



جمهورية مصر العربية

وزارة التعليم العالي والبحث العلمي

Ministry of Higher Education and Scientific Research



المعهد العالى للحاسبات وتكنولوجيا المعلومات
مدينة الشروق - القاهرة
شعبة علوم الحاسب

Course specification

Course Code: CS 309

Course Title: Mobile Application Development

Academic Year: 2023 / 2024

Course specification
(CS 309 Mobile Application Development)

Course Outline	
Faculty:	HICIT- (Higher Institute for Computers & Information Technology-El Shorouk Academy)
Programme(s) on which the course is given:	Undergraduate program in Computer Science
Major or minor element of programme:	Compulsory / Elective
Department offering the program	Department of Computer Science
Department offering the course:	Department of Computer Science
Level	Third Level
Date of specification approval	DD/MM/YYYY

Basic Information			
Code:	CS 309	Title:	<i>Mobile Application Development</i>
Prerequisites:	CS 206 Web Programming		
Weekly Hours:			
Lecture: 2	Exercise:	Practical : 2	Total: 3 credit hours

Professional Information	
<u>Course Aims:</u>	<p>Students learn how to develop applications for mobile devices. Students are introduced to the current mobile operating systems and mobile application development environments. Students are introduced to processes, tools and frameworks required to develop applications for the mobile computing platforms, mobile computing devices. Students are introduced to the mobile App Development software development lifecycle. Students know how to develop mobile applications. Students know how to create mobile applications that uses a variety of options and facilities and will practice what they are learning.</p>

a1	Understand the essential mathematics relevant to computer science.
b1	Define traditional and non-traditional problems, set goals towards solving them, and observe results.
b2	Perform comparisons between (algorithms, methods, techniques, etc.).
c5	Specify, design, and implement and manage computer-based systems.
C16	Apply tools and techniques for the design and development of applications

d2	Work effectively as an individual and as a member of a team.
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Program ILOs Covered by Course			
Knowledge and understanding	Intellectual Skills	Professional and practical skills	General and Transferable skills
A15	B1, B2	C5, C16	D2

Intended learning outcomes of course (ILOs)
<p>a. <u>Knowledge and Under-Standing:</u></p> <p>a1. Understanding the definition of a Mobile operating system, the description of its components, types, and the software development life cycle.</p> <p>a2. Defining the mobile computing platforms and computing devices processes, tools and frameworks.</p> <p>a3. Explain software development life cycle phases, including requirements analysis, application architecture and modeling, designing the interfaces, the databases, and the module, implementation, and testing.</p>
<p>b. <u>Intellectual Skills:</u></p> <p>b1. Think over Android App Development facilities.</p> <p>b2. Think over the overall mobile application specifications, components, and framework.</p>
<p>c. <u>Professional and practical skills</u></p> <p>c1. Propose business mobile application specifications and their new components.</p> <p>c2. Define mobile application architecture, mode, and facilities.</p> <p>c3. Designing the mobile application modules.</p> <p>c4. Designing the mobile application interfaces.</p> <p>c5. Designing the mobile application database.</p>
<p>d. <u>General and transferable skills</u></p> <p>d1. Work for mobile application development.</p> <p>d2. Work for mobile application testing</p> <p>d3 .Work for mobile application publishing.</p>

Contents		
Topic	Contact Hours	
	lecture	Lab
Introduction to Android App Development facilities	2	2
Mobile operating system components and architecture.	4	4
Mobile computing platforms processes, tools and frameworks required to develop applications	4	4
Mobile computing devices processes, tools and frameworks required to develop applications.	4	4
Mobile Application software development lifecycle.	4	4
Android Fundamentals: Building Your First App	2	2
Activities, Intents, and Fragments	2	2
Building a Simple App/Game: Design Challenges	2	2
Services, Broadcast Receivers, and Data Persistence	2	2
Processes, Threads, and Internet Access	2	2
Application testing, publishing, and business models	2	2

