

## Liverpool John Moores University

Title: DATA AND TELECOMMUNICATIONS NETWORK DESIGN  
Status: Definitive  
Code: **6018ENG** (106223)  
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

**Academic Level:** FHEQ6      **Credit Value:** 12      **Total Delivered Hours:** 38  
**Total Learning Hours:** 120      **Private Study:** 82

### Delivery Options

Course typically offered: Summer

Component	Contact Hours
Lecture	12
Practical	18
Tutorial	6

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	Examination	50	2
Essay	AS2	Coursework 1	50	

### Aims

*This module will enable students to design suitable networks for given customer requirements. Students will be able to assess the limitations of their design.*

### Learning Outcomes

After completing the module the student should be able to:

- 1 Identify key differences between design of Packet and Circuit switched networks.
- 2 Develop suitable requirements to enable network design.
- 3 Design a network
- 4 Assess the limitations of a network

### **Learning Outcomes of Assessments**

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

EXAM	1	2	4
CW	2	3	4

### **Outline Syllabus**

*Reasons for designing a network*  
*Comparisons between packet and circuit switched networks*  
*Mixed Networks*  
*Calculation of network traffic*  
*Traffic and capacity planning*  
*Network expansion.*  
*Network resilience*  
*Network Management – Configuration and maintenance*  
*Network Security*

### **Learning Activities**

Typically by a series of lectures, tutorials, and practicals.

### **Notes**

This module adds to the student's knowledge of networking by concentrating on issues associated with the design of data and communication networks