The Hong Kong University of Science and Technology

UG Course Syllabus (Fall 2025-26)

[Course Title] Mobile Application Development

[Course Code] COMP 4521

[No. of Credits] 3

[Any pre-/co-requisites] Nil

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Course Description

This course provides a comprehensive introduction to mobile application development. Students will learn the essential concepts, techniques, and tools required to design develop and deploy mobile applications for the Android platform. The course emphasizes hands-on learning and practical implementation, enabling students to build functional and user-friendly mobile applications. Including different aspects, e.g. Principles of application development for mobile and embedded devices. Mobile software development environments and software architectures. Features of typical mobile platforms: user-interface and user-experience design, multimedia, and data storage support, networking, location, mapping services, and mobile back-end support features. This course will also introduce you to the concepts and tools of cross-platform mobile development, providing a broader perspective on the mobile development landscape.

This course utilizes a blended approach of lectures, tutorials, assignments, lab sessions, and interactive discussions to guide students through the project-based curriculum. Students need to design and implement a full-fledged mobile application. No formal prerequisites, however, familiarity with programming logic and problem-solving approaches is beneficial that helps students learn Android development more efficiently.

List of core topics

- Introduction
- Android Overview
- User Interface Design
- Activities and Intents
- User Interaction
- Preferences and Settings
- Databases and Data Storage
- Multimedia Integration
- Location-based Services
- Background Processing and Services
- Advanced Features

Intended Learning Outcomes (ILOs)

By the end of this course, students should be able to:

1. Analyze the principles, constraints, and architectures of mobile application development.

2. Design and evaluate user interfaces and user experiences tailored for mobile devices, adhering to best practices and guidelines.

3. Develop, test, and deploy Android applications using appropriate programming languages, tools, and frameworks.

4. Implement and integrate core mobile application features, including multimedia, location-based services, data storage, and network communication.

5. Create a comprehensive mobile application project that demonstrates the application of learned concepts and techniques.

Assessment and Grading

This course will be assessed using criterion-referencing and grades will not be assigned using a curve. Detailed rubrics for each assignment are provided below, outlining the criteria used for evaluation.

Assessments:

Assessment Task	Contribution to Overall Course grade (%)	Due date
Assignment	15%	01/12/2025 *
Lab	15%	03/10/2025, 17/10/2025, 30/10/2025 *
In-class quiz	10%	18/10/2025, 22/11/2025 *
Group project	60%	01/12/2025 *

* Assessment marks for individual assessed tasks will be released within two weeks of the due date in general. Refer to the course homepage and announcements for any changes.

Mapping of Course ILOs to Assessment Tasks

Assessed Task	Mapped ILOs	Explanation
Assignment	ILO1, ILO2	The assignment focuses on the foundational aspects of mobile application development, requiring students to analyze the principles and constraints specific to mobile app (ILO1) and to understand the user interfaces and experiences tailored for mobile app (ILO2). This task assesses students' understanding of the

		theoretical and design aspects of mobile development.
Lab	ILO2, ILO3, ILO4	The lab sessions are practical in nature, where students apply their knowledge to design and evaluate user interfaces (ILO2), develop and test Android applications (ILO3), and implement core features such as multimedia or data storage (ILO4). This task assesses students' hands-on skills in mobile development.
In-class quiz	ILO1, ILO2, ILO3, ILO4	The quiz covers a broad range of topics, testing students' knowledge on the principles of mobile development (ILO1), UI/UX design (ILO2), development and deployment processes (ILO3), and the implementation of core features (ILO4). This task assesses students' comprehensive understanding of the course material.
Group project	ILO1, ILO2, ILO3, ILO4, ILO5	The project is a culminating task where students must integrate all aspects of the course. They need to analyze development principles (ILO1), design and evaluate UI/UX (ILO2), develop and deploy the application (ILO3), implement various features (ILO4), and create a comprehensive application that demonstrates their overall learning (ILO5). This task assesses students' ability to apply and synthesize all learned concepts in a real-world scenario.

Grading Rubrics

Detailed rubrics for assignment and group project are provided. Refer to the course homepage for the details.


COMP4521_Grading Rubrics - Individual A


COMP4521_Grading Rubrics - Proposal.pd


COMP4521_Grading Rubrics - Oral Presen


COMP4521_Grading Rubrics - Final Project

Final Grade Descriptors:

Grades	Short Description	Elaboration on subject grading description
A	Excellent Performance	Demonstrates a comprehensive grasp of mobile application development, expertise in problem-solving, and significant creativity in thinking. Exhibits a high capacity for scholarship and collaboration, exceeding core requirements.
B	Good Performance	Shows good knowledge and understanding of mobile application development, competence in problem-solving, and the ability to analyze and evaluate issues. Displays high motivation to learn and works effectively with others.
C	Satisfactory Performance	Possesses adequate knowledge of core mobile application development concepts, competence in dealing with familiar problems, and some capacity for analysis and critical thinking. Shows persistence and effort to achieve broadly defined learning goals.
D	Marginal Pass	Has threshold knowledge of mobile application development, potential to achieve key professional skills, and the ability to make basic judgments. Benefits from the course and has the potential to develop in the discipline.
F	Fail	Demonstrates insufficient understanding of mobile application development and lacks necessary problem-solving skills. Shows limited ability to think critically or analytically and exhibits minimal effort toward achieving learning goals. Does not meet the threshold requirements for professional practice or development in the discipline.

Course AI Policy

Students are allowed to use generative AI to aid you in any manner. However, you must give proper credit for any use of generative AI.

Communication and Feedback

Assessment marks for individual assessed tasks will be communicated via Canvas within two weeks of submission in general. Feedback will include overall comment with strengths and areas for improvement, if applicable. Students who have further questions about the feedback including marks should consult the teaching team within three working days after the feedback is received.

Resubmission Policy

No resubmission is allowed for all assessed tasks. Marks will be deducted 10% for every 24-hour late submission. No submission is allowed after three days of the deadline.

Required Texts and Materials

N/A

Academic Integrity

Students are expected to adhere to the university's academic integrity policy. Students are expected to uphold HKUST's Academic Honor Code and to maintain the highest standards of academic integrity. The University has zero tolerance of academic misconduct. Please refer to Academic Integrity | HKUST – Academic Registry for the University's definition of plagiarism and ways to avoid cheating and plagiarism.

Additional Resources

N/A