

# Wireless Networks

## Module Information

2022.01, Approved

### Summary Information

Module Code	7347ELEM
Formal Module Title	Wireless Networks
Owning School	Engineering
Career	Postgraduate Taught
Credits	20
Academic level	FHEQ Level 7
Grading Schema	50

### Teaching Responsibility

LJMU Schools involved in Delivery
Engineering

### Learning Methods

Learning Method Type	Hours
Lecture	22
Practical	22
Tutorial	11

### Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
JAN-CTY	CTY	January	12 Weeks

### Aims and Outcomes

Aims	To develop an extensive knowledge of network architectures and the protocols which are used therein.
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**After completing the module the student should be able to:**

**Learning Outcomes**

Code	Number	Description
MLO1	1	Model and critically evaluate complex network scenarios
MLO2	2	Critically evaluate aspects of network architecture and design
MLO3	3	Demonstrate an extensive and comprehensive knowledge and understanding of network performance issues

**Module Content**

Outline Syllabus	Introduction: applications of networks, network functions, protocols and layering, network architectures, layer models, circuit and packet switching. Physical and data link layers; protocols and functionality, Medium Access Control (MAC), Local Area Networking, e.g. Ethernet. User applications: Performance requirements – Bandwidth, Errors, Delay, JitterQoS implementations - DiffServ, IntServ, MPLS Multiple Access – Random, Reservation, Polling, Tokens Network Routing – Static, dynamic, DVP, LSP Network Management – FCAPS; MIBs, SNMP, Architecture Security – Confidentiality, Integrity, Availability. Wide Area Network and Access Networks – e.g. ADSL, SDH Internet – Architecture, IP, UDP, TCP, Internet application layers, Mobile Networks – Architecture, capacity, protocols, function distribution e.g. 3G/4G/5G Industrial Applications e.g. Rail Industry, Police etc.
Module Overview	
Additional Information	This module provides the student with an extensive knowledge of the concepts of networks, protocols and the environments in which they operate.

**Assessments**

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Centralised Exam	Exam	70	2	MLO2, MLO3
Report	Report	30	0	MLO1

**Module Contacts**

**Module Leader**

Contact Name	Applies to all offerings	Offerings
Ronan McMahon	Yes	N/A

**Partner Module Team**

Contact Name	Applies to all offerings	Offerings
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