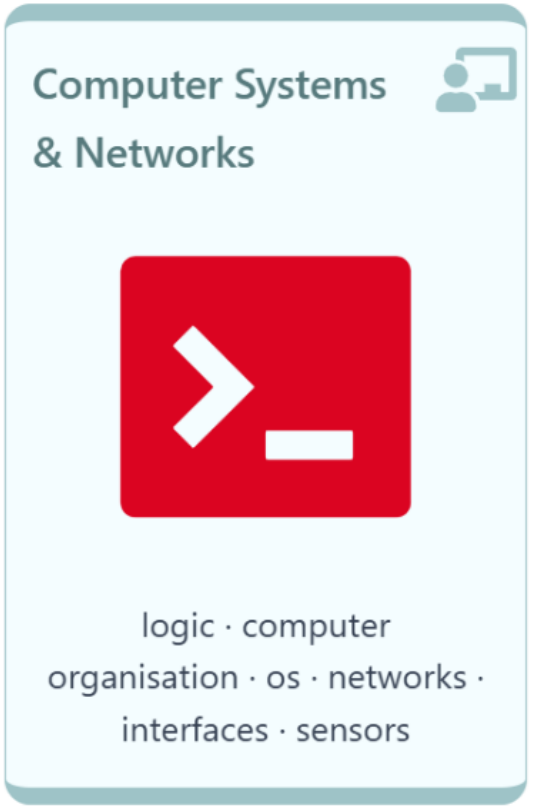
Welcome!!



