

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 :

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|-----|--|
| 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 :

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|-----|---|
| 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 :

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| 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 :

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| 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 :

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|-----|---|
| 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 :

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| 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