



Prescription

This course focuses on offensive and defensive security techniques in the context of incident handling, best practices and theories about attacker behaviour. The course will include lectures and demonstrations but is designed around a virtual lab environment and scenarios that provide robust and realistic hands-on experiences in dealing with a range of offensive and defensive topic areas such as cybersecurity intelligence and investigation, incident response, and proactive cybersecurity.

Course learning objectives

Students who pass this course will be able to:

1. Demonstrate an understanding of the methodologies used by attackers and defenders by developing and documenting plans for both incident handling and for conducting attacks.
2. Evaluate the strengths and weaknesses of a range of defensive and offensive technique such as digital forensics, malware analysis, vulnerability discovery, ethical hacking activities and open source intelligence gathering.
3. Show an appreciation for the legal and ethical dimensions of both cyber defensive and offensive activities in context of military and non-military contexts.

Course content

2022: The course is primarily offered in-person, but there may be components such as tests, tutorials, presentations and marking sessions that 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 (if any) will use a Zoom-based system for online supervision.

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. Unfortunately, an Android or IOS tablet will not be sufficient for the course but most modern Windows, Macintosh, or Unix laptops or desktop computers will be adequate and sufficient to support the programming and/or run the applications required by the course.

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

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.

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** 16:10 - 17:00 – 101, Easterfield, Kelburn
- **Thursday** 16:10 - 17:00 – 101, Easterfield, Kelburn

05 September 2022 - 16 October 2022

- **Monday** 16:10 - 17:00 – 101, Easterfield, Kelburn
- **Thursday** 16:10 - 17:00 – 101, Easterfield, Kelburn

Other Classes

Labs begin in week two of the course and are scheduled on Fridays between 10-11 am. All labs take place in [CO139](#).

Set Texts and Recommended Readings

Required

There are no required texts for this offering.

Recommended

All reading materials will be provided on the course website.

Mandatory Course Requirements

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

- Submit reasonable attempts at all three assessment items, because completing all of the assessments is where much of the learning related to the CLOs of the course will take place.

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

The first two assignments are very "hands on" in nature and the third one may require you to do some programming.

Assessment Item	Due Date or Test Date	CLO(s)	Percentage
Offensive security assignment (5 weeks)	end of week 6	CLO: 1,2,3	30%
Defensive security assignment (4 weeks)	end of week 10	CLO: 1,2,3	30%
Final assignment (4 weeks)	end of week 14	CLO: 1,2,3	40%

Penalties

Each student will have 3 "late days" - 72 hours of automatic extension which will be applied to any assignment or assignments during the course, as needed. Please note that these 72 hours are for the whole course, not for each assignment.

The penalty for late work beyond your allocation of "late days" will be 10% shrinking cap per day after the due date, unless there has been prior negotiation. Shrinking cap reduces maximum mark per day so after 3 days the maximum mark is 70%(B) but C+ work will receive a C+ grade.

Extensions

Individual extensions will only be granted in exceptional personal circumstances, and 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.

Required Equipment

You can do all of the work using a standard ECS workstation. You will need to install a free copy of either VMware or VirtualBox on your laptop to complete the third assignment.

Workload

The student workload for this course is 150 hours. A plausible and approximate breakdown for these hours would be (per week):

- Lectures/labs: 2
- Readings: 2
- Assignments: 6

Teaching Plan

See https://ecs.wgtn.ac.nz/Courses/CYBR471_2022T2/LectureSchedule

Communication of Additional Information

All online material for this course can be accessed at https://ecs.wgtn.ac.nz/Courses/CYBR471_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-progress> (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: [32239](#)

Points: 15

Prerequisites: CYBR 271, 371, 373

Duration: 11 July 2022 - 13 November 2022

Starts: Trimester 2

Campus: Kelburn