

<b>Module Title:</b>	Scaling Networks
<b>Module Code:</b>	081
<b>Level:</b>	5
<b>Credits:</b>	15
<b>Pre-Requisites:</b>	

**Module Description:**

The aim of this module is to provide a detailed practical understanding of current network routing and switching techniques. The module covers an in-depth appreciation of current routing protocols and their application, LAN switching techniques and LAN optimisation.

**Indicative Content:**

- Overview of scalable networks
- Advanced dynamic routing protocols
- Route optimisation
- LAN media types
- VLAN switching
- STP
- VPNs
- Apply related safety precautions in installation and trouble-shooting activities.

**Learning and Teaching Methods:**

Classroom, workshop and labs. Cisco online materials for self-study

**Specific Learning Resources:**

Computers over which learners have admin rights, routers, switches, cabling. Network simulation software.

**Bibliography**

Highly Recommended

Cisco NetSpace: Scaling Networks, <http://www.netacad.com>

Cisco Networking Academy (2014) *Scaling Networks Essentials Companion Guide*, Cisco Press

Recommended

K. Pahlavan, P. Krishnamurthy (2009) *Networking Fundamentals: Wide, Local and Personal Area Communications*. Oxford: Wiley-blackwell

**Module Learning Outcomes**

**Subject Specific Learning Outcomes**

*On successful completion of this module you will be able to:*

LO 1 | Identify the most suitable routing protocols to deploy in an enterprise-WAN

LO 2 | Identify the key requirements of a scalable network

LO 3 | Evaluate and optimise LAN performance and security

LO 4 | Evaluate the switching technologies such as: VLANs, VTP, VLAN

<b>Assessment Title or element</b>	<b>Weighting (%)</b>
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Assignment: report documenting the design of a small, scalable network with evaluation (includes 10% for demonstration) (2000 words) [end semester]	100%
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