



Course Specifications

Course Title:	Mobile Computing
Course Code:	502557-3
Program:	Bachelor in Information Technology
Department:	Department of Information Technology
College:	College of Computers and Information Technology
Institution:	Taif University

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A. Course Identification

1. Credit hours: 3
2. Course type
a. University <input type="checkbox"/> College <input type="checkbox"/> Department <input checked="" type="checkbox"/> Others <input type="checkbox"/>
b. Required <input type="checkbox"/> Elective <input checked="" type="checkbox"/>
3. Level/year at which this course is offered: 14/5 or 15/5
4. Pre-requisites for this course (if any): Computer System security 502551-3 or 502552-3 or 502553-3
5. Co-requisites for this course (if any): NAN

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	8	100%
2	Blended	0	0
3	E-learning	0	0
4	Distance learning	0	0
5	Other	0	0

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	50
2	Laboratory/Studio	30
3	Tutorial	
4	Others (specify)	
	Total	80

B. Course Objectives and Learning Outcomes

1. Course Description

This course will introduce the concepts of mobile computing and mobile app development. It will examine the factors that differentiate mobile apps from desktop apps and considerations during mobile app development including UI design and interaction, resource constraints, and software tools. The course will also introduce different mobile operating systems, their architectures and programming models.

2. Course Main Objective

The main objective of this course is to have the students understand the mobile computing technology, the platforms, development tools and SDKs, the UI and interaction design and difference of mobile apps from traditional desktop apps.

The students should be able to design and implement mobile phone apps using some technology.



3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge and Understanding	
1.1	Understanding the difference between mobile and traditional desktop apps development processes	K1
1.2	Know about mobile platforms and development environments	K1
2	Skills :	
2.1	Identify, compare and evaluate the platform/technology of choice for mobile app development	S1
2.2	Sketch the prototype and design the interface of a mobile app	S2
	Design and develop mobile applications	S3
3	Values:	
3.1	cooperate as part of a team	V2

C. Course Content

No	List of Topics	Contact Hours
1	Overview of mobile technologies and Anatomy of a Mobile Device	5
2	Survey of Mobile Devices and Applications of Mobile Computing	5
3	Development Environments, Mobile Platforms and The Software Development Kits	5
4	Android Architecture	10
5	Android Design Guidelines and Example Applications	10
6	iOS Architecture	10
7	iOS Design Guidelines and Example Applications	10
8	Cross-platform App Development and Hybrid apps and development tools	10
9	Example Applications App Testing and Publishing	10
10	The Future of Mobile Computing: Wearables and Upcoming Technologies	10
Total		80

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge and Understanding		
1.1	Understanding the difference between mobile and traditional desktop apps	Lecture Discussion	Assignment
1.2	Know about mobile platforms and development environments	Lecture Discussion	Assignment



Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
2.0	Skills		
2.1	Sketch the prototype and design the interface of a mobile apps	Lecture Discussion	Written Exams Assignments
2.2	Identify, compare and evaluate the platform/technology of choice for mobile app development	Lecture Discussion	Written Exams Assignments
3.0	Values		
3.1	Design and develop mobile apps	Lecture Discussion Work group	Writing Exam Assignments Reports Oral Presentations

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Assignments	10	15%
2	Mid Exam	6	20%
3	Minor project	11	10%
4	Quizzes	11	15%
5	Labs	11	10%
5	Final Exam	12	40%

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

Academic advising and counseling of students is an important component of teaching; student academic advising is a mandatory requirement of College of Computers and Information Technology (CCIT). Appropriate student advising provides support needed for the student during times of difficulty. In addition, it helps the student to build a close relationship with his/her advisor and to provide student motivation and involvement with the institution.

In addition, since faculty are usually the first to recognize that a student is having difficulty, faculty members play a key role in developing solutions for the students or referring them to appropriate services. Faculty members also participate in the formal student-mentoring program.

Additional counseling is provided by course directors, who provide students with academic reinforcement and assistance and refer “at risk” students to the Vice Dean for Academic Affairs and the Vice Dean for female section.



F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	Essential Mobile Interaction Design: Perfecting Interface Design in Mobile Apps, by Cameron Banga and Josh Weinhold, ISBN-13: 978-0321961570
Essential References Materials	React: Cross-Platform Application Development with React Native: Build 4 real-world apps with React Native by Emilio Rodriguez Martinez, Packt publishing Mobile App Development with Ionic 2: Cross-Platform Apps with Ionic, Angular, and Cordova by Chris Griffith, O'Reilly publishing
Electronic Materials	Lecture slides and recorded lectures
Other Learning Materials	Online Resources and Tutorials - http://developer.android.com , http://developer.apple.com

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	<ul style="list-style-type: none"> • A Lecture room appropriate for maximum 25 students with a personal computer, a data show and a smart board. • A Lab room appropriate for maximum 15 students with a personal computer, a data show and a smart board.
Technology Resources (AV, data show, Smart Board, software, etc.)	Lab materials and required software
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Students	Students' surveys and Students course evaluation
Improvement of Teaching	Course Coordinator	deficiencies based on the student Evaluation, faculty input, course file, and program assessment
Verifying Standards of Student Achievement	Curriculum Committee	<ul style="list-style-type: none"> • Review CAF (Course assessment file) • Alumni surveys. • Periodic exchange and remarking of tests or a sample of assignments with staff at another



Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	IT Department Council/ Executive program committee
Reference No.	11
Date	23/10/21443



قسم تقنية المعلومات
Information Technology
Department

جامعة الطائف
TAF UNIVERSITY

كلية الحاسب وتقنية المعلومات
College of Computer and
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