LIVERPOOL JOHN MOORES UNIVERSITY

Digital Communications Systems

Module Information

2022.01, Approved

Summary Information

Module Code	7310ELEM
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
Engineering

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-CTY	CTY	September	12 Weeks
SEP_NS-CTY	CTY	September (Non-standard start date)	12 Weeks

Aims and Outcomes

Aims	To develop knowledge and technical skills in the field of digital communications

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 channelsBaseband and pass band systemsInformation Theory; channel capacity.Coding - Source coding, Line coding, Channel codingModulation - AM, FM, PM, Higher order schemes and consequences for digital signalsMultiple AccessMultiplexingSingle and multicarrier systemsNoise 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
Centralised 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