AMERICAN UNIVERSITY OF BEIRUT
FACULTY OF ARTS & SCIENCES

I. GENERAL COURSE INFORMATION

Course Number	CMMPS279
Course Title	Mobile Application Development
Number of Credits	3
Course Level	*Undergraduate*
Course Format	*Lectures*
Pre-requisite Courses	CMPS 212
Meeting Schedule	*MW, 12:30 to 13:45*
Meeting Location	*Nicely 320*

II. COURSE COORDINATOR, INSTRUCTORS AND TEACHING ASSISTANTS

Name	Role *(Instructor, Coordinator, TA,)*	Office Location	Office Hours	Extension	E-mail
Sari Lakkis	Instructor	Bliss 104E	MW, 14:00-15:00		Sl36@aub.edu.lb

III. COURSE DESCRIPTION

This course introduces to students the world of mobile application development from a software engineering perspective. Students will learn the importance of a good design for a mobile application, in addition to being able to write a basic to intermediate mobile application. The course includes many software design patterns and user interface design patterns. Students will learn how to collect, store, and present data in a mobile application, in addition to using the different exciting features of a mobile such as locations, graphics, cameras, and other features.

IV. COURSE LEARNING OUTCOMES

Upon completion of the course, students will be able to:
- *CLO1. Explain the world of mobile application development*
- *CLO2. Develop native Android and iOS applications*
- *CLO3. Build cross-platform applications*
- *CLO4. Critique mobile application UI design*
- *CLO5. Design and implement backend services for mobile applications*

V. PROGRAM LEARNING OUTCOMES ADDRESSED IN THE COURSE

The course addresses the program learning outcomes of the Computer science program.

VI. COURSE RESOURCES AND REFERENCES

References
- *Books:*
  For Android development with Java:
  Head First Android Development, 2nd Edition; by Dawn Griffiths, David Griffiths; publisher(s): O'Reilly Media, Inc.; ISBN · 9781491974056

  For Android development with Kotlin:
  Head First Android Development, 3rd Edition; by Dawn Griffiths, David Griffiths; Publisher(s): O'Reilly Media, Inc.; ISBN · 9781492076520

- *Online links:*
  1. Android developer page: https://developer.android.com/
  2. Swift language guide: https://docs.swift.org/swift-book/index.html

Other materials will be posted on the course page on Moodle.

VII. COURSE OUTLINE

Week	Date	Topic*	Learning Activities** and Due Dates	Alignment with CLOs
1	Aug, 26	Introduction to the world of mobile application development	Project Grouping	CLO1
2	Sep, 2	The Android Platform. Building interactive Android apps	Project Phase 1	CLO2, CLO4
3	Sep, 9	Layouts in Android	Assignment 1 In-Class Activity 1	CLO2, CLO4
4	Sep, 16	Activities, activity lifecycle in Android	Assignment 2	CLO2
5	Sep, 23	User Interface, List Views and Adapters	In-Class Activity 2	CLO2, CLO4
6	Sep, 30	Storing data locally (SQLite)	Project Phase 2	CLO2
7	Oct, 7	Serverless backends Creating REST APIs	Assignment 3	CLO5
8	Oct, 14	Android REST client libraries (Retrofit or Volley libraries)	In-Class Activity 3	CLO5
9	Oct, 21	Android Jetpack Compose	Assignment 4	CLO2
10	Oct, 28	The Apple Echo System	In-Class Activity 4	CLO2, CLO1
11	Nov, 4	iOS applications Basics	Assignment 5	CLO2, CLO4
12	Nov, 11	iOS SwiftUI Views & Controls	In-Class Activity 5	CLO2, CLO4
13	Nov, 18	iOS SwiftUI Data Flow		CLO2, CLO4
14	Nov, 25	Swift Language		CLO2
15	Dec, 2	Cross-platform development with KMP or Flutter	Project Phase 3	CLO3

VIII. GRADING CRITERIA

Type of Evaluation	Percentage
Midterm	25%
Final Exam	25%
Project	30%
Assignments	5%
Online Quizzes	5%
In-Class Activities	5%
Attendance	5%
Total	**100%**

IX. COURSE POLICIES

o **Attendance**
For undergraduate courses:
"Students who miss more than one-fifth of the sessions of any course before the withdrawal deadline can be withdrawn from the course by the instructor."

For graduate courses:
"A student who is absent without excuse for more than one third of the number of sessions in any course may be dropped by the instructor of the course".

o **Credit Hour Policy**
"This course follows AUB Credit Hour Policy for [*one/two/three/four*]-credit courses. This course meets *twice times* weekly for (*3 hours)* academic hours per week.

o **Submissions and Due Dates**
Any detected copying in assignment work will lead the parties involved to share the mark or get 0. Late assignments are very much discouraged and will cost you a penalty of -10% per late day, up to a maximum of three days late.

o **Missing Projects/Assignments**
All missing projects, assignments, or any activity will be graded as zero.

o **Final Examinations:**
Please note that students are expected to be on-campus and available to take a final examination for any of their courses at anytime during the final examination period. For the current term, the final examination period runs between [*DATE*] and [*DATE*]. Students and professors will be notified of the final examination schedule being posted on the Office of the Registrar website as soon as feasible after the change of schedule period (drop and add).

o **Make-up Quizzes and Exams**
Dropped exams might be given. Makeup exams will only be given in extremely rare circumstances after presenting a solid and convincing case to the instructor. Missed exams will result in a zero grade for the exam. The deadline for filing grade corrections is two days after posting the grade; no requests for grade changes/updates will be accepted after this date.

o **Group Work**
As requested by the instructor specific to each activity.

o **Teaching Strategies and Technology Tools**

The course is given by Face-to-Face lectures in the campus with some extra online activities.