THURSDAY 22ND MAY, 2025

Computer Systems & Networks

Caroline Cahill

caroline.cahill@setu.ie

Dr Frank Walsh

frank.w.walsh@setu.ie

Dr Mujahid Tabassum

mujahid.Tabassum@setu.ie

Caroline Cahill
Caroline Cahill

Frank Walsh(Lecturer)
Frank Walsh

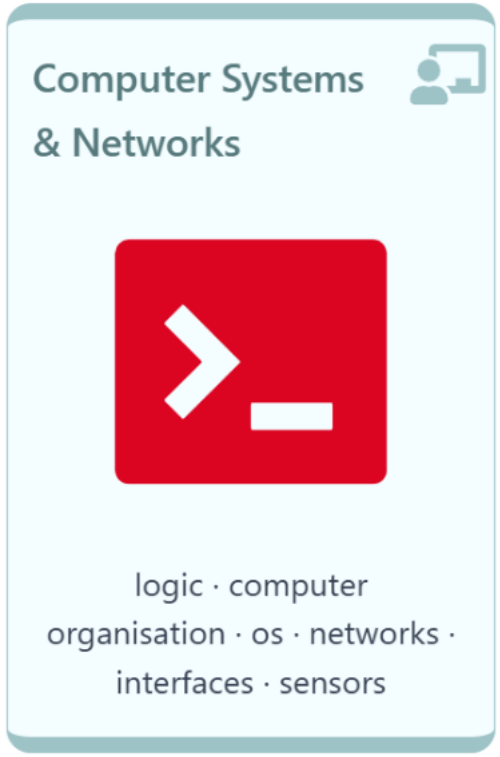
Mujahid Tabassum

Computer Systems & Networks

10 Credit

Module delivery split between Mujahid, Frank & Caroline

Timetabled for TWO sessions per week



Semester 2 2025

Computer Systems & Networks

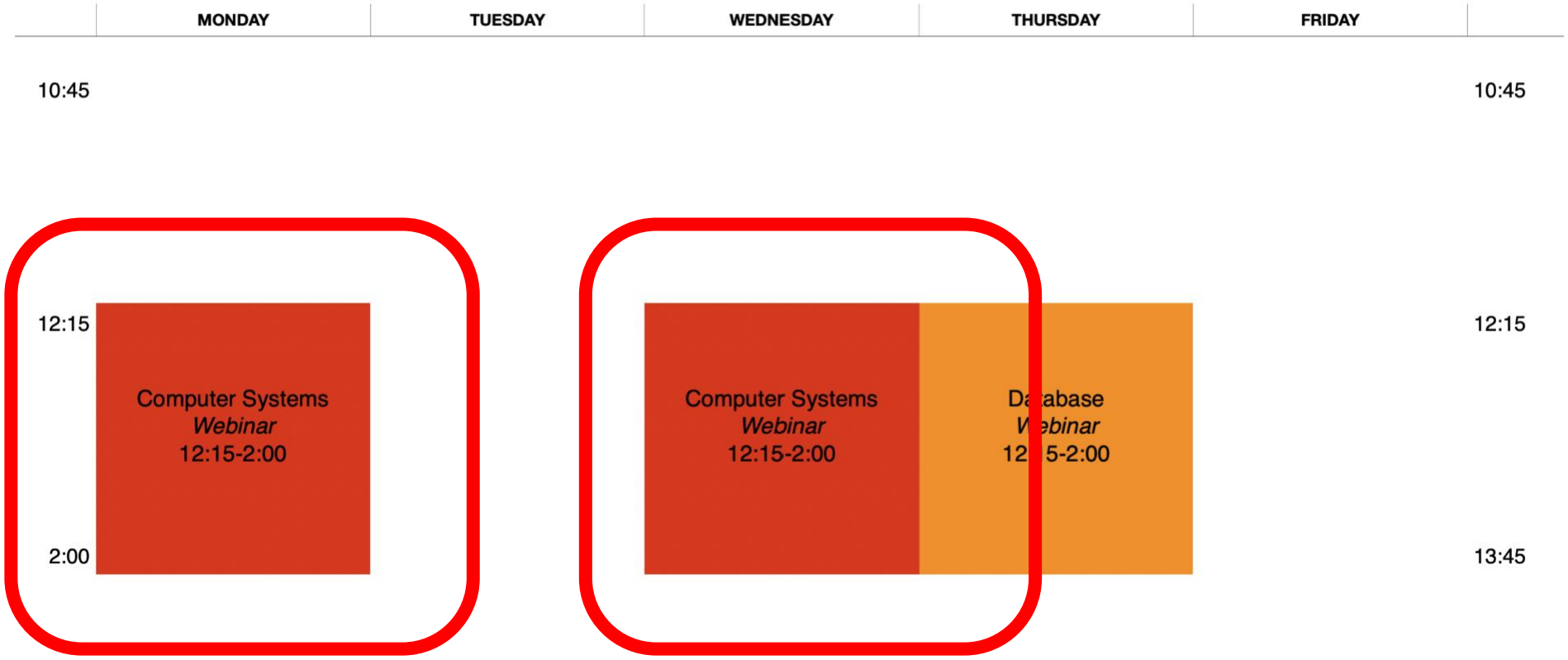
logic · computer organisation · os · networks · interfaces · sensors

Database

entities · tables · rows · sql · er · nosql

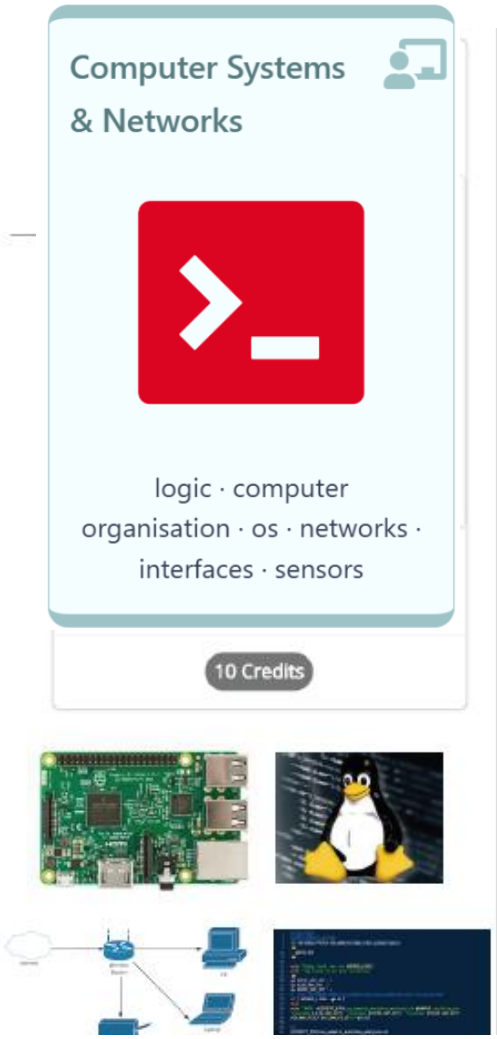
2024								
Semester 2		S	M	T	W	T	F	S	Modules
September									
	1	1	2	3	4	5	6	7	comp sys & database
	2	8	9	10	11	12	13	14	comp sys & database
	3	15	16	17	18	19	20	21	comp sys & database
	reading-week	22	23	24	25	26	27	28	
October	*4*	29	30	1	2	3	4	5	comp sys & database
	5	6	7	8	9	10	11	12	comp sys & database
	6	13	14	15	16	17	18	19	comp sys & database
	reading-week	20	21	22	23	24	25	26	
November	*7*	27	28	29	30	31	1	2	comp sys & database
	8	3	4	5	6	7	8	9	comp sys & database
	9	10	11	12	13	14	15	16	comp sys & database
	reading-week	17	18	19	20	21	22	23	
	10	24	25	26	27	28	29	30	comp sys & database
December	*11*	1	2	3	4	5	6	7	comp sys & database
	12	8	9	10	11	12	13	14	comp sys & database
		15	16	17	18	19	20	21	
		22	24	24	25	26	27	28	
January		29	30	1	2	3	4	5	

Weekly Webinar Schedule



Module Overview(Tentative):

- Number bases used in Computer Science
- Boolean logic
- Computer system architecture
- Operating systems: Components, services, and utilities
- Memory and file management
- Scripting and shell programming
- Virtualisation and hypervisors
- Internet protocol suite
- Physical/network addressing
- Transport layer protocols
- Application layer protocols
- Wireless network protocols: LAN and PAN



Development Tech (tentative)

```bash
#!/bin/bash
# This is a basic bash script.
a=Hello
b="Good Morning"
c=16

echo $a
echo $b
echo $c
```

Cisco Packet Tracer

Build Your Skills With Cisco

Pursue real career paths through instructor-led courses taught by experts and free, online courses backed by Cisco's expertise.

