

# Module Organiser

## Details

Module number: CO32010  
Module name: Network Operating Systems  
Module leader: [Dr William Buchanan, School of Computing, Napier University, Edinburgh, UK.](#)  
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WWW reference: <http://www.dcs.napier.ac.uk/~bill/nos/cdsMOa.html>  
PDF reference: <http://www.dcs.napier.ac.uk/~bill/nos/cdsMOa.PDF>  
RTF reference: <http://www.dcs.napier.ac.uk/~bill/nos/cdsMOa.rtf>

## Student Workload

Lectures/Tutorials	24 hours
Practicals/Project Work	12 hours
Examination	2 hours

## Assessment

Examination	40%
Project	60%

## Aims

The main learning outcomes are:

- To provide a foundation on the three main network operating systems: Microsoft Windows, UNIX and Novell NetWare.
- To investigate the component parts of each of the operating systems, especially related to networking, and the main network protocols that they use to intercommunicate, such as TCP/IP, SPX/IPX and NetBEUI.
- To investigate the usage of standard protocols, such as NFS, NIS and DHCP, which provide network services, such as IP address allocation, networked file systems and network logins.

## Module content

The main areas covered are:

- **Fundamentals.** NFS, NIS, XDR, RPC, TCP/IP, Process Control/Scheduling.
- **Novell NetWare.** SPX/IPX, NetWare 3, NDS, Bindery, VLMs, Time Synchronisation.
- **Microsoft Windows.** Registry, Device Drivers, Configuration Manager, Virtual Machine Manger, Multitasking/multithreading, NetBEUI, TCP/IP, Peer-to-peer, NDIS, INF.
- **Windows NT/2000.** Workgroups/Domains, Server/Workstation, File Systems, Administrative Tools, Policy Editor, User Manager, NT architecture.
- **Naming servers.** WINS, DNS, Bootp and DHCP.

## Reference material

**Buchanan WJ**, "Distributed Systems and Networks", McGraw-Hill, 2000, ISBN 0-077-09583-9.

**Buchanan WJ**, "Mastering Microsoft Windows, Novell NetWare and UNIX", Macmillan, 1999. ISBN 0-333-748053.

## Notes

## Timetable

Week Number	Lecture/Tutorial 1	Lecture/Tutorial 2	Practical/Project
1	Introduction to Networks	Network Fundamentals	TBC
2	IP	TCP	
3	Distributed System Elements	Introduction to OSs	
4	Processes and Scheduling		
5	Distributed Processing		
6	Distributed File Systems		
7	Routing Protocols (RIP/OSPF/EGP)	Routers and Routing (Configuration/Commands)	
8	Windows NT		
9	Novell NetWare		
10	UNIX/Linux		
11			
12			