



Welcome & Admin

CYBR371: System and Network Security, (2024/T1)

Arman Khouzani, Mohammad Nekooei

Slides modified from "Masood Mansoori"

26 February, 2024

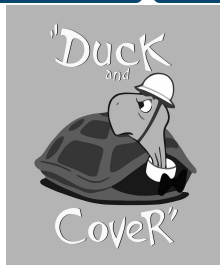
Victoria University of Wellington – School of Engineering and Computer Science

Are you in the right room?



Safety Briefing

<https://www.youtube.com/watch?v=gUzLLCYeJIM>



Teaching Staff

Arman Khouzani, Course Coordinator

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- Office: CO129



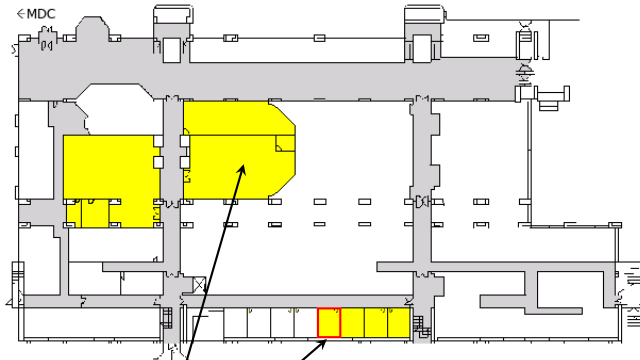
Mohammad Nekooei

- mohammad.nekooei@vuw.ac.nz
- people.wgtn.ac.nz/mohammad.nekooei
- Office: AM410



Finding the lab and Arman's office

Cotton Building (Ground Floor)



CYBR Lab (CO139)

my office (CO129)

Finding Mohammad's office

Alan MacDiarmid (4th floor)



Course Organisation: Lectures

Lectures: **Mon & Wed** @ **15:10-16:00** (recorded)

Wednesdays: HM-LT104



Mondays: CO-LT122

Course Organisation: Labs

Helpdesk/Lab: Choose **one** of the following sessions:

1. **Mondays** 13:00-14:00 in CO139 (CYBR Lab)
2. **Mondays** 14:00-15:00 in CO139 (CYBR Lab)
3. **Wednesdays** 14:00-15:00 in CO139 (CYBR Lab)

Course Website

Course Website (ECS wiki):

ecs.wgtn.ac.nz/Courses/CYBR371_2024T1/WebHome

- Course info, slides, reading material.
- Links to lecture recordings (VStream).
- Assignments (times, dates, handouts, files, hints).
- Submission link for assignments.

Announcements via Nuku. **Make sure you check (or forward) your MYVUW email account.**

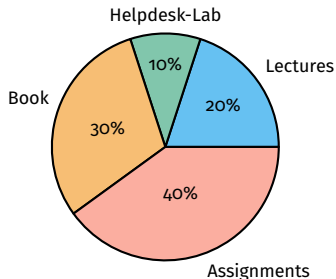
Course Prescription

This course covers system and network security, emphasising secure design, access control, and TCP/IP protocol security.

Students will gain practical skills in **Linux ACLs**, **shell scripting**, and the deployment of defence mechanisms such as **firewalls**, **intrusion detection and prevention systems**, and **deception mechanisms**, preparing them for modern cybersecurity challenges.

Workload (approximate)

- Two lectures per week (2 hours) + Helpdesk (1 hour)
- Reading assignments = 2~3 hours
- Working on assignment = 4~5 hours

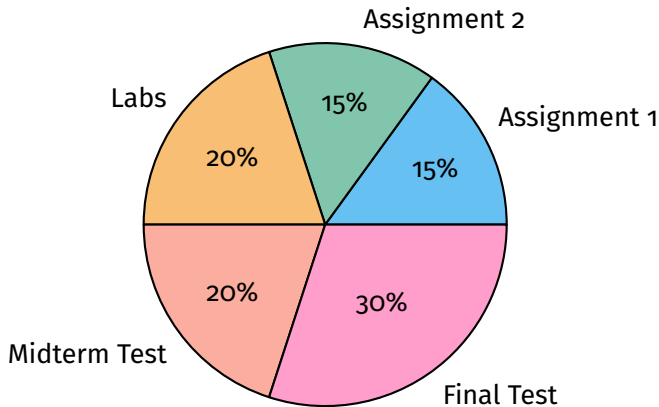


15 weeks @ 10 hours per week = 150 hours

Evaluation grade

Grade	Normal mark range	Midpoint	Indicative Characterisation
A+	90-100	95	Outstanding performance
A	85-89	87	Excellent performance
A-	80-84	82	Excellent performance in most respects
B+	75-79	77	Very good performance
B	70-74	72	Good performance
B-	65-69	67	Good performance overall, but some weaknesses
C+	60-64	62	Satisfactory to good performance
C	55-59	57	Satisfactory performance
C-	50-54	52	Adequate evidence of learning
D	40-49	45	Poor performance overall, some evidence of learning. Fail.
E	0-39	20	Well below the required standard. Fail.

Evaluation Breakdown



Submit through ECS, penalty of 10% for each late day.

Three 'slip' days available spread over all assignments.