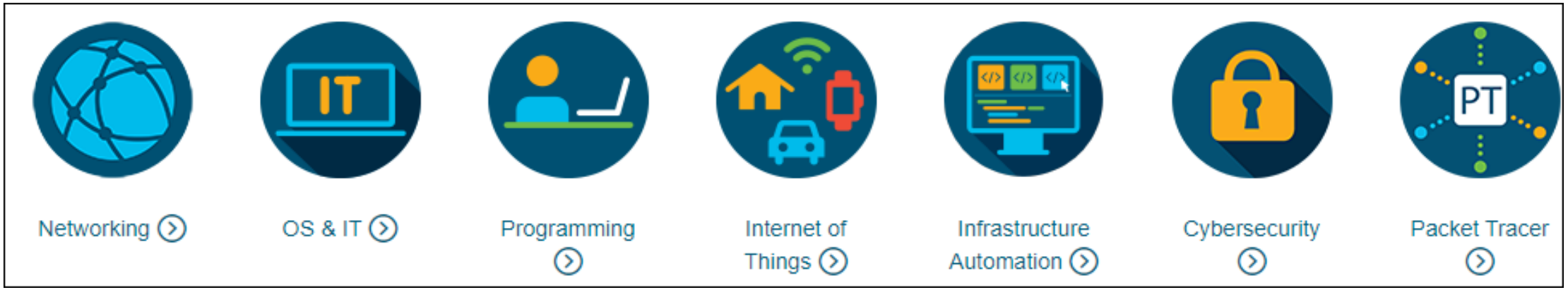
Cisco NetAcad

YOU WILL COMPLETE UP TO AND INCLUDING MODULE 11

What is Cisco Network Academy?

Empowering educators with a next-gen teaching experience

- Cisco Networking Academy is a global IT and cybersecurity education program that provides best-in-class courses, tools, and resources to help people from all backgrounds participate in the digital economy.



Netacad Students Around the Worlds

15M

students worldwide since 1997

Source: Networking Academy FY21 tier 1 public metrics

27%

of current students are female

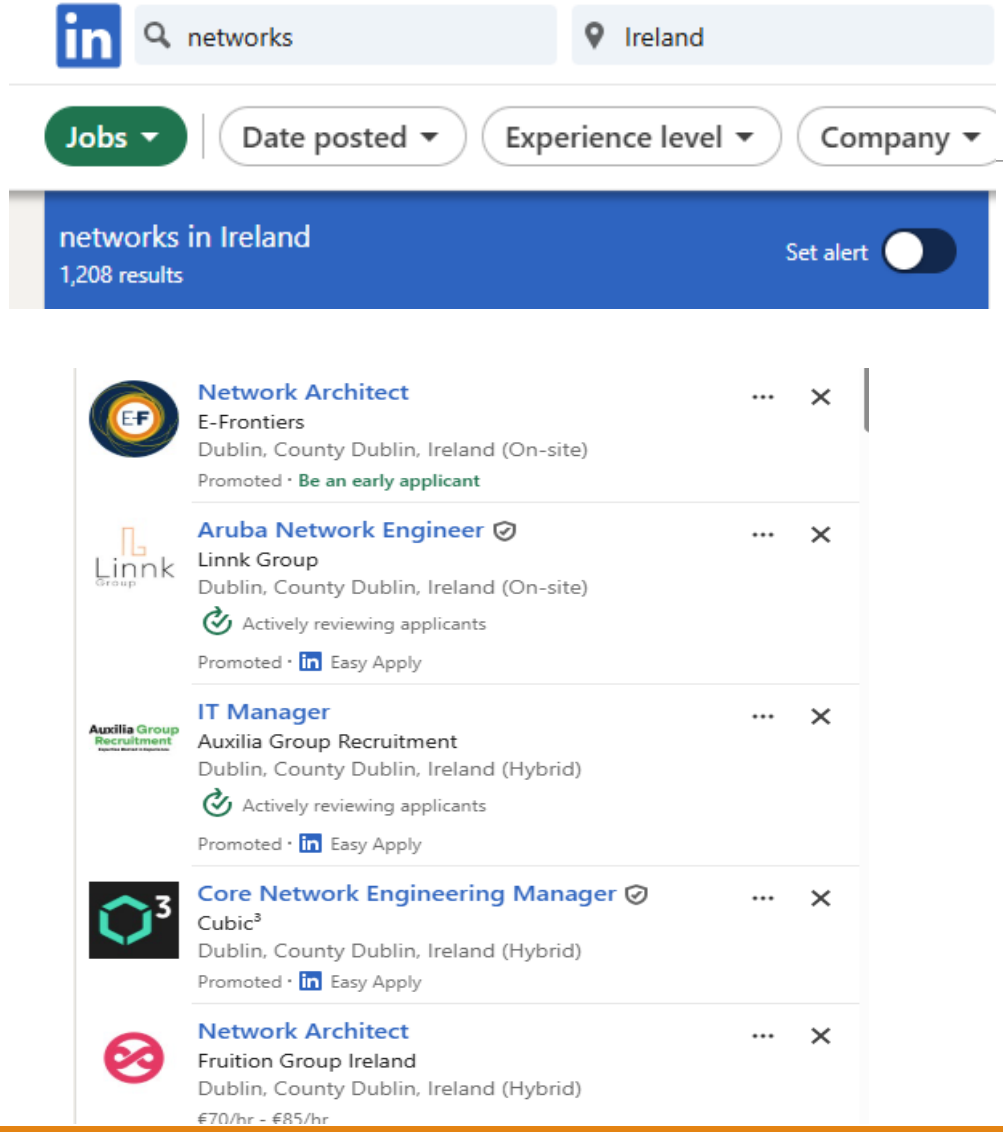
Source: Networking Academy FY21 tier 1 public metrics

