



UNIVERSITY OF WALES: TRINITY SAINT DAVID
PRIFYSGOL CYMRU: Y DRINDOD DEWI SANT

School of Applied Computing

**IP Internetworking
ACC4007**

Term 2

AIM(S)

- To provide the student with an introductory knowledge of routing protocols and concepts. Students will gain a detailed understanding of the various routing protocols used in network design and will understand the fundamental technical principles of routing protocols and IP Addressing.

LEARNING OUTCOMES

Upon the successful completion of this module, the student should be able to demonstrate the ability to:

1. Demonstrate a thorough theoretical understanding of routing protocols and concepts.
2. Deploy static and dynamic routing protocols and troubleshoot common issues with in LAN and WAN infrastructures.

INDICATIVE CONTENT

- Routing concepts
- Classless and classful routing
- Static and default routing
- Dynamic routing – Distance vector and link-state routing protocols
- Routing Information protocol (RIP) version 1 and 2
- Single Area OSPF
- Configuring and testing networks

LEARNING AND TEACHING STRATEGY

The majority of factual material will be presented in lectures using handouts, guided reading and use of internet and intranet material as required.

Tutorial classes will concentrate on the technical design

Laboratories will be used to allow students to gain advanced routing and switching skills with the aid of lab equipment and appropriate software such as Packet tracer, GNS, etc.

The allocation of teaching to deliver the module is:

Activity type	Hours	Percentage
Scheduled learning	70	35%
Independent learning	130	65%
Placement learning	0	
TOTAL	200	100%

ASSESSMENT

Description of each assessment component and its weighting, together with an example for new forms of assessment:

Assessment Component 1 – Practical - 50%

In-class test. This assessment will require students to implement and test routing protocols in a LAN and WAN in a lab based environment.

Assessment Component 2 – Written – 50%

2-hour exam. This will allow the student to demonstrate theoretical knowledge on routing protocols.

Assessment Summary

Activity type	Percentage
Written	50%
Coursework	0%
Practical	50%
TOTAL	100%

BIBLIOGRAPHY

Essential

Routing and Switching Essentials Companion Guide by Cisco Networking Academy, 2013

R. Graziani and A. Johnson (2011) Routing Protocols and Concepts: CCAN Exploration Companion guide, Cisco Press.

Background

Routing and Switching Essentials course booklet by Cisco Networking Academy, 2013

N. Olifer and V. Olifer (2006) Computer Networks Principles, Technologies and Protocol for Network Design, John Wiley and Sons, Ltd.

P. J. Conlan, (2009) Cisco Network Professional's Advanced Internetworking Guide, Sybex.

Websites

<http://www.netacad.com> (username and password required)