

## Liverpool John Moores University

Title: MULTIMEDIA COMPRESSION, STORAGE AND RETRIEVAL  
Status: Definitive  
Code: **7054COMP** (103313)  
Version Start Date: 01-08-2011

Owning School/Faculty: Computing and Mathematical Sciences  
Teaching School/Faculty: Computing and Mathematical Sciences

Team	Leader
Rubem Pereira	Y

**Academic Level:** FHEQ7      **Credit Value:** 15.00      **Total Delivered Hours:** 38.00  
**Total Learning Hours:** 150      **Private Study:** 112

### Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	12.000
Practical	12.000
Seminar	6.000
Tutorial	6.000

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	AS1	Group Assessment: A theoretical/practical piece of work, based on the development of networked multimedia information systems, including the application of advance current supporting technologies.	25.0	
Exam	AS2	Examination.	75.0	2.00

### Aims

*To develop an understanding of multimedia data handling mechanisms;*

*To develop an in-depth understanding of: compression techniques and standards, particularly in relation to still and moving images as well as digitised sound;  
To relate advanced architectural, operating systems and networking developments to multimedia data, particularly how the timing requirements and data volumes associated with multimedia data storage, retrieval and communication dictate hardware, software and networking developments.*

## **Learning Outcomes**

After completing the module the student should be able to:

- 1 Identify the requirements of advanced hardware and software systems for multimedia support, including compression and storage technology.
- 2 Analyse and evaluate the role of networked multimedia systems and critically appraise the techniques involved in their design, development and maintenance.
- 3 Execute a requirements analysis of, design and evaluate, distributed multimedia solutions, recognising the impact of compression and storage techniques on the development of distributed multimedia systems and applications.

## **Learning Outcomes of Assessments**

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

Multimedia Storage	1	2	3
Design			
Examination	1	2	3

## **Outline Syllabus**

*Compression techniques and related standards, e.g. JPEG, MPEG 2, 4 and 7. Included in the MPEG study will be the study of Psychoacoustics, perceptual encoding and related MP3 standard;*

*Quality of Service for Multimedia data: Requirements, end-systems and networking support: Scheduling, Buffering, Caching;*

*Multimedia Storage techniques, distributed filing systems. Storage systems optimisation for Multimedia Data;*

*Case Study: Video on Demand, IPTV, or some related topic.*

## **Learning Activities**

Lectures, Tutorials, Labs and Seminars.

## **References**

<b>Course Material</b>	Book
<b>Author</b>	Li & Drew
<b>Publishing Year</b>	2004
<b>Title</b>	Fundamentals of Multimedia
<b>Subtitle</b>	
<b>Edition</b>	
<b>Publisher</b>	Prentice Hall
<b>ISBN</b>	013 61872-1

<b>Course Material</b>	Book
<b>Author</b>	Kurose & Ross
<b>Publishing Year</b>	2008
<b>Title</b>	Computer Networking: a Top-Down Approach
<b>Subtitle</b>	
<b>Edition</b>	4th
<b>Publisher</b>	Addison Wesley
<b>ISBN</b>	10: 0321497708

<b>Course Material</b>	Book
<b>Author</b>	Steinmetz, R. & Nahrstedt, K.
<b>Publishing Year</b>	2004
<b>Title</b>	Multimedia Systems
<b>Subtitle</b>	
<b>Edition</b>	
<b>Publisher</b>	Springer
<b>ISBN</b>	978-3-540408673

<b>Course Material</b>	Journal / Article
<b>Author</b>	
<b>Publishing Year</b>	
<b>Title</b>	Journal 'Multimedia Systems' Springer Verlag
<b>Subtitle</b>	
<b>Edition</b>	
<b>Publisher</b>	
<b>ISBN</b>	

<b>Course Material</b>	Journal / Article
<b>Author</b>	
<b>Publishing Year</b>	
<b>Title</b>	Journal 'Computer Communications' Elsevier
<b>Subtitle</b>	
<b>Edition</b>	
<b>Publisher</b>	
<b>ISBN</b>	

## **Notes**

In this module advanced technologies, such as compression and storage techniques are presented as supporting features of integrated global multimedia networked systems, from World Wide Web and Video Conferencing to Interactive TV.

Group Coursework: Students will be differentiated through peer review for marking purposes.