

## Liverpool John Moores University

Title: TECHNICAL ISSUES IN BROADCASTING  
Status: Definitive  
Code: **5093ENG** (117076)  
Version Start Date: 01-08-2018

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

Team	Leader
Paul Otterson	Y
David Ellis	

**Academic Level:** FHEQ5      **Credit Value:** 24      **Total Delivered Hours:** 74  
**Total Learning Hours:** 240      **Private Study:** 166

### 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
Report	Rpt		40	
Exam	Exam		60	2

### Aims

*To explain the nature and composition of broadcast and media signals; to describe the operation of media equipment and broadcast operations; and to cover a range of media formats.*

### Learning Outcomes

After completing the module the student should be able to:

- 1 Analyse the nature of TV and radio signals
- 2 Explain the principles of studio equipment and critically evaluate its application
- 3 Describe the synchronisation requirements of video equipment
- 4 Monitor and test video signals

### **Learning Outcomes of Assessments**

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

Report	1	4
Exam	2	3

### **Outline Syllabus**

*Video Signals, Scanning, Resolution*

*Effect of Interlace, flicker, Gamma*

*Blanking/Active line/Visible lines*

*Synchronization*

*Audio Signals*

*Standard level, decibels:*

*Acoustics - Reverberation time*

*Microphones, Speakers*

*Colour Standards*

*Component and composite signals*

*Properties of composite signals, colour burst*

*Digital Signals, Rec 601*

*Sampling formats (e.g. 4:2:2), SDI*

*High Definition Issues*

*HD SDI, formats*

*MPEG*

*Nature of the bit-rate, Compression Techniques used, nature of artifacts*

*I,P,B frames, Causality, delays*

*Blocks, macro-blocks, motion vectors*

*Digital Video Effects, Colour Keying*

### **Learning Activities**

Lectures/Workshops

### **Notes**

An introduction to general broadcast systems and technology for non-engineers