

Flutter Lectureflow

MODULE 1: Career Orientation & Flutter Ecosystem	3
<ul style="list-style-type: none"> Session 2: Mobile Development Landscape & Why Flutter Session 1: How Mobile Apps Are Built in the Industry Session 3: Flutter Architecture & Widget Thinking 	
MODULE 2: Flutter & Dart Environment Setup and Programming	20
<ul style="list-style-type: none"> Session 1: Flutter SDK Setup & Project Structure Session 2: IDE Configuration & Emulator Setup Session 3: Real Device Debugging Session 4: flutter doctor & Environment Troubleshooting Session 5: Flutter Project Structure Deep Dive Session 6: Hot Reload, Hot Restart & Debugging Tools Session 7: First Complete Flutter Screen Session 8: Module Assignment & Assessment Session 9: Dart Language Basics & Program Structure Session 10: Strings, Operators & Expressions Session 11: Conditional Statements & Decision Making Session 12: Looping Statements & Iteration Session 15: Working with Lists & Sets Session 16: Working with Maps & Key-Value Data Session 17: Functions & Code Reusability Session 18: Object-Oriented Programming – Classes & Objects Session 19: OOP Concepts – Inheritance, Polymorphism & Keywords Session 20: Asynchronous Programming & Exception Handling 	
MODULE 3: Flutter UI Fundamentals& Development	10
<ul style="list-style-type: none"> Session 1: Flutter Project Structure & Widget Tree Fundamentals Session 2: Stateless vs Stateful Widgets Session 3: MaterialApp, Scaffold & App Structure Session 5: Core UI Widgets – Text, Button, Icon, Image Session 4: Layout Widgets – Row, Column & Container Session 7: Responsive UI & Screen Adaptation Session 6: Handling User Interaction & setState Session 9: Custom Reusable Widgets Session 8: Themes & App-Wide Styling 	

MODULE 4: Navigation, Forms & State	10
<ul style="list-style-type: none"> • Session 1: Navigation Basics – Moving Between Screens • Session 2: Named Routes & Centralized Navigation • Session 4: Returning Data from Screens • Session 3: Passing Data Between Screens • Session 5: Forms & Input Widgets • Session 6: Form Validation & User Feedback • Session 7: Controllers, Focus & Keyboard Handling • Session 8: Widget Lifecycle & initState Usage • Session 9: Basic State Management with Provider • Session 10: Capstone Architecture & App Skeleton Build • Session 11: Authentication Flow, Forms & State Integration 	
MODULE 5: Advanced UI Components & App Structure	8
<ul style="list-style-type: none"> • Session 1: Building Scrollable UI with ListView • Session 2: GridView & Card-Based Layouts • Session 3: List Items, Dividers & Visual Separation • Session 4: Handling Gestures on List & Grid Items • Session 5: Bottom Navigation Bar for App-Level Navigation • Session 6: Tab Bar Navigation for Section-Level Content • Session 7: Navigation Drawer with Header & Menu Items • Session 8: Module Review, Assignment & Assessment • Capstone Session 1: Dashboard & Service Browsing Flow • Capstone Session 2: Drawer, Tabs & UI Refinement 	
MODULE 6: Local Storage & Offline Database	8
<ul style="list-style-type: none"> • Session 1: Understanding Local Storage in Mobile Applications • Session 2: SharedPreferences for Lightweight Data • Session 3: Introduction to SQLite & Structured Data Storage • Session 4: Database Initialization & Model Class Design • Session 5: CRUD Operations – Insert & Read • Session 6: CRUD Operations – Update & Delete • Session 7: Async Handling, Error Management & Performance • Capstone Session 1: Implementing Offline Favorites & Saved Data • Capstone Session 2: Offline UX Refinement & Data Sync Preparation 	
MODULE 7: API Integration & JSON Handling	8
<ul style="list-style-type: none"> • Session 1: Understanding APIs & Client–Server Communication • Session 2: HTTP Package & Making GET Requests 	

- Session 3: JSON Parsing & Model Mapping
- Session 4: Displaying API Data in UI
- Session 5: POST Requests & Sending Data to Server
- Session 6: Error Handling, Status Codes & Timeouts
- Session 7: Network State Management & Caching
- Capstone Session 1: Integrating Live Services API
- Capstone Session 2: Offline + Online Sync Strategy

MODULE 8: Firebase Integration & Device Features
8

- Session 1: Introduction to Firebase & Cloud-Based Mobile Apps
- Session 2: Firebase Project Setup & Flutter Configuration
- Session 3: Firebase Authentication – Email & Password Login
- Session 4: Firestore Database – Reading & Writing Data
- Session 5: Real-Time Updates & Stream Handling
- Session 6: Cloud Storage & Media Uploads
- Session 7: Device Features – Camera, Gallery & Permissions
- Capstone Session 1: Firebase Auth & User Profile Integration
- Capstone Session 2: Media Upload & Real-Time Data Sync

MODULE 9: Advanced State Management, App Architecture & Deployment
8

- Session 1: Limitations of Basic State Management
- Session 2: Introduction to Bloc / Cubit Architecture
- Session 3: Implementing Bloc for Feature-Level State
- Session 4: Clean Architecture & Layered App Structure
- Session 5: Dependency Injection & Service Management
- Session 6: App Configuration, Flavors & Environment Setup
- Session 7: Build Optimization, Debugging & Performance
- Capstone Session 1: Refactoring the Capstone to Production Architecture
- Capstone Session 2: Testing, Debugging & Pre-Release Checklist
- Capstone Session 3: App Build, APK Generation & Deployment Overview