Teaching and learning methods	
Teaching and learning methods	Used
Lectures	√
Tutorial Exercises	
Practical Lab	√
Discussions.	√
Self – Learning (Reading material, Websites search,)	√
Self-studies	-
Group work	√
Presentation	√
Problem solving/problem solving learning based	√
Case study	√
Synchronous E-Learning	-
Video lectures	√
Asynchronous E-Learning	√

Student assessment methods & Schedule		
Methods	Used	Week#
Midterm Exam	√	8
Final Exam	√	16

Course Project	√	3-14
Course Work & Quizzes	√	2-14

Assessment Weight	
Assessment	Weight %
Mid Term Exam	5
Course Project	10
Final Exam	80%
Course Work & Quizzes	5%
Total	100

Course Work & Quizzes
Short Exams, Assignments, Research, Reports, Presentations
Class/Project discussion

List of references	
Essential books (textbooks)	System Analysis and Design Kenneth E. Kendall & Julie E. Kendall Prentice-Hall of India, 2001 Systems Analysis and Design (9th Edition) by Kenneth E. Kendall & Julie E. Kendall
Course notes	E-Learning Portal
Recommended books	Basic System Analysis Alan Daniels, Don Yeates, 1979
Periodicals, website	None
Videos link	None

Required Facilities		
Tools & SW (Technology facilities):	<ul style="list-style-type: none"> - MS Project SW Package for scheduling projects - MS Power Point SW Package for presentation - MS Visio SW Package to build the Data flow diagrams - MS Access database SW Package to practice building and documenting ERD - MS Word SW Package for system documentation preparation 	
Teaching facilities:	Whiteboard	√
	Computer Lab	√
	Data show	√
	E-Learning	√
	Videos	√
	Website	√

Course Contents	Knowledge & understanding			Intellectual skills		Professional and practical skills					General		
	a1	a2	a3	b1	b2	c1	c2	c3	c4	c5	d1	d2	d3
Introduction to Android App Development facilities				√									
Mobile operating system components and architecture.	√												
Mobile computing platforms processes, tools and frameworks required to develop applications.		√											
Mobile computing devices processes, tools and frameworks required to develop applications			√										
Mobile Application software development lifecycle.			√		√	√	√						
Android Fundamentals: Building Your First App			√			√	√				√		
Activities, Intents, and Fragments			√			√	√				√		
Building a Simple App/Game: Design Challenges			√			√	√	√	√		√		
Services, Broadcast Receivers, and Data Persistence			√			√	√			√	√		
Processes, Threads, and Internet Access			√			√	√				√		
Application testing, publishing, and business models			√			√	√					√	√

Learning Methods	Knowledge and understanding			Intellectual skills		Professional and practical skills					General		
	a1	a2	a3	b1	b2	c1	c2	c3	c4	c5	d1	d2	d3
Lectures	√	√	√	√	√	√	√	√	√	√	√	√	√
Tutorial Exercises				√	√	√	√	√	√	√	√		
Discussions.				√	√	√	√	√	√	√	√	√	√

Assessment Methods	Knowledge & understanding			Intellectual skills		Professional & practical skills					General		
	a1	a2	a3	b1	b2	c1	c2	c3	c4	c5	d1	d2	d3
Mid Term Exam	√	√	√	√	√	√	√	√	√	√	√		
Final Exam				√	√	√	√	√	√	√	√		
Course Project				√	√	√	√	√	√	√	√	√	√
Course Work & Quizzes	√	√	√	√	√	√	√	√	√	√	√	√	√

Course ILOs Vs Program ILOs							
Prog ILOs Course ILOs		Knowledge & understanding	Intellectual skills		Professional and practical skills		General
		a15	B9	B10	C5	C16	D2
Knowledge and Understanding	a1	√					
	a2	√					
	a3	√					
Intellectual skills	b1		√	√			
	b2		√	√			
Professional and practical skills	c1				√	√	
	c2				√	√	
	c3				√	√	
	c4				√	√	
	c5				√	√	
General skills	d1						√
	d2						√
	d3						√

Course Coordinator : Dr. Magdy E. Elhennawy ()

Head of Department : Dr. Farouk Shabaan ()

Date: --/--/2023