

## Liverpool John Moores University

Title: Networks and Systems Connectivity  
Status: Definitive faculty appr change  
Code: **5009ELE** (120119)  
Version Start Date: 01-08-2016

Owning School/Faculty: Electronics and Electrical Engineering  
Teaching School/Faculty: Electronics and Electrical Engineering

Team	Leader
Ronan McMahon	Y
Princy Johnson	

**Academic Level:** FHEQ5      **Credit Value:** 20      **Total Delivered Hours:** 72  
**Total Learning Hours:** 200      **Private Study:** 128

### Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	48
Practical	24

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Test	Test	Exam/ICT (x2)	50	
Report	AS1	Lab report 1	25	
Report	AS2	Lab report 2	25	

### Aims

*The module expands knowledge of networking and introduces server software*

### Learning Outcomes

After completing the module the student should be able to:

- 1 Examine network level protocols and applications
- 2 Examine options for low level data transfer
- 3 Implement network simulations
- 4 Demonstrate a practical knowledge of server software and configuration

### **Learning Outcomes of Assessments**

The assessment item list is assessed via the learning outcomes listed:

Exam/ICT (x2)	1	2
Report 1	3	
Report 2	4	

### **Outline Syllabus**

*Ethernet review – frames, nodes and connections  
VLANs, bridges, spanning tree protocol  
Network models.*

*Internet Protocol – IPv4, TCP, UDP  
DNS, DHCP, NAT,  
Security - confidentiality, integrity, availability*

*Server software overview  
Active directory; User and Account management; DNS; Security  
RAID types and applications*

*Information theory  
Block codes HDB8; 8B10B; Multilevel codes; Baud/symbol rate  
Error detection and correction codes  
Multiplexing  
Modulation - multilevel and complex schemes*

### **Learning Activities**

Lectures and lab work.

### **Notes**

This module looks in greater detail at aspects of networking and introduces Server architecture and configuration.