Course guide
804247 - DMOB - Mobile Devices

Unit in charge: Image Processing and Multimedia Technology Centre
Teaching unit: 804 - CITM - Image Processing and Multimedia Technology Centre.
Degree: BACHELOR’S DEGREE IN VIDEO GAME DESIGN AND DEVELOPMENT (Syllabus 2014). (Compulsory subject).
Academic year: 2022  ECTS Credits: 6.0  Languages: Catalan, English

LECTURER

Coordinating lecturer: Fernández Duran, Pau
Others: Pau Fernández Durán

REQUIREMENTS

Knowing a high-level programming language (C, C++, Java, Python, etc.)

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Generical:
CGFC4VJ. Apply basic algorithmic procedures of information technology to designing solutions for problems, analysing the suitability and complexity of the proposed algorithms.
CGFC5VJ. Efficiently design and use the most appropriate types and structures of data to solve a problem related to the development of video games.

Transversal:

TEACHING METHODOLOGY

Sessions with lectures intertwined with programming practice

LEARNING OBJECTIVES OF THE SUBJECT

- Show knowledge and be able to use libraries to create video games and applications on mobile devices and / or other devices.
- Show knowledge and mastery, and be able to explain, the technologies for the design and creation of video games and applications on mobile devices and / or other devices.
- Show ability to analyze the technical characteristics of the technologies for the creation of video games and applications on mobile devices and / or other devices.

STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self study</td>
<td>90,0</td>
<td>60.00</td>
</tr>
<tr>
<td>Hours medium group</td>
<td>30,0</td>
<td>20.00</td>
</tr>
<tr>
<td>Guided activities</td>
<td>12,0</td>
<td>8.00</td>
</tr>
<tr>
<td>Hours large group</td>
<td>18,0</td>
<td>12.00</td>
</tr>
</tbody>
</table>
Total learning time: 150 h

## CONTENTS

### 1. The Dart programming language

**Description:**

**Full-or-part-time:** 20h  
Practical classes: 8h  
Self study: 12h

### 2. Basic Flutter

**Description:**

**Full-or-part-time:** 20h  
Practical classes: 8h  
Self study: 12h

### 4. Advanced Flutter

**Description:**

**Full-or-part-time:** 30h  
Practical classes: 12h  
Self study: 18h

### 4. Apps with Flutter

**Description:**
The model. State management. Provider. Local persistence.

**Full-or-part-time:** 30h  
Practical classes: 12h  
Self study: 18h

### 5. Firebase

**Description:**

**Full-or-part-time:** 30h  
Theory classes: 12h  
Self study: 18h
6. Animations

Description:

Full-or-part-time: 20h
Practical classes: 8h
Self study: 12h

ACTIVITIES

Deliverable 1: Layout for a screen

Description:
Given a professional design, develop a whole screen (only the graphic design).

Full-or-part-time: 5h
Guided activities: 5h

Deliverable 2: App without networking

Description:
Development of an app with a few screens with local persistence.

Full-or-part-time: 10h
Guided activities: 10h

Deliverable 3: App using Firebase

Description:
Development of an app which uses Firebase.

Full-or-part-time: 20h
Guided activities: 20h

GRADING SYSTEM

Mid-term exam: 25%
Deliverables: 40%
Final exam: 25%
Participation and disposition: 10%

Re-evaluation is available. Only the 50% corresponding to the two exams will be re-evaluated.

BIBLIOGRAPHY

Basic:
- Alberto Miola. Flutter Complete Reference: Create beautiful, fast and native apps for any device [on line]. Publicación Independiente, 2020
RESOURCES

Hyperlink:
- Web de Flutter: https://flutter.dev
- Web de Dart: https://dart.dev