

### جامعة الزيتونية الأردنية Al-Zaytoonah University of Jordan كلية العلوم وتكنولوجيا المعلومات Faculty of Science and IT



"Tradition and Quality"

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	0408-4.

Course Plan for Bachelor program - Study Plan Development and Updating Procedures/ Department

Study plan No.	2021/2022	University Specialization	Computer Science
Course No.	0112424	Course name	Mobile application Programming
Credit Hours	3	Prerequisite Co-requisite	Visual Programming Applications
Course type	MANDATORY UNIVERSITY UNIVERSITY ELECTIVE REQUIREMENT REQUIREMENTS	FACULTY Support Course family REQUIREMENT requirements	□ Mandatory requiremen ts    ✓ Elective requirements
Teaching style	☐ Full online learning	☐ Blended learning	√ Traditional learning
Teaching model	☐ 2Synchronous: 1asynchronous	☐ 2 face to face : 1synchronous	√ 3 Traditional

# Faculty member and study divisions information (to be filled in each semester by the subject instructor)

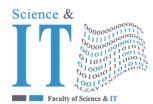
Name	Academic rank	Office No.	Phone No.	E-m	ail
Mohammad	Associate			Khalil.awad	@zuj.edu.jo
Muhairat	Professor				
Division number	Time	Place	Number of	Teaching	Approved
Division number	1 iiie	Place	students	style	model
				Traditional	

#### **Brief description**

This course introduces students to programming technologies, design and development related to mobile applications. Topics include, Introducing Flutter, Learning Dart Basics, Using Common Widgets, Writing Platform-Native Code, Saving Data with Local Persistence and, Adding the Firebase and The Firestore Client App. Upon completion, students should be able to create basic applications for mobile devices.

Learning resources

Course book information	Beginning Flutter : A	Beginning Flutter: A Hands On Guide To App Development, Marco L. Napoli, 2020,		
(Title, author, date of issue,	John Wily & Sons			
publisher etc)				
Supportive learning resources	1. Beginning A	app Development wit	th Flutter: Create Cross-Pla	tform Mobile Apps,
(Books, databases,	Rap Payne, 2019, Kindle.			
periodicals, software,	2. Flutter.dev (The main Web Site for all Flutter resources).			
applications, others)				
Supporting websites	1.			



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QF01/0408-4.0E

Course Plan for Bachelor program - Study Plan Development and Updating Procedures/ Department

#### Course learning outcomes (S = Skills, C= Competences K= Knowledge,)

No.	Course learning outcomes	The associated program learning output code
	Knowledge	
K1	The knowledge of software development fundamentals, including data structures, algorithms, complexity, multiple programming languages, paradigms, and technologies.	MK4
	Skills	
S1	An ability to use the techniques, skills, and modern tools necessary for software engineering practice.	MS3
	Competences	
C1	Ability to develop software systems in one or more significant application domains.	MC2

**Mechanisms for direct evaluation of learning outcomes** 

Type of assessment / learning style	Fully electronic learning	Blended learning	Traditional Learning (Theory Learning)	Traditional Learning (Practical Learning)
Midterm exam	30%	30%	40%	30%
Participation / practical applications	0	0	10%	30%
Asynchronous interactive activities	30%	30%	0	0
Final exam	40%	40%	50%	40%

**Note:** Asynchronous interactive activities are activities, tasks, projects, assignments, research, studies, projects, work within student groups ... etc, which the student carries out on his own, through the virtual platform without a direct encounter with the subject teacher.

#### Schedule of simultaneous / face-to-face encounters and their topics

Week	Subject	learning style*	Reference **
1	Introducing Flutter and Getting Started	Lecture/ learning through	3-25
		projects	
2	Creating a Hello World App	Lecture/ learning through	25-43
		projects	
3	Learning Dart Basics	Lecture/ learning through	43-65
		projects	
4	Creating a Starter Project Template	Lecture/ learning through	65-77
		projects	
5	Understanding the Widget Tree	Lecture/ learning through	77-103
		projects	
6	Using Common Widgets	Lecture/ learning through	103-151
		projects	



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7	Adding Animation to An App	Lecture/ learning through projects	151-177
8	Creating An App's Navigation	Lecture/ learning through	177-221
9	Creating Scrolling Lists and Effects	projects   Lecture/ learning through	221-253
10	Building Layouts	projects Lecture/ learning through projects	253-267
11	Applying Interactivity	Lecture/ learning through projects	267-307
12	Writing Platform-Native Code	Lecture/ learning through projects	307-327
13	Saving Data With Local Persistence	Lecture/ learning through projects	327-375
14	Adding the Firebase And The Firestore Client App	Lecture/ learning through projects	375-411
15	Adding State Management to The Firestore Client App	Lecture/ learning through projects	411-453
16	Final Exam		

<sup>\*</sup> Learning styles: Lecture, flipped learning, learning through projects, learning through problem solving, participatory learning ... etc.

\*\* Reference: Pages in a book, database, recorded lecture, content on the e-learning platform, video, website ... etc.

#### Schedule of asynchronous interactive activities (in the case of e-learning and blended learning)

	of asynchronous interactive activities (in	O Company	O/
Week	Task / activity	Reference	<b>Expected results</b>
1	Students create own project	Project template	Determine the template
			of project
2	Use the right tools that covered project	Create, add, and build	Select the right and
	needs	based on App needs	suitable based on
			available tools
3	Implement the code	Platform-Native Code	Running code
4	Manipulate data	Local, Firebase, and	Define the operation
		management	through client layer
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