

### Summary Information

Module Code	7510ELEMST
Formal Module Title	Digital Communications Systems
Owning School	Engineering
Career	Postgraduate Taught
Credits	20
Academic level	FHEQ Level 7
Grading Schema	50

### Teaching Responsibility

LJMU Schools involved in Delivery
LJMU Partner Taught

### Partner Teaching Institution

Institution Name
Sri Lanka Technological Campus

### Learning Methods

Learning Method Type	Hours
Lecture	22
Practical	12
Tutorial	11

### Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
SEP-PAR	PAR	September	12 Weeks

## Aims and Outcomes

Aims	To develop knowledge and technical skills in the field of digital communications
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**After completing the module the student should be able to:**

### Learning Outcomes

Code	Number	Description
MLO1	1	Simulate and critically analyse aspects of a communications system.
MLO2	2	Demonstrate a detailed knowledge of the principles of Digital Communications systems
MLO3	3	Critically analyse digital communications scenarios
MLO4	4	Develop detailed solutions to complex digital communications problems

## Module Content

Outline Syllabus	Signals and channels Baseband and pass band systems Information Theory; channel capacity. Coding - Source coding, Line coding, Channel coding Modulation - AM, FM, PM, Higher order schemes and consequences for digital signals Multiple Access Multiplexing Single and multicarrier systems Noise and interference
Module Overview	
Additional Information	This module develops skills and knowledge in the area of digital communications. Students completing this module will have a comprehensive understanding of the complex relationship between bandwidth, modulation, coding, noise and interference, and effective data transfer rate.

## Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Exam	Exam	70	2	MLO2, MLO3, MLO4
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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