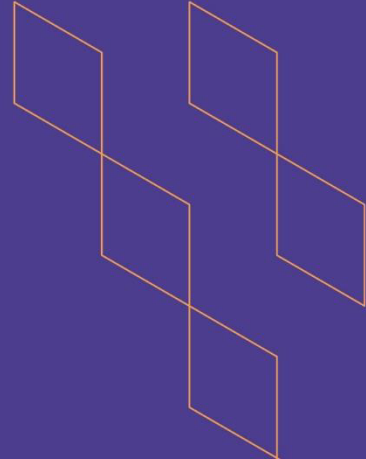T-104
2022

Course Specification

Course Title: **Mobile Applications Development**

Course Code: **ITXXXX**

Program: **Information Technology**

Department: **Information Technology**

College: **College of Computer Science and Information Technology**

Institution: **Al Baha University**

Version: **01**

Last Revision Date: **30-3-2023**

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هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

A. General information about the course:

Course Identification					
1. Credit hours:	3				
2. Course type					
a.	University ☐	College ☐	Department ☒	Track ☐	Others ☐
b.	Required ☒	Elective ☐			
3. Level/year at which this course is offered:		8ᵗʰ Level / 3ʳᵈ Year			

4. Course general Description

Nowadays, due the spread of the mobile devices, the majority of services are offered through mobile applications (shopping, booking, delivery, business, administrative services, health services, etc.). Mobile Applications Development is concerned with the design and development of mobile applications. In contrast to general purpose programming, mobile application development takes into account the mobile specific constraints. Thus, the content presented in this course is directed at the context of mobile application development. That is, the course highlights the knowledge area, including APIs and SDK, of developing mobile applications. In other words, the course materials are concerned with the fundamentals of developing Android mobile application which has shown a wide prevalence worldwide.

5. Pre-requirements for this course (if any): Programming 1 (CS10301)

6. Co- requirements for this course (if any):

7. Course Main Objective(s)

Upon successful completion of the course, the student will develop fundamental understanding and competency in the following topics:
- Introduction to mobile applications development.
- Building mobile user interfaces (Android).
- Code sharing techniques for mobile application: i.e. project setup, file linking, abstraction, observer patterns, partial classes, and conditional compiler.
- Accessing the network in the context of mobile based platforms.
- Storing data for mobile application: i.e., accessing file system and using the local database.
- Understanding the functionality of location operations: i.e. mapping, mocking location, and location data.

1. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1.	Traditional classroom	44	100%
2.	E-learning		
3.	Hybrid		

No	Mode of Instruction	Contact Hours	Percentage
	• Traditional classroom • E-learning		
4.	Distance learning		

2. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	22
2.	Laboratory/Studio	22
3.	Field	
4.	Tutorial	
5.	Others (specify)	
	Total	44

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
1.1	Describe the architecture of mobile applications.	K.1	Lectures	Homework Midterm exam Final exam
1.2	Describe the architecture of mobile applications.	K.1	Lectures Lab tutorials	Homework Midterm exam Final exam
2.0	Skills			
2.1	Implement and handle the events	S.2	Lectures Lab tutorials	Homework Project (Rubric) Lab work Final exam
2.2	Develop the user interfaces (UIs) of mobile applications.	S.2	Lectures Lab tutorials	Homework Midterm exam Course Project (Rubric) Lab work Final exam
2.3	Apply data persisting and storage on mobile applications.	S.3	Lectures Lab tutorials	Homework Course Project (Rubric) Lab work Final exam
2.4	Implement mobile applications interacted with mobile device capabilities	S.4	Lectures Lab tutorials	Course Project (Rubric) Lab work Final exam
3.0	Values, autonomy, and responsibility			
3.1	Commit to work independently and collaboratively in a small group	V.1	Assignments Oral Presentation	Course Project (Rubric)

C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to mobile applications development	2
2.	Mobile Application with Android	2
3.	Android Application Components	2
4.	Layouts and Views	2
5.	Building User Interfaces	4
6.	Handling and Persisting Data	4

7.	Handling Communication and Web Services	6
Total		22

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Homework	Week 5,9	10%
2.	Midterm Exam	Week 6	20%
3.	Course Project	Week 10	10%
4.	Lab work	Week 11	20%
5.	Final Exam	Week 12-13	40%

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.)

E. Learning Resources and Facilities
1. References and Learning Resources

Essential References	Title: Programming Android, Authors: Zigurd Mednieks, Laird Dornin, G. Blake Meike, and Masumi Nakamura Year: 2012 Publisher: O'Reilly Media Language: English ISBN- 978-1-449-31664-8
Supportive References	Title: Android App Development For Dummies, Authors: Burton, Michael and Felker, Donn Year: 2015 Pages: 408 Publisher: John Wiley & Sons Language: English ISBN: 9781119017929 1119017920
Electronic Materials	• Access to the Saudi Digital Library (SDL). • Using the learning management system of the university – Rafid System (https://lms.bu.edu.sa/).
Other Learning Materials	• ACM (Association for Computer Machinery) Curricula Recommendations 2017 – https://www.acm.org/binaries/content/assets/education/curricula-recommendations/it2017.pdf

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	• Classrooms or lecture hall with whiteboards for 20-25 students. • Laboratories equipped with 15 computers.
Technology equipment (projector, smart board, software)	Projectors, smartboards, PCs equipped with mobile applications development softwares/IDE.
Other equipment (depending on the nature of the specialty)	

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of Teaching	• Students • Faculty	• Surveys (indirect). • Direct feedback from students.

Assessment Areas/Issues	Assessor	Assessment Methods
	• Peer Reviewers • Program Leader • Course Coordinator	• Course evaluation by Peer Reviewers (indirect). • Class visit by Program Leader (indirect) • Comprehensive Course report (where we can find information about teaching difficulties and action plan, …)
Effectiveness of Assessment	• Students • Faculty • Peer Reviewers • Course Coordinator • Exam Evaluation Committee • Course Coordinator	• Surveys (indirect). • Direct feedback from students. • Course evaluation by Peer Reviewers (indirect). • Comprehensive Course report (where we can find information about assessment difficulties and action plan, …) • Exam evaluation by the Exam Evaluation Committee (indirect)
Extent of achievement of course learning outcomes	• Faculty • Program Leader • Course Coordinator	• Student Results (direct) • Comprehensive Course report (where we can find the CLO assessment results)
Quality of learning resources	• Students • Faculty • Peer Reviewers • Course Coordinator	• Surveys (indirect) • Course evaluation by Peer Reviewers (indirect). • Comprehensive Course report (where we can find information about difficulties and challenges about learning resources as well as consequences and action plan, …)

Assessor (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

G. Specification Approval Data

COUNCIL /COMMITTEE	IT DEPRTMENT CUNCIL
REFERENCE NO.	
DATE	30-03-2023