work will include labs where evidence is collected using tools and presented as well as the use, development and enhancement of these tools.

Course learning objectives

Students who pass this course should be able to:

1. Use tools to carry out the steps involved in forensic science from collecting data to preserving evidence within the context of a framework for digital forensic evidence collection and processing, and present this information to a non-specialist audience.
2. Understand the technical details of filesystems and networks and apply this understanding to the construction and evaluation of new forensics tool functionality.
3. Critically evaluate evidence obtained using digital forensics methods based upon knowledge of evidential requirements as well as technical knowledge of operating systems, networks and non-standard devices such as mobile/smart phones, cloud computing and vehicular systems.

Course content

2022: The course is primarily offered in-person, and there are components such as tests, labs, tutorials, and marking sessions which require in-person attendance. There will be remote alternatives for all the components of the course, but these are only available to students studying from outside the Wellington region. The remote option for tests will use a Zoom-based system for online supervision of the tests.

Students taking this course remotely must have access to a computer with camera and microphone and a reliable high speed internet connection that will support real-time video plus audio connections and screen sharing. Students must be able to use Zoom; other communication applications may also be used. A mobile phone connection only is not considered sufficient. The computer must be adequate to support the programming required by the course: almost any modern windows, macintosh, or unix laptop or desktop computer will be sufficient, but an Android or IOS tablet will not.

Withdrawal from Course

Withdrawal dates and process:
https://www.wgtn.ac.nz/students/study/course-additions-withdrawals

Lecturers

Dr Masood Mansoori (Coordinator)

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CO 130 Cotton Building (All Blocks), Gate 7, Kelburn Parade, Kelburn

Lisa Patterson

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Teaching Format

This course will be offered in-person and online. For students in Wellington, there will be a combination of in-person components and web/internet based resources. It will also be possible to take the course entirely online for those who cannot attend on campus, with all the components provided in-person also made available online.

Weekly lectures, guest lectures and self-directed lab exercises.

Student feedback

Student feedback on University courses may be found at:
www.cad.vuw.ac.nz/feedback/feedback_display.php

Dates (trimester, teaching & break dates)

- Teaching: 11 July 2022 - 14 October 2022
- Break: 22 August 2022 - 04 September 2022
- Study period: 17 October 2022 - 20 October 2022
- Exam period: 21 October 2022 - 12 November 2022

Class Times and Room Numbers

11 July 2022 - 21 August 2022

- **Monday** 11:00 - 11:50 – 710, Von Zedlitz, Kelburn
- **Friday** 11:00 - 11:50 – 710, Von Zedlitz, Kelburn

05 September 2022 - 16 October 2022

- **Monday** 11:00 - 11:50 – 710, Von Zedlitz, Kelburn
- **Friday** 11:00 - 11:50 – 710, Von Zedlitz, Kelburn

Set Texts and Recommended Readings

Required

There are no required texts for this offering.

Mandatory Course Requirements

In addition to achieving an overall pass mark of at least 50%, students must:

- Achieve at least a "**D**" in the case study assessment because this is where you will demonstrate your

understanding of and ability to apply what you have learnt in the course.

If you believe that exceptional circumstances may prevent you from meeting the mandatory course requirements, contact the Course Coordinator for advice as soon as possible.

Assessment

Assessment Item	Due Date or Test Date	CLO(s)	Percentage
Assignment one - written answers to questions (4 weeks)	21st August 2022	CLO: 2	30%
Assignment two - case study (5 weeks)	2nd October 2022	CLO: 1,3	40%
Assignment three - presentation (3 weeks)	During examination period	CLO: 2	30%

Penalties

Late submission will incur a penalty of 10% shrinking cap per day **after** the available late days are used. Shrinking cap reduces the maximum mark achievable per day - so for example after 3 days the maximum grade is 70%. The calculation is done on a pro-rata basis so 2 hours late is a penalty of 1/12th of 10%.

Extensions

The course allows 3 late days on individual assignments. Extensions should be negotiated with the course coordinator before the deadline whenever possible. Documentation (eg, medical certificate) may be required.

Submission & Return

All work should be submitted through the ECS submission system, accessible through the course web pages. Marks and comments will be returned through the ECS marking system, also available through the course web pages.

Marking Criteria

We will publish a high-level marking rubric for each assignment.

Required Equipment

The case study requires you to run multiple virtual machines. We test these on our laboratory machines but if you are distance student make sure that you have a machine that has at least 8Gb of memory.

Workload

The student workload for this course is 150 hours.

Teaching Plan

See https://ecs.wgtn.ac.nz/Courses/CYBR472_2022T2/LectureSchedule

Communication of Additional Information

All online material for this course can be accessed at https://ecs.wgtn.ac.nz/Courses/CYBR472_2022T2/

Links to General Course Information

- Academic Integrity and Plagiarism: https://www.wgtn.ac.nz/students/study/exams/integrity-plagiarism
- Academic Progress: https://www.wgtn.ac.nz/students/study/progress/academic-progess (including restrictions and non-engagement)
- Dates and deadlines: https://www.wgtn.ac.nz/students/study/dates
- Grades: https://www.wgtn.ac.nz/students/study/progress/grades
- Special passes: Refer to the Assessment Handbook, at https://www.wgtn.ac.nz/documents/policy/staff-policy/assessment-handbook.pdf
- Statutes and policies, e.g. Student Conduct Statute: https://www.wgtn.ac.nz/about/governance/strategy
- Student support: https://www.wgtn.ac.nz/students/support
- Students with disabilities: https://www.wgtn.ac.nz/st_services/disability/
- Student Charter: https://www.wgtn.ac.nz/learning-teaching/learning-partnerships/student-charter
- Terms and Conditions: https://www.wgtn.ac.nz/study/apply-enrol/terms-conditions/student-contract
- Turnitin: http://www.cad.vuw.ac.nz/wiki/index.php/Turnitin
- University structure: https://www.wgtn.ac.nz/about/governance/structure
- VUWSA: http://www.vuwsa.org.nz

Offering CRN: 32240

Points: 15
Prerequisites: CYBR 271, 371, 30 further 300-level pts from (CYBR, NWEN, SWEN 324, 326)
Duration: 11 July 2022 - 13 November 2022
Starts: Trimester 2
Campus: Kelburn