


QFO-AP-FI-MO02	اسم النموذج: Course Syllabus	جامعة فيلادلفيا
رقم الاصدار: 2 (Revision)	الجهة المصدرة: كلية تكنولوجيا المعلومات	 Philadelphia University
التاريخ: 23/09/2018	الجهة المدققة: عمادة التطوير والجودة	
عدد صفحات النموذج:		

<b>Course Title:</b> Mobile and Distributed Computing	<b>Code:</b> 0750741
<b>Course Level:</b> Master	<b>Prerequisite:</b> -----
<b>Lecture Time:</b>	<b>Credit hours:</b> 3

### Academic Staff Specifics

Name	Rank	Office	Office Hours	E-mail Address

#### **Course module description:**

This course addresses some of the fundamentals concepts and research issues in the computer science areas of mobile computing. Covered topics include: Mobility paradigm, Location Management, Software Engineering for Mobility, Architecture for Mobile Distributed Computing, Data Dissemination/Management in Mobility, Mobility and Security, Mobility and Context Aware Systems, Mobility in Communication Systems.

A combination of lectures, research papers reading, presentation and reports, and group discussions is used.

#### **Course module objectives:**

This course aims to:

1. Introduce the mobile computing paradigm and its principles, techniques, and languages.
2. Expose the impact of the mobility concept on various fields of computer science.
3. Expose research challenges in mobile computing.

#### **Course/ module components**

- **Books (title , author (s), publisher, year of publication)**

1. Mobile Computing: A conceptual Approach; Arokiamary V. Jeyasri; Technical Publications. 2014
2. Mobile and Pervasive Computing; Arokiamary V. Jeyasri; Technical Publications. 2014
3. Modern Software Engineering Methodologies for Mobile and Cloud Environments; Cruz, Antonio, Miguel Rosado da Silva, Sara; IGI Global, 2016
4. Mobile Cloud Computing: Architecture, Algorithms, Applications; Debashis De; CRC Press, 2016.

- **Support material (s):**

Slides, Research papers.

#### **Teaching methods:**

Lectures, tutorials, discussions

## Learning outcomes

### A-Knowledge and Understanding

1. Define and explain the concept of mobility with its different forms, and the principles of the mobile computing (A1)
2. Identify and discuss the research issues and challenges of mobile computing (A1, A2)
3. Identify and discuss the impact of the mobility concept on various fields of the computer science discipline. (A1, A2)

### 3. Intellectual Skills (thinking and analysis).

1. Specify, model, and code mobile applications and systems using appropriate mobile specification, modeling and implementation languages. (B2)
2. Synthesize new knowledge in the area of mobile computing by using appropriate research methodologies and techniques. (B3)
3. Evaluate, criticize current solutions to various computing issues raised by mobility. (B1)
4. Integrate and combine the learnt concepts in order to solve complex mobile computing problems. (B2)

### B-Practical Skills

1. Organize & pursue a scientific or industrial research project in mobile computing (C2)
2. Perform independent information acquisition and management. (C4)
3. Use and employ popular and modern mobile programming languages to implement mobile systems. (C1)

### C- Transferable Skills

1. Write technical reports, and summarizes research papers to a professional standard. (D4)
3. Prepare and present seminars to a professional standard.(D2)

### Learning outcomes achievement

- Development: A1, A2, B1, B2, B3 are developed through Lectures, Tutorials and Discussions.  
B1,B2, B3, D1, D2 and D4 are developed through project, readings, seminar  
C!, C2, C4 are developed through project and seminar.
- Assessment : A1, A2, B1, B2, B3, are assessed through written exams and project  
C1, C2, C4, D1, D2 and D4 are assessed through projects and seminar examinations.

## Assessment instruments

- Report/Seminar: 15 marks
- Project: 15 marks
- Final examination: 40 marks

<b><u>Allocation of Marks</u></b>	
<b>Assessment Instruments</b>	<b>Mark</b>
Mid-Term examination	30
Final examination:	40
Report/Seminar/Project	30
<b>Total</b>	<b>100</b>

## Documentation and academic honesty

- Documentation style (with illustrative examples)
- Protection by copyright
- Avoiding plagiarism.

## Course/module academic calendar

<b>Week</b>	<b>Basic and support material to be covered</b>	<b>Homework/reports and their due dates</b>
(1)	Mobile Paradigm: Concept and Principles	
(2)	Mobility in Software Engineering: Code Mobility (1)	
(3)	Mobility in Software Engineering: Code Mobility (2)	
(4)	Mobility in Software Engineering: Mobility Modeling (1)	Paper Reading
(5)	Modeling in Software Engineering: Mobility Modeling (2) Tutorial	
(6)	Mobility and Formal Specification Languages (1)	
(7)	Mobility and Formal Specification Languages (2) Tutorial	Project Proposal
(8) Mid-term	Mobility and Distributed Systems Mobile Middleware (1)	
(9)	Mobile Middleware (2) Mobile Agents	Paper Reading
(10)	Mobile Agents Security	
(11)	Mobile Data Management and Dissemination (1)	
(12)	Mobile Data Management and Dissemination (2)	
(13)	Mobility and Context Aware Computing	
(14)	Mobility in Communications	
(15) <b>Examination (Optional)</b>	Mobility in Cloud Computing	
(16) <b>Final Examination</b>	Projects Presentations	

### Expected Workload:

On average students need to spend 2 hours of study and preparation for each 50-minute lecture/tutorial.

**Attendance policy:**

Absence from lectures and/or tutorials shall not exceed 15%. Students who exceed the 15% limit without a medical or emergency excuse acceptable to and approved by the Dean of the relevant college/faculty shall not be allowed to take the final examination and shall receive a mark of zero for the course. If the excuse is approved by the Dean, the student shall be considered to have withdrawn from the course.

**Module references****Books**

1. Handbook of Research in Mobile Software Engineering: Design, Implementation, and Emergent Applications; Paulo Alencar, Donald Cousan; IGI Global, 2012.
2. Mobile computing Principles: Designing, Developing Mobile applications with UML and XML; Reza B'Far; Cambridge University Press, 2006.

**My Research Papers in the field**

M.Bettaz, M. Maouche, "Towards Mobile Z Schemas", International Journal of Computer Science & Applications. 2005.