

# Course Outline

**Title:** ADVANCED NETWORK SERVICES

**Code:** ITECH2108

**Formerly:** CP753

**Faculty / Portfolio:** Faculty of Science

## Program Level:

	AQF Level of Program					
	5	6	7	8	9	10
Level						
Introductory						
Intermediate			✓			
Advanced						

**Pre-requisites:** (CP660 or ITECH1003)

**Co-requisites:** Nil

**Exclusions:** (CP753 and CP882 and ITECH6108)

**Progress Units:** 15

**ASCED Code:** 020113

## Learning Outcomes:

### Knowledge:

- K1.** restate the strength of the layered model of networking and its application to real-world scenarios;
- K2.** identify the mechanisms involved in a range of fundamental network services;
- K3.** recognize the configuration of more than one network operating system;

### Skills:

- S1.** install and configure a range of fundamental network services in more than one network operating system;
- S2.** diagnose and trouble-shoot problems in network services by using network traffic analysis program ;
- S3.** describe the risks and benefits associated with various networking solutions;

### Application of knowledge and skills:

- A1.** apply the layered model of networking in conceptualization of routing and switching ;
- A2.** analyze network traffic in various networking services like DNS, DHCP, NAT, HTTP and FTP servers.
- A3.** solve network problems associated with network services ;

## Values and Graduate Attributes:

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## ITECH2108 ADVANCED NETWORK SERVICES

### Values:

- V1. appreciate the need for network services in real-world ;
- V2. appreciate the complexities of switching and routing in everyday use of network services ;

### Graduate Attributes:

Attribute	Brief Description	Focus
Continuous Learning	Capacity to discover and analysis various network services and ability to overcome network problems associated with these services.	High
Self Reliance	Self reliance in using network services in day-to-day life.	High
Engaged Citizenship	Categorically apply network services and solve networks problems in small local area network.	Medium
Social Responsibility	Appreciate the complexities of network service and respect the issues associated with the data security in networks.	Medium

### Content:

This course is intended to build upon the, largely theoretical, understandings acquired through ITECH1003 through concrete network configuration scenarios. Lectures will describe the workings of a cross-section of fundamental network services such as those listed below. Laboratory work will involve the installation and configuration of these services in a number of contrasting operating systems. Currently an Open Source Linux OS is contrasted with Microsoft Windows. There will be particular emphasis in laboratory work on the resolution of problems through analysis of network traffic.

Topics may include:

- DNS/DHCP.
- Routing and NAT.
- Local and network file systems.
- Web and FTP servers.
- Firewalls.
- Security.

### Assessment:

Learning Outcomes Assessed	Assessment Task	Assessment Type	Weighting
S1, S2, A2, A3	Establish strong familiarity with practical application of material covered.	Exercises and assignments	20 - 50%
K1, K2, K3, A1, S3	Attend lectures, read and summarise theoretical aspects of the course. Understand practical work undertaken.	Final examination and tests	50 - 80%

### Adopted Reference Style:

APA

### Presentation of Academic Work:

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<https://federation.edu.au/students/assistance-support-and-services/academic-support/general-guide-for-the-presentation-of-academic-work>