- o **Use of AI in the Course**
  The use of AI tools like ChatGPT or similar is activity-based and will be permitted or prohibited by the instructor as per the activity requirements.

X. UNIVERSITY RULES AND REGULATIONS

- **General Academic Information**
  - Undergraduate Academic Information
  - Graduate Academic Information

- **University - Course Withdrawal Policy**

A student can withdraw from only one required course per semester. Students who wish to withdraw from more than one required course in any given semester must petition the appropriate faculty committee for permission to do so.

Check Withdrawal Information from undergraduate and graduate catalogue.

- **Academic Integrity (cheating and plagiarism):**

Please refer to AUB Student Code of Conduct, in particular section 1.1, which concerns academic misconduct including cheating, plagiarism, in-class disruption, and dishonesty. Please be aware that misconduct is vigorously prosecuted and that AUB has a zero tolerance policy. Course policy is that credible evidence of cheating will result in course failure.

- **Accessibility Statement to Acknowledge the Unique Learning Needs of Students with Disabilities:**

AUB strives to make learning experiences as accessible as possible. If you anticipate or experience academic barriers due to a diagnosed disability (including learning disability, mental health, chronic or temporary medical conditions), please contact the Accessible Education Office as soon as possible in order to help establish reasonable accommodations and facilitate a smooth learning process: accessibility@aub.edu.lb; +961-1-350000, x3151; West Hall, 338.

- **Non-Discrimination and Title IX Statement**

In line with its commitment to the principle of equal opportunity in education and employment, AUB policies protect you from discrimination on the basis of protected characteristics, including discriminatory harassment and sexual harassment. Protected characteristics include: race, color, religion, age, national or ethnic identity, sex, gender or gender identity, sexual orientation, pregnancy, marital status, disability, genetic predisposition or carrier status, alienage or citizenship status, and political affiliation.

The policies are applicable to all the AUB Community including: officers, faculty, staff, academic appointees, students (including medical interns and residents), visiting students, alumni, trainees, visitors, contractors, subcontractors, suppliers, located on campus and at AUB Medical Center, Advancing Research Enabling Communities Center (AREC), or any other facility or program affiliated with the University. The "AUB community" also includes the dependents and domestic employees of faculty and staff dwelling on campus and at AREC.

If you think you have experienced discrimination, discriminatory harassment, or sexual harassment, we encourage you to inform the Equity/Title IX Coordinator, Mitra Tauk at 01-350000 ext. 2514, titleix@aub.edu.lb, report to a Title IX deputy at your faculty or at any other faculty (www.aub.edu.lb/titleix), or report online (www.aub.ethicspoint.com). Reports may be submitted anonymously or not. Please know that the University will maintain the confidentiality of the complaint and privacy of the persons involved to the greatest extent possible, consistent with its goal of conducting a thorough and complete investigation and to the extent permitted by law.

You need to also know that the University has designated academic and administrative department/unit heads, managerial level staff, academic advisors, protection officers, and residence hall staff/monitors, as responsible employees or "mandatory reporters", and may designate others at its discretion. These individuals are obligated to report actual or suspected discrimination or discriminatory harassing conduct to the Equity/Title IX Coordinator, unless they are a "confidential" resource. The following have been designated as confidential resources: on campus counselors in the Counseling Center of the Office of Student Affairs and AUB Medical Center counselors, and healthcare providers at the University Health Services (UHS) and at the AUB Medical Center. Confidential resources are not required to report actual or suspected discrimination or harassment to appropriate university officials, except in cases of suspected abuse of a minor, in the event of an external investigation or prosecution, or in the event of imminent danger to the reporting party or others.

XI. AUB GRADING SYSTEM

https://www.aub.edu.lb/Registrar/Pages/academic-information.aspx

Numeric Course Grade to Letter Course Grade

Starting with Numeric Course Grade /100	Corresponding Course Letter Grade
< 60	F
60	D
61–62	D+
63–65	C–
66–68	C
69–71	C+
72–74	B–
75–78	B
79–82	B+
83–86	A–
87–92	A
93–100	A+

Grade Conversion Chart

Course Letter Grade	Quality Points
A+	4.3
A	4.0
A–	3.7
B+	3.3
B	3.0
B–	2.7
C+	2.3
C	2.0
C–	1.7
D+	1.3
D	1.0
F	0.0

Note: The GPA at AUB is capped at 4.0

I	P	PR	W	NP
Incomplete	Pass	In Progress	Withdraw	No Pass