Prescription

This course addresses key concepts, techniques and tools needed to provide security in computer and communications systems. Topics include the need for security, system and network security threats such as malware or denial-of-service attacks, secure systems design, identity management, authentication, access control, and computer network defence. Practical work will involve developing operating system and network security tools such as keyloggers as well as choosing and implementing appropriate security controls to meet a small organisation's network security needs.

Course learning objectives

Students who pass this course will be able to:

1. Define system and network security in terms of information security properties and system and network security threats.
2. Explain the role of secure systems design, cryptography, identity management, authentication and access controls in system and network security.
3. Compare, contrast, and evaluate different approaches to network defence such as cryptographic mechanisms, host-based protection, firewalls, intrusion detection and prevention systems.
4. Evaluate a small organisation's network security needs and deploy network defences to enforce appropriate network security policies.

Course content

This course is co-taught with CYBR 371.

Withdrawal from Course

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

Lecturers

Ian Welch (Coordinator)

Ian.Welch@vuw.ac.nz   04 4635664

131 Alan MacDiarmid Bldg Gate 7 Kelburn Pde, Kelburn

Teaching Format

This course will be taught via weekly lectures and lab sessions, and individual assignments. The assignments will apply theory learnt in the lectures, while the examination will be related to the lecture material and learning during the assignments.

Student feedback

This is the first time we have run the course so there is no feedback to report upon.

Dates (trimester, teaching & break dates)

- Teaching: 02 March 2020 - 07 June 2020
- Break: 13 April 2020 - 27 April 2020
- Study period: 08 June 2020 - 11 June 2020
- Exam period: 12 June 2020 - 27 June 2020

Class Times and Room Numbers

02 March 2020 - 22 March 2020
- **Tuesday** 12:00 - 12:50 – LT1, Te Toki a Rata, Kelburn
- **Friday** 12:00 - 12:50 – LT1, Te Toki a Rata, Kelburn

27 April 2020 - 07 June 2020
- **Tuesday** 12:00 - 12:50 – LT1, Te Toki a Rata, Kelburn
- **Friday** 12:00 - 12:50 – LT1, Te Toki a Rata, 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** grade in the final examination, because the examination assesses understanding of concepts and learning from assignments independently.
- Submit during your weekly lab at least eight of the ten short lab tasks assigned in the lab over the duration of the course.
- You must submit a reasonable attempt for each project.

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 assessments for this course are as follows:

Assessment Item	Due Date or Test Date	CLO(s)	Percentage
Assignment 1 (5 weeks).	28-4-2020	CLO: 1,2	25%
Assignment 2 (5 weeks).	09-6-2020	CLO: 3,4	25%
Report on alternative approaches to defend a specified system.	09-6-2020	CLO: 3	10%
Workshop and lab activities (week 2-11)	Weekly	CLO: 1,2,3,4	10%
Examination (2 hour duration)	TBC	CLO: 1,2,3,4	30%

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 is 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

None.

Workload

As a 15 point course the overall workload for the course would be expected to be 150 hours.

Teaching Plan

See https://ecs.wgtn.ac.nz/Courses/NWEN438_2020T1/LectureSchedule

Communication of Additional Information

All online material for this course can be accessed at https://ecs.wgtn.ac.nz/Courses/NWEN438_2020T1/.

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: 18593

Points: 15
Prerequisites: NWEN 241, 243, 60 points of 300-level COMP/NWEN/SWEN
Restrictions: CYBR 371
Duration: 02 March 2020 - 28 June 2020
Starts: Trimester 1
Campus: Kelburn