

## Liverpool John Moores University

Title: MOBILE COMPUTING  
Status: Definitive  
Code: **7032COMP** (103291)  
Version Start Date: 01-08-2011

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

Team	Leader
Paul Fergus	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
Tutorial	12.000

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	AS1	Individual piece including literature survey and a case study.	25.0	
Exam	AS2	Examination.	75.0	2.00

### Aims

*To develop an advanced understanding of the theory and practice of mobile computing;*  
*To discuss current research issues in mobile computing;*  
*To provide an in-depth study of the mobile devices, applications and middleware services for the support of mobile systems.*

## Learning Outcomes

After completing the module the student should be able to:

- 1 Appraise the structure of the various mobile computing architectures such as mobile telephony and mobile Internet.
- 2 Demonstrate an advanced knowledge and awareness of the approaches and practices used to build mobile communication infrastructure.
- 3 Analyse and evaluate, critically, the provision of mobile computing and its impact on mobile systems design.

## Learning Outcomes of Assessments

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

Individual report	1	2	3
Examination	1	2	3

## Outline Syllabus

*Mobile Telephony: GSM and UMTS systems.*

*Mobile Internet: Mobility for computers.*

*Networked Appliances: Ubiquitous communications and Ubiquitous networked devices – how they discover and utilize services and device functionality for future applications.*

*Mobile Devices, including Power Management , storage, and processing power issues.*

*Environmental Awareness: Finding services in the Mobile environment.*

*Ubiquitous Computing.*

*Mobile File Systems (Disconnected Operation). A three-part history of mobile application support, from disconnected to always connected.*

*Mobile applications (Intermittent Connectivity)*

*Mobile applications (Continuous Connectivity)*

## Learning Activities

Practical laboratory exercises, supporting the lectures and tutorials

## References

<b>Course Material</b>	Book
<b>Author</b>	Talukder, A., Yavagal, R.
<b>Publishing Year</b>	2006
<b>Title</b>	Mobile Computing: Technology, Applications, and Service

	Creation
<b>Subtitle</b>	
<b>Edition</b>	
<b>Publisher</b>	McGraw-Hill Communications Engineering
<b>ISBN</b>	0071477330

<b>Course Material</b>	Book
<b>Author</b>	Garcia-Luna-Aceves, J. J.
<b>Publishing Year</b>	2008
<b>Title</b>	The 14th Annual International Conference on Mobile Computing and Networking
<b>Subtitle</b>	
<b>Edition</b>	
<b>Publisher</b>	ACM
<b>ISBN</b>	978-1-605580968

<b>Course Material</b>	Book
<b>Author</b>	Mostefaoui, S. K., Kaamar, Z. Giaglis, G. M.
<b>Publishing Year</b>	2008
<b>Title</b>	Advances in Ubiquitous Computing: Future Paradigms and Directions
<b>Subtitle</b>	
<b>Edition</b>	
<b>Publisher</b>	IGI Publishing
<b>ISBN</b>	978-1599048406

<b>Course Material</b>	Book
<b>Author</b>	Rome, A. Wilcox, M.
<b>Publishing Year</b>	2008
<b>Title</b>	Multimedia on Symbian OS: Inside the Convergence Device
<b>Subtitle</b>	
<b>Edition</b>	
<b>Publisher</b>	Wiley
<b>ISBN</b>	978-0470695074

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## Notes

This course is intended for post-graduate students that are interested in the field of mobile computing. The purpose of the course is to provide the fundamentals theoretical concepts and research issues that are currently important within the field of mobile computing. The module develops the principles of mobility and use of technology to connect to the Internet to consume and provide information to multiple applications. It discusses the development tools required to work in often environments where connectivity and access to services is not always possible.