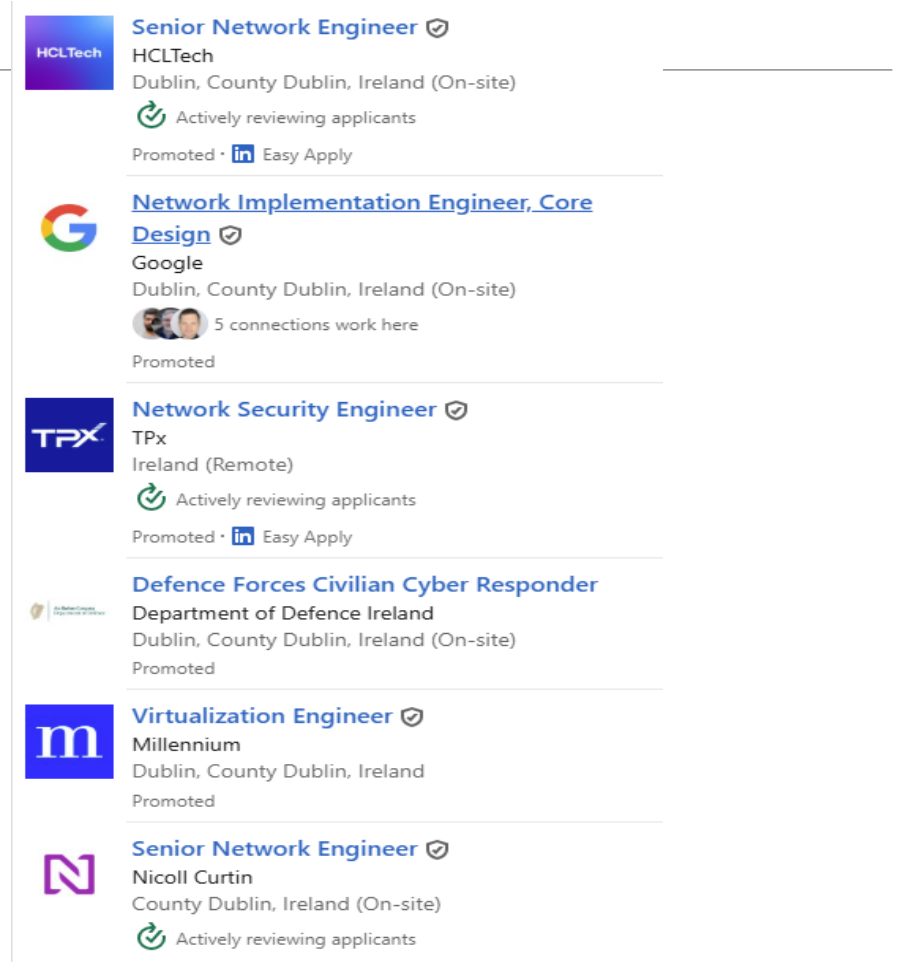
95%

of students say the program helped them obtain a job or educational opportunity

Source: Surveys of students taking certification-ready courses or higher

Networks and Cybersecurity Jobs in Ireland



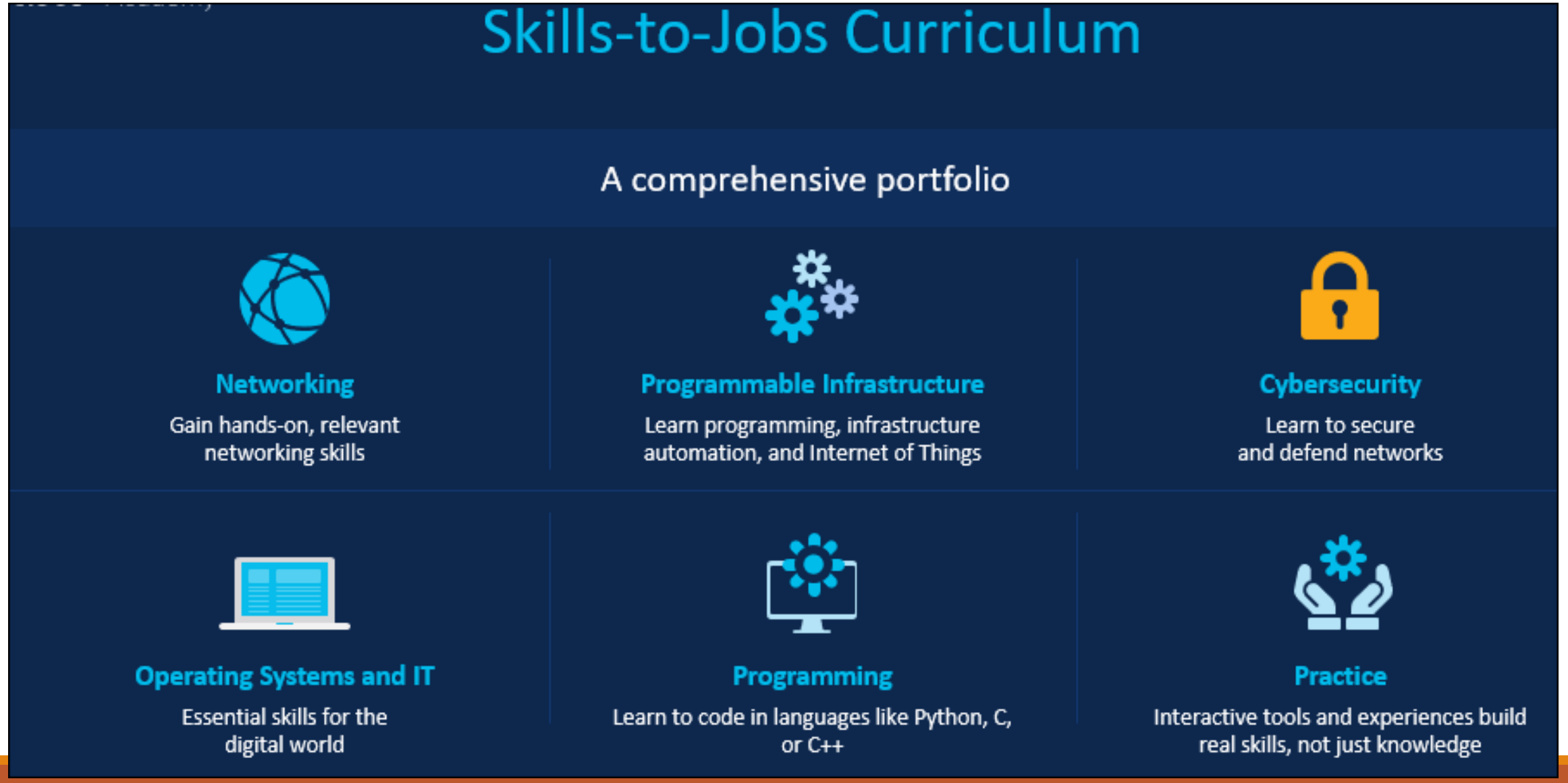


Jobs Market for Networking and Cyber Security Graduates

Cybersecurity Jobs. PHOTO: Cybercrime Magazine.

Cybersecurity Jobs Report: 3.5 Million Openings In 2025

Career Path


Skills-to-Jobs Curriculum
A comprehensive portfolio
Networking
Gain hands-on, relevant networking skills
Programmable Infrastructure
Learn programming, infrastructure automation, and Internet of Things
Cybersecurity
Learn to secure and defend networks
Operating Systems and IT
Essential skills for the digital world
Programming
Learn to code in languages like Python, C, or C++
Practice
Interactive tools and experiences build real skills, not just knowledge

Cisco Certifications

Course | Self-paced

Introduction to IoT and Digital Transformation

Billions of devices connect to the network every day. Learn how IoT is digitally transforming the world and opening up exciting new jobs.

6 Hours Free

Course | Instructor-led

Networking Essentials

Networks keep the digital world connected. Learn how networks work and gain employable skills to start your tech career.

