

Course Title:	Advanced Network Technologies
Course Code:	COMP714
Descriptor Start Date:	31/01/2025
POINTS:	15.00
LEVEL:	7
PREREQUISITE/S:	COMP609
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

This course reviews the advancement in data communications and networking supporting distributed systems incorporating components from current Networking protocols and products.. It applies relevant theoretical models for the evaluation, selection and deployment of advanced network technologies providing specified services.

LEARNING OUTCOMES

1. Discuss the issues and challenges in the design, implementation and deployment of Gigabit Ethernet, Gigabit Wi-Fi, MPLS, and modern optical networks
2. Demonstrate an in-depth understanding of the principle and architecture of voice over IP (VoIP) protocols.
3. Discuss the concept of quality of services (QoS) paradigm and various issues and challenges in providing IP QoS.
4. Discuss the key issues and challenges in implementing wireless QoS.
5. Conduct laboratory experiments and develop network modes for the performance evaluation of real-world network scenarios.

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

CONTENT

The course covers the following advanced networking topics:

- Gigabit Ethernet, Gigabit Wi-Fi, MPLS networks
- Optical networks (e.g., SONET)
- Voice/Video over IP networks
- Delivering quality of services over IP networks (IP-QoS)
- Wireless QoS implementation

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)

ASSESSMENT PLAN

Assessment Event	Weighting %	Learning Outcomes
Network modelling Assignment	50.00	1,3,,5
Final Exam	50.00	1,2,3,4

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 this course, students must achieve a minimum overall grade of C-.

LEARNING RESOURCES

A recommended reading list will be provided.

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

Principal Programme: AK3697, Bachelor of Computer and Information Sciences

Related Programme/s: AK3698
AK1041
AK3001
AK3003
AK3756
AK3706

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