Flutter Mobile Application Development
Course Outline

Course Information

Course Title: Flutter Mobile Application Development
Credit Hours: 2 + 1 (Theory + Lab)
Prerequisite: Basic Programming Knowledge (OOP preferred)

Course Objectives

• Understand Flutter framework and Dart programming language
• Design responsive mobile user interfaces using widgets
• Implement navigation and state management
• Use local storage and databases
• Develop network-based mobile applications
• Build and deploy complete Flutter applications

Course Learning Outcomes (CLOs)

CLO-1: Explain Flutter architecture and Dart fundamentals
CLO-2: Build UI using Flutter widgets
CLO-3: Implement navigation and state management
CLO-4: Apply local storage and database concepts
CLO-5: Develop network-based Flutter applications

Weekly Course Outline

Week	Topics
1	Introduction to Flutter, Installation, Hello World
2	Dart Basics: Variables, Control Flow, Functions, Collections
3	Widgets Overview, Stateless & Stateful Widgets
4	Basic UI Widgets: Text, Image, Container, Icon
5	Layouts: Row, Column, Stack, Card
6	Buttons & User Input Widgets
7	Navigation & Routing
8	Dialogs, Snackbar, Bottom Sheets (Mid Exam)
9	State Management & Widget Lifecycle
10	Advanced State Management (Provider)
11	Local Storage: Shared Preferences
12	SQLite Database & File Handling
13	Networking: REST API & HTTP

| 14 | JSON Parsing & API Integration |
| 15 | Theming, Responsiveness & Deployment (Final Exam) |

Assessment Scheme

Assignments & Quizzes: 20%
Mid Examination: 20%
Lab Work / Project: 20%
Final Examination: 40%

Reference Material

• Flutter Official Documentation
• Dart Programming Language Guide
• Instructor Lecture Notes