In-trimester Evaluation Schedule

Week	Lecturer	Lab	Assignment	Lab Task	Test	
1	Arman	No				
2	Arman	Yes	A1 Released	Lab 1		
3	Arman	Yes		Lab 1 Due (4%)		
4	Arman	Yes		Lab 2		
5	Arman	Yes		Lab 2 Due (4%)		
		No				
		No	A1 Due (15%)			
6	Arman	Yes	A2 Released	Lab 3	Midterm (20%)	
7	Arman	Yes		Lab 3 Due (4%)		
8	Arman	Yes		Lab 4		
9	Arman	Yes		Lab 4 Due (4%)		
10	Nekooui	Yes		Lab 5		
11	Nekooui	Yes		Lab 5 Due (4%)		
12	Nekooui	Yes	A2 Due (15%)			
					Final (30%)	

In-trimester Evaluation Deadlines

Assignments 30% contribution in total

- Assignment 1: Sunday, 14 Apr @ 23:59:59
- Assignment 2: Sunday, 02 Jun @ 23:59:59

Lab tasks 20% contribution in total

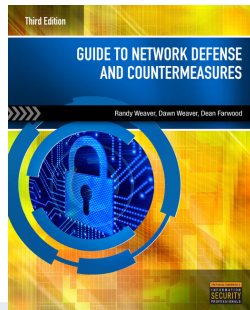
- Lab 1: Sunday, 17 Mar @ 23:59:59
- Lab 2: Sunday, 31 Mar @ 23:59:59
- Lab 3: Sunday, 28 Apr @ 23:59:59
- Lab 4: Sunday, 12 May @ 23:59:59
- Lab 5: Sunday, 26 May @ 23:59:59

Note: Absolutely **no extensions** will be granted, except for the automatic 3 days across all submissions.

Required Textbook

► **Guide to Network Defense and Countermeasures**, by *Dawn Weaver, Dean Farwood, and Randy Weaver*

- E-book available through **library**.
- Download PDF of chapters to read offline.
You can also download the entire book as a PDF file.
- Contact your **Subject Librarian** if you have any technical difficulties:



Nicola Atkinson

✉ nicola.atkinson@vuw.ac.nz ☎ +64 4 463 9581

📍 Kelburn Library, RB701, Rankine Brown, Gate 3, Kelburn Parade

Computer Science

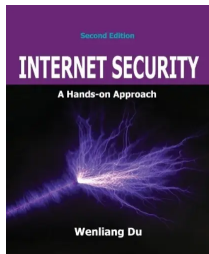
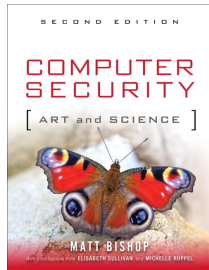
Engineering

Mathematics

Statistics

Other Textbooks (that we Will use)

- ▷ Computer Security: Art and Science
by *Matt Bishop*
 - E-book available through [library](#).



- ▷ Internet Security: A Hands-on Approach
by *Wenliang Du*

netlab.ecs.vuw.ac.nz

Username

Password

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 NDG

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Use of Turnitin

Student work provided for assessment in this course may be checked for academic integrity by the electronic search engine www.turnitin.com.

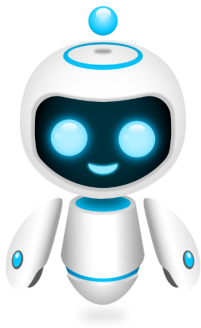
Turnitin is an online plagiarism prevention tool which compares submitted work with a very large database of existing material. Turnitin will retain a copy of submitted material on behalf of the University for detection of future plagiarism, but access to the full text of submissions is not made available to any other party.

Plagiarism (**Cheating**): Zero-Tolerance Policy.

You must not present anybody else's work as your own:

- Basic principle of academic honesty.
- Applies to work by other students, friends, relatives, books, articles, the web (blog posts, stack exchange, quora, wikipedia, ...). *Exception*: lecture notes, tutors.
- If you received non-trivial help, then **you must cite it**: *state who helped, and how, and how much*.
- If you declare any work of others, then **it isn't plagiarism**, (but they must not have done it for you).
- ▶ **Zero Tolerance**: Consequences of plagiarism will be severe, include immediate failure of the course.

Plagiarism: AI policy (**only for this course!**)



AI Orange: You are allowed to use AI tools (**ChatGPT, Bing Chat, Github Copilot, Google Bard, Moonbeam, etc.**) to help with coursework in this course, ***however***, you must document and cite exactly what you used it for.

Class Representative(s)

A class rep is **the bridge** between the lecturer and the students. They are not meant to be a note taker or class life coach, but instead to facilitate feedback by *communicating* regularly with *the class* and the *course coordinator*.



Representing your class has benefits: earn points for **Wellington Plus** certificate, professional and personal growth, links to other representation opportunities.

LET'S ELECT NOW!

Big Picture Road Map (Tentative)

Week	Lecture	Topic
1	Mon	Secure Design Principles
	Wed	Principles of Information Security
2	Mon	Access Control Principles
	Wed	Access Control in Unix/Linux
3	Mon	Shell Scripting
	Wed	A Quick Review of TCP/IP
4	Mon	PHY and MAC/Link Layer Security
	Wed	IP and Routing Security
5	Mon	IP and ICMP Security
	Wed	UDP and TCP Security
6	Mon	DNS Security
	Wed	Web Security

Big Picture Road Map (Tentative)

Week	Lecture	Topic
7	Mon	Firewalls (1/2)
	Wed	Firewalls (2/2)
8	Mon	Intrusion detection systems (1/2)
	Wed	Intrusion detection systems (2/2)
9	Mon	Deception systems and Honeypots (1/2)
	Wed	Deception systems and Honeypots (2/2)
10	Mon	Bastion Hosts (1/2)
	Wed	Bastion Hosts (2/2)
11	Mon	Zero Trust Architecture
	Wed	Cloud Security
12	Mon	IoT Security
	Wed	Revision and Test Preparation

Any Questions?