



# Course guide

## 804395 - ADVJ - Art and Design for Video Games

**Last modified:** 18/09/2023

**Unit in charge:** Image Processing and Multimedia Technology Centre  
**Teaching unit:** 804 - CITM - Image Processing and Multimedia Technology Centre.

**Degree:** BACHELOR'S DEGREE IN DESIGN, ANIMATION AND DIGITAL ART (Syllabus 2023). (Compulsory subject).

**Academic year:** 2023    **ECTS Credits:** 6.0    **Languages:** Catalan

### LECTURER

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**Coordinating lecturer:** Serrano, Josep

**Others:**

### TEACHING METHODOLOGY

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The subject has an eminently practical nature. As a consequence of this, the proposed methodology, with the exception of the first class which will be merely introductory in nature, will have the following structure:

The initial twenty minutes will be dedicated to clarifying and resolving doubts in reference to the exercise proