

Planning and Quality Assurance Affairs

Form (A)

Course Specifications

General Information

Course name	Mobile Computation
Course number	ITCS4326
Faculty	
Department	
Course type	Major Needs
Course level	4
Credit hours (theoretical)	3
Credit hours (practical)	0
Course Prerequisites	

Course Objectives

- 1 - To learn about the concepts and principles of mobile computation
- 2 - To explore both theoretical and practical issues of mobile computation
- 3 - To develop skills of finding solutions and building software for mobile computation applications.

Intended Learning Outcomes

Knowledge and Understanding	* a1 have a good understanding of how the underlying wireless and mobile communication networks work, their technical features, and what kinds of applications they can support * a2 grasp the concepts and features of mobile computing technologies and applications
Intellectual Skills	* b1 identify the important issues of developing mobile computing systems and applications * b2 organize the functionalities and components of mobile computing systems into different layers and apply various techniques for realizing the functionalities
Professional Skills	* c1 develop mobile computing applications by analyzing their characteristics and requirements, selecting the appropriate computing models and software architectures, and applying standard programming languages and tools
General Skill	* d1 organize and manage software built for deployment and demonstration

Course Contents

- 1 - Overview of mobile computing
- 2 - Wireless networks
- 3 - Mobile device platforms
- 4 - Wireless Mobile Internet
- 5 - Mobile ad hoc networks
- 6 - Mobility management
- 7 - Location-based services

Teaching and Learning Methods

- 1 - Lectures
- 2 - Case studies
- 3 - Assignments

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Mid-term exam I	6th week	20
Mid-term exam II	12th week	20
Class Work	During the 16 weeks	10
Final Exam	16th week	50

Books and References

Essential books	D.P. Agrawal and Q.-A. Zeng, "Introduction to Wireless and Mobile Systems", 2nd edition, Thomson Learning, 2006
Recommended books	Reza B'Far, "Mobile Computing Principles: Designing and Developing Mobile Applications with UML and XML", Cambridge University Press, 2005 J. Schiller, "Mobile Communications", 2nd edition, Pearson Education, 2003

Knowledge and Skills Matrix

Main Course Contents	Study Week	Knowledge and Understanding	Intellectual Skills	Professional Skills	General Skill
Overview of mobile computing	1	a1-a2	b1		
Wireless networks	2-3	a1-a2	b1		
Mobile device platforms	4-5	a1-a2	b2	c1	
Wireless Mobile Internet	6-8	a1	b1	c1	d1
Mobile ad hoc networks	9-11	a2	b1,b2	c1	d1
Mobility management	12-13	a1-a2	b1-b2	c1	d1
Location-based services	14-15	a1-a2	b2	c1	d1