70 Hours

Course | Self-paced, Instructor-led

Networking Basics

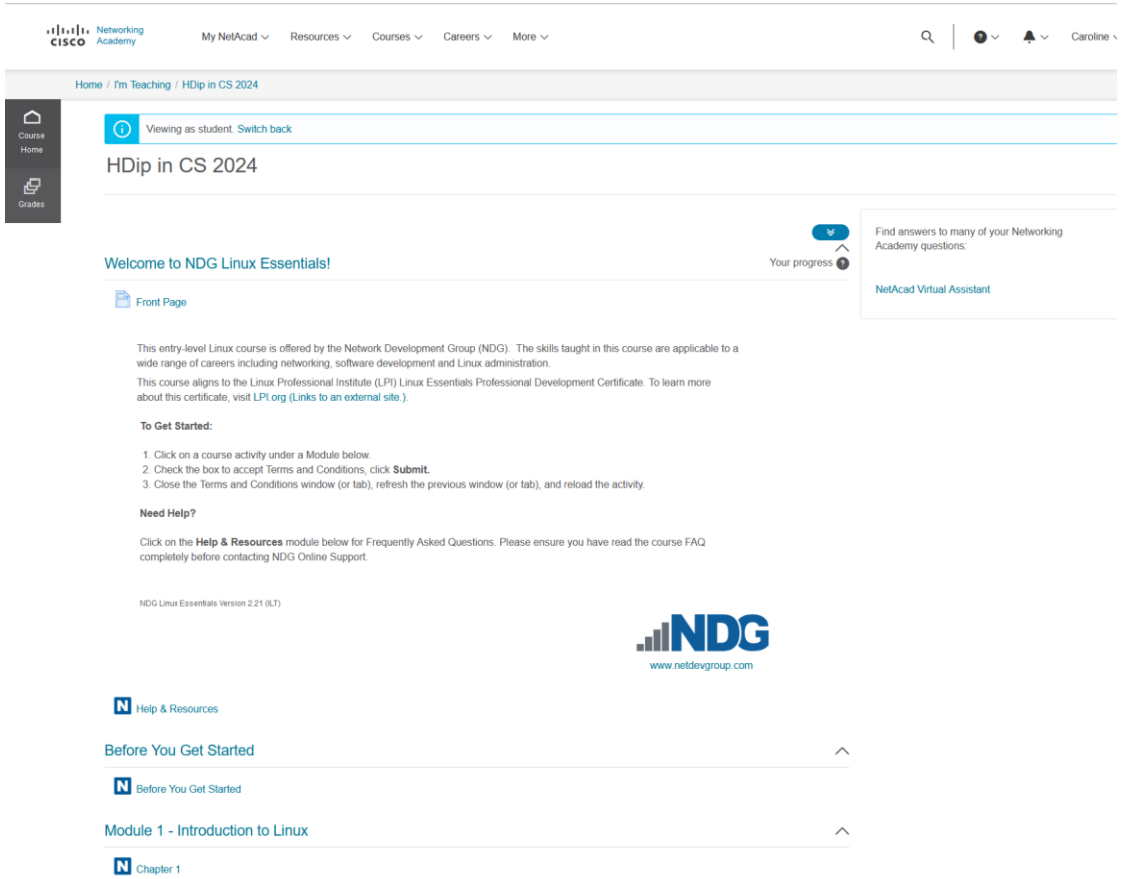
Start learning the basics of computer networking and discover how networks operate.

