

## Faculty of Computers and Information Technology

### Mobile Applications

**Information :**

**Course Code :** DM461

**Level :** Undergraduate

**Course Hours :** 3.00- Hours

**Department :** Department of Computer Science

**Area Of Study :**

Apply the basic concepts and theories of mobile computing.  
 Combine and evaluate different tools and facilities to design mobile applications.  
 Use modern techniques, up to date methods and tools to build mobile applications.  
 Understand knowledge that enhances skills in fundamental area of mobile computing.  
 Use and adopt fundamental and advanced mathematics and computer science to develop mobile computing systems.

Comprehend deeply the basic concepts of mobile computing to be ready for further and continuous learning.

**Description :**

Mobile Computing: Building Applications for Handheld Devices: Mobile devices. This course will focus on the strengths and limitations of mobile devices, terminologies and concepts, mobile application portfolio assembly, android database and OS fundamentals. Students will explore these topics through the conception and creation of applications for the mobile Touch architecture. By the end of the semester, all students will be developing mobile applications and testing them on devices. This course will be hands on and project based

**Course outcomes :**

**a. Knowledge and Understanding :**

1 -	Define the basic concept of programming the mobile applications
2 -	Discuss different qualitative and quantitative testing techniques for mobile computing systems
3 -	Explain the principles and techniques of mobile computing applications development

**b. Intellectual Skills :**

1 -	Analyze and design a solution for mobile computing problems considering limitations and constrains
2 -	Select appropriate methodologies and techniques to evaluate the functionality of mobile computing systems
3 -	Analyze different compilers problems and setting goals and requirements
4 -	Classify methods, techniques and algorithms for mobile computing applications

**c. Professional and Practical Skills :**

1 -	Use different mobile computing technologies in projects development and deployment
2 -	Apply effective information to acquire a set of fundamental research skills from different resources to mobile computing design
3 -	Use human computer interaction principles to design, implement and manage mobile computing systems
4 -	Deploy effective supporting tools to evaluate the quality of mobile computing systems using different factors and different constrains

**d.General and Transferable Skills :**

1 -	Exploit a range of learning resources
2 -	Work in a team effectively and efficiently considering time and stress management
3 -	Utilize effectively general computing facilities

**ABET Course outcomes :**

1 -	Demonstrate adequate understanding of the fundamental and advanced mathematics and computer science to develop mobile computing systems
2 -	Identify and evaluate different tools and facilities to design mobile applications
3 -	Select and use appropriate methods and tools to build mobile applications

**Course Topic And Contents :**

Topic	No. of hours	Lecture	Tutorial / Practical
Introduction to mobile computing applications	4	2	2
Introduction to mobile computing applications	4	2	2
Mobile Data Management	4	2	2
Mobility Location Management	4	2	2
Mobile development frameworks and tools	4	2	2
Mobile development frameworks and tools	4	2	2
Cellular systems	4	2	2
Wireless networks	4	2	2
Mid Term Exam	2		
Emerging networks	4	2	2
Security, Privacy and Data Protection	4	2	2
Security, Privacy and Data Protection	4	2	2
Project presentation	4	2	2
Final Exam	2		

**Teaching And Learning Methodologies :**

Interactive Lectures including discussion
Practical Lab Sessions
Self-Study (Project / Reading Materials / Online Material / Presentations)
Case Studies

**Course Assessment :**

Methods of assessment	Relative weight %	Week No	Assess What
Final Exam	40.00	14	
Midterm Exam (s)	20.00	9	
Practical Exam	10.00		
Presentations	10.00		

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Quizzes	10.00	5	
Team Work Projects	10.00		

**Course Notes :**

Course Notes are available with all the slides used in lectures in electronic form on Learning Management System (Moodle)

**Recommended books :**

A. Umar, Mobile Computing And Wireless Communications: Applications, Networks, Platforms, Architectures and Security, NGE Solutions, 2004. ISBN: 978-097591820