MODULE **DESCRIPTOR**

MODULE TITLE	NETWORK COMMUNICATION AND ROUTING		
MODULE CODE	CO4505 (L7)	CREDIT VALUE	20 UK CREDITS / 10 ECTS
SCHOOL	SCHOOL OF SCIENCES		

MODULE **AIMS**

1. To provide students with hands on experience in the set-up, configuration and testing of Networks.
2. To foster problem-solving skills through case studies and practical investigation.
3. To encourage students to expand their knowledge of the computer network industry.

MODULE **CONTENT**

Indicative syllabus content:

Addressing
  Logical, physical
  IPv4, IPv6
Subnetting
  Classful & Classless
  CIDR
Switched networks and STP
Firewalls
NAT, PAT
VLANs
OSI & TCP/IP Models
Transport protocols
  UDP, TCP
Network metrics
  Bandwidth, throughput, latency, interpacket delay variation etc.
Network topologies
  Linear, star, bus, tree, hierarchical, etc
Communications Media
  Wireless, UTP, fibre
Network routing and routing protocols

INTENDED **LEARNING OUTCOMES**

On successful completion of this module a student will be able to:

1. Critically evaluate relevant technologies used in Computer Networks in a given scenario.
2. Critically evaluate the effectiveness of network routing protocols for wired and wireless networks.
3. Compare networking technologies available from a number of competing networking technologies.
4. Evaluate the solution proposed in wireless routing and QoS in supporting multimedia applications.
5. Critically evaluate network topologies used in a given network scenario.

TEACHING METHODS

This module will provide students with theoretical knowledge through lecture sessions, which will also introduce topics for further investigation by the students. Practical sessions will be used to complement the lectures. Students are expected to be actively engaged in research activities into relevant networking topics by making full use of external learning resources, such as the Web, magazines, and other professionally published material.

ASSESSMENT METHODS

This module is assessed through an examination, a report and a practical assessment.