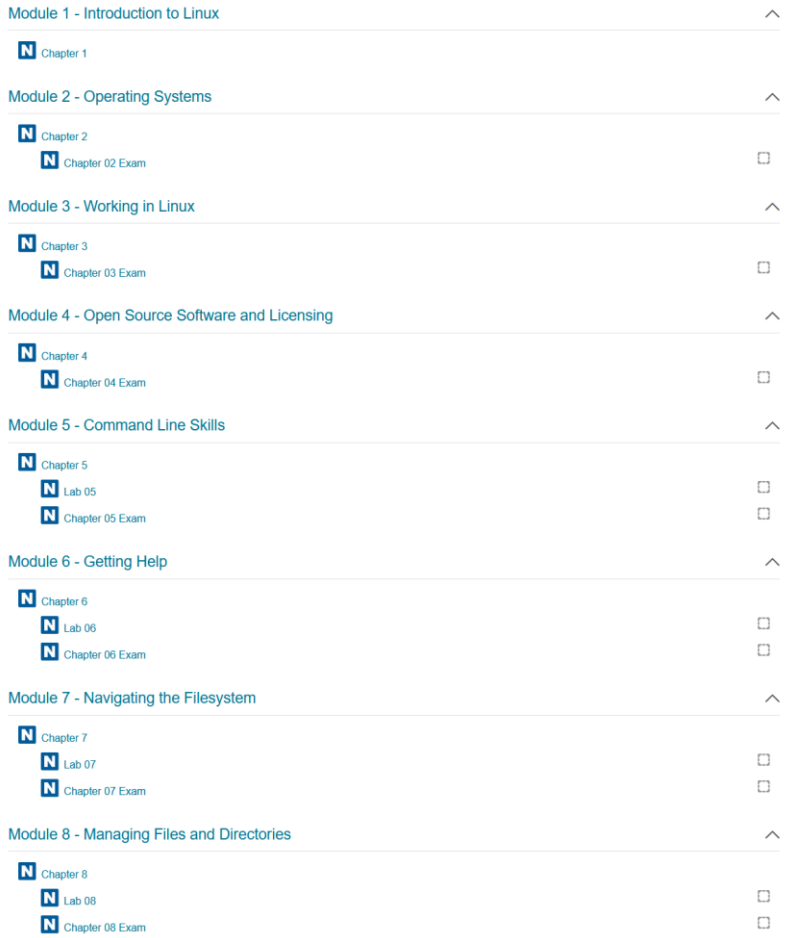
22 Hours Free

Career Paths | View all

Career Path

Network Technician


Networking Academy
My NetAcad
Resources
Courses
Careers
More
Caroline
Home / I'm Teaching / HDip in CS 2024
Course Home
Grades
Viewing as student. Switch back
HDip in CS 2024
Welcome to NDG Linux Essentials!
Your progress
Front Page
This entry-level Linux course is offered by the Network Development Group (NDG). The skills taught in this course are applicable to a wide range of careers including networking, software development and Linux administration.
This course aligns to the Linux Professional Institute (LPI) Linux Essentials Professional Development Certificate. To learn more about this certificate, visit LPI.org (Links to an external site.).
To Get Started:
1. Click on a course activity under a Module below.
2. Check the box to accept Terms and Conditions, click Submit.
3. Close the Terms and Conditions window (or tab), refresh the previous window (or tab), and reload the activity.
Need Help?
Click on the Help & Resources module below for Frequently Asked Questions. Please ensure you have read the course FAQ completely before contacting NDG Online Support.
NDG Linux Essentials Version 2.2.1 (ILT)
NDG
www.netdevgroup.com
Find answers to many of your Networking Academy questions:
NetAcad Virtual Assistant
Help & Resources
Before You Get Started
Before You Get Started
Module 1 - Introduction to Linux
Chapter 1


Module 1 - Introduction to Linux
Chapter 1
Module 2 - Operating Systems
Chapter 2
Chapter 02 Exam
Module 3 - Working in Linux
Chapter 3
Chapter 03 Exam
Module 4 - Open Source Software and Licensing
Chapter 4
Chapter 04 Exam
Module 5 - Command Line Skills
Chapter 5
Lab 05
Chapter 05 Exam
Module 6 - Getting Help
Chapter 6
Lab 06
Chapter 06 Exam
Module 7 - Navigating the Filesystem
Chapter 7
Lab 07
Chapter 07 Exam
Module 8 - Managing Files and Directories
Chapter 8
Lab 08
Chapter 08 Exam

Using Linux

- You can use WSL (windows subsystem for linux)
- If using a Mac, the standard Mac terminal will be perfect

  NOTE: If you use the mac terminal then you are working and making changes to your actual OS

You could use any emulator/any virtualiser software & then install Linux on top of this

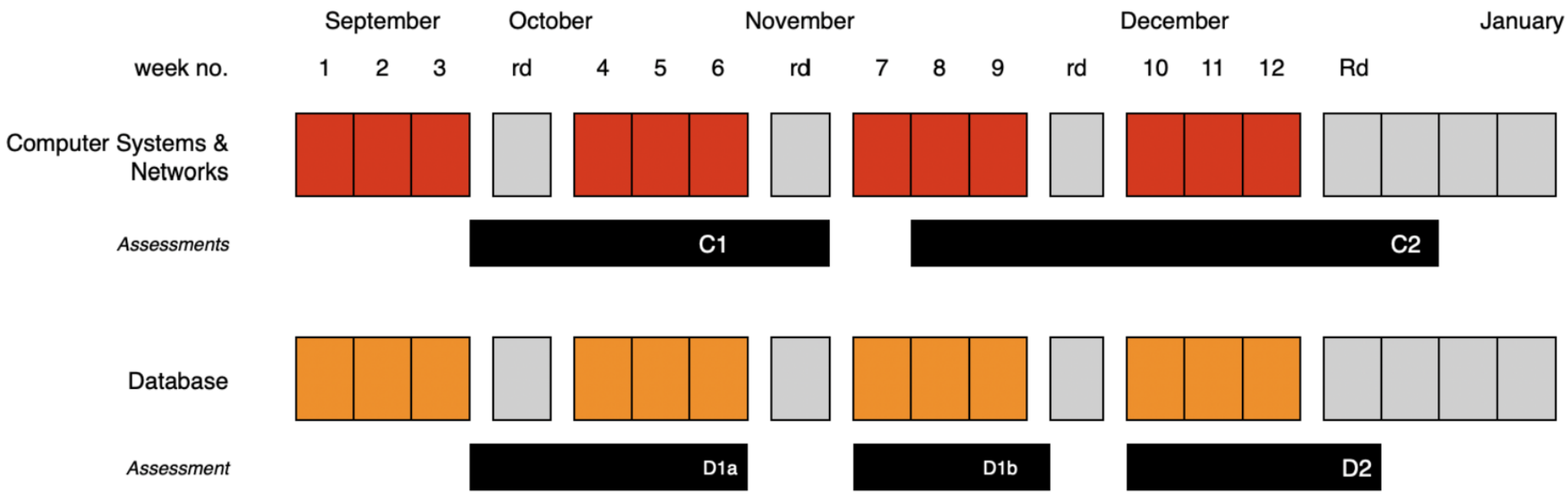
(= keeps your Linux completely separate from your work system)

