Course : Flutter, developing cross-platform mobile applications

Practical course - 3d - 21h00 - Ref. LJC
Price : 1940 CHF E.T.

NEW

On completion of the course, participants will be able to create cross-platform mobile applications using Flutter. This training program is intended for employees of professional branches covered by the OPCO Atlas.

Teaching objectives

At the end of the training, the participant will be able to:

- Knowledge of mobile development frameworks and Flutter's specific features
- Setting up a Flutter development environment
- Design the software architecture of a multiplatform mobile application
- Building a responsive interface
- Developing with Dart

Intended audience
For OPCO Atlas members: developers, project managers.

Prerequisites
Basic programming skills.

Practical details
Teaching methods
To optimize the learning experience, e-learning modules can be provided before and after the classroom session or virtual class, at the participant's request.

Course schedule

1   Algorithmics - Think before you design - Digital learning pre-training content

- Introduction to algorithms.
- Basic instructions in pseudo-code.

Digital activities
This online course teaches you how to think before you design a program, by introducing you to the basics of algorithmics. In particular, participants will study the fundamental instructions in pseudo-code.

2   Getting started with Flutter

- Flutter/Dart presentation.
- Installation on macOS/Windows.
- Use of the editor recommended.
- Debugging and versioning (FVM).
- Discover widgets.

Hands-on work
Direct practical application: installation, first project.

3   The Dart language

- Syntax, types, conditions, loops, functions.
- POO, null-safety, generics, mixins, async.

Hands-on work
Interactive quiz (Mentimeter). Microprojects on simple data structures. Pooling and feedback.

4   Responsive interface

- Pubspec.yaml, build() method, widgets (Column, Row, etc.).
- MediaQuery, MaterialApp.

Hands-on work
Creating a responsive mini-UI. Pause feedback : "My favorite widget".

5   Status management

- Stateless versus Stateful widgets.
- Lifecycle, TextField, Provider, Consumer.

Hands-on work
Guided demo + TP: managing a form. Memory map of Provider component roles.

6   Navigation

- Navigator, data passage, tabs, side drawers.

Hands-on work
Navigation challenges: create an app with 3 connected views. Formative assessment: oral presentation of the structure.

7 Entertainment

- Hero, transitions, custom animations.

Hands-on work

Guided practice : Hero animation between 2 views. Word cloud : "What animation changes for the UX".

8 Cross-platform development

- Web, mobile, push notifications, third-party packages.

Hands-on work

Case study: create an adaptive app (demo). Group analysis of native constraints.

9 Calling an API, manipulating JSON

- async/await, Futures, HTTP, error handling.

Hands-on work

Weather API call, conditional display. Analysis of code with bugs : Dart Detective".

10 Implementing Firebase Auth & Firestore

- Auth, Firestore, Streams, messaging app.

Hands-on work

Guided practice session: messaging with auth Firebase. Visual recap via collective mind map.

11 UX design and interface ergonomics - Post-training digital learning content

- What is UX design?
- Information architecture.

Digital activities

This online training course introduces the fundamentals of UX design and teaches how to design effective user experiences. Participants will understand the principles of ergonomics, the approach and the benefits of user-centered design. They will then learn how to analyze user needs: conduct interviews and observations, create personas, map user paths and define challenges. Practical exercises will guide them in identifying problems and selecting the best solutions.

Dates and locations

REMOTE CLASS
2026 : 17 Mar., 26 May, 13 Oct., 15 Dec.