

Course Title:	Network Security
Course Code:	COMP715
Descriptor Start Date:	18/07/2022
Descriptor End Date:	30/01/2023
POINTS:	15.00
LEVEL:	7
PREREQUISITE/S:	ENEL611
COREQUISITE/S:	None
RESTRICTION/S:	None

LEARNING HOURS

Hours may include lectures, tutorials, online forums, laboratories. Refer to your timetable and course information in Canvas for detailed information.

Total learning hours: 150

PRESCRIPTOR

Students will gain an in-depth understanding of the concepts and technologies for securing LAN, WAN and Wireless networks through lectures and hands-on lab using networking hardware. Students will implement security for network devices, implement Firewall and IPS/IDS technologies to protect against network attacks, secure network communications using VPN to connect remote sites together. Students will be introduced to cybersecurity operations including the tools, devices, and services to monitor and defend against cyberattacks.

LEARNING OUTCOMES

1. Implement networks with up-to-date security technologies
2. Undertake a network device level security audit and recommend corrective steps
3. Analyse all layers of network designs for outlining security vulnerabilities, proposing mitigating architectural approaches and making system level configuration recommendations

Disclaimer: Course descriptors may be amended between teaching periods/semesters

CONTENT

- Device (router and switch) security and hardening
- IOS security configurations
- AAA Access Control
- LAN security
- SNMP security
- Secure routing and anti-spoofing
- Securing with VLANs
- Virtual Private Networks (VPNs): SSL and IPsec
- Firewalls
- IDS and IPS
- Wireless management and security
- Cybersecurity

LEARNING & TEACHING STRATEGIES

- Readings, Exercises
- Lectures
- Student presentations
- Class discussion
- Guest speaker/lecturer, site visit if appropriate
- Laboratory sessions
- Online learning modes: online tutorial(s)
- Student self-study

ASSESSMENT PLAN

Assessment Event	Weighting %	Learning Outcomes
Assignment	15.00	1, 2
Mid-term assessment	15.00	1, 2
Practical assessment	30.00	1, 2
Final Examination	40.00	1-3

Grade Map	MAP1
	A+ A A- Pass with Distinction
	B+ B B- Pass with Merit
	C+ C C- Pass
	D Fail

Overall requirement/s to pass the course:

To pass the course, the student needs at least a minimum of 35% in the Final Examination and to obtain at least 50% overall.

LEARNING RESOURCES

Course handouts.

For further information, contact: Te Ara Auaha - Faculty of Design & Creative Technologies

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Principal Programme: **AK3697, Bachelor of Computer and Information Sciences**

Related Programme/s: **AK3698**
AK1041
AK3001
AK3003
AK3756
AK3706

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