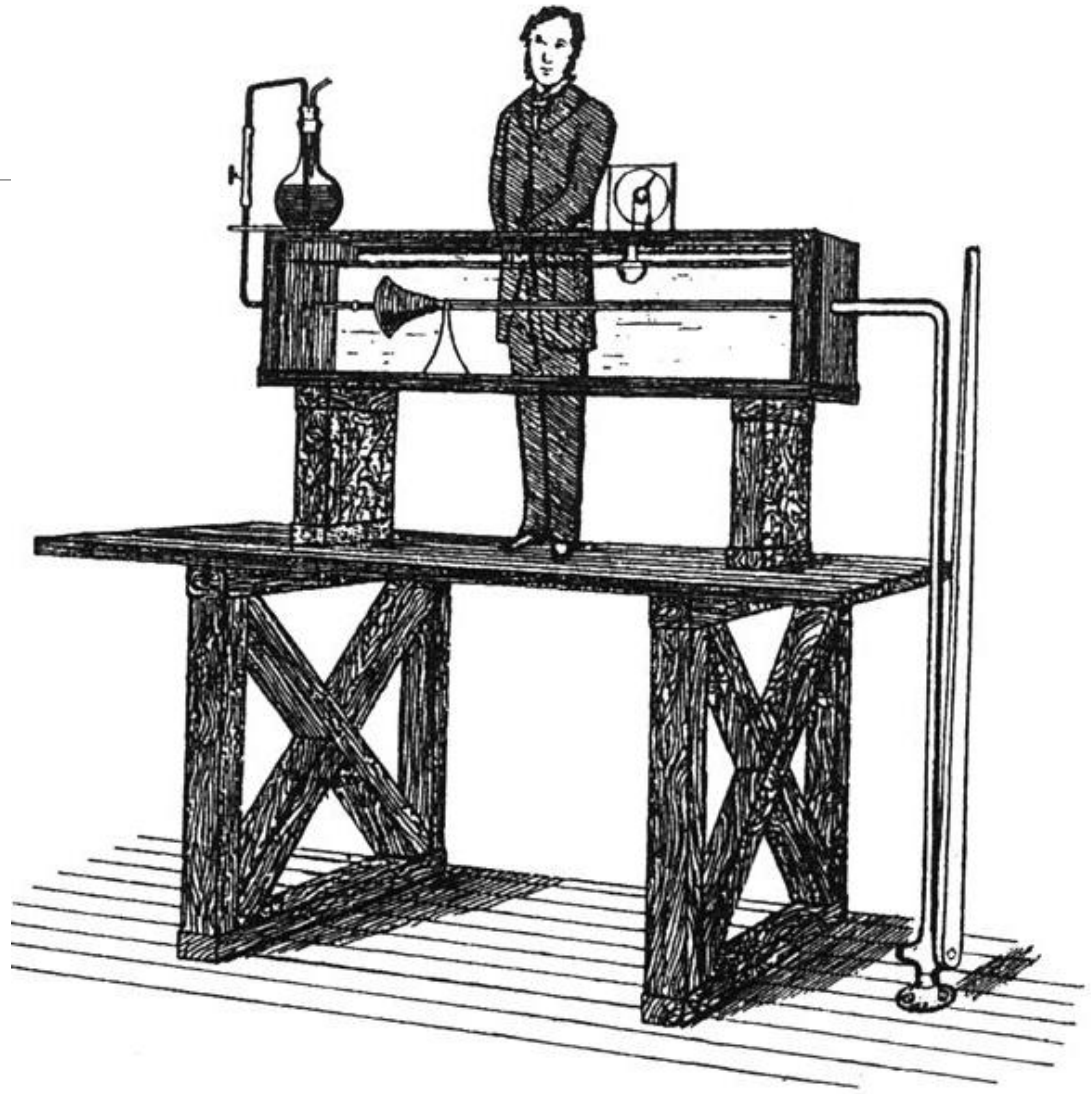
- You could install VirtualBox & then install **Lubuntu** onto this

  VirtualBox also won't install on a M1/M2 chip as they removed support for it
- You can use a UTM virtualiser (was created for macOS & only for Apple platforms)
- You can install Lubuntu on a Raspberry Pi (the SD card will hold everything)

My screenshots in the notes will be taken off my own Lubuntu that I've installed in VirtualBox

Semester 2 Assessment Schedule





Ethos

Focus on practical skills

Good idea to stay current with module:

- Some lectures will require reading/viewing of talks before.

Experiment/build something interesting:

- You will have the opportunity to propose your own assignment!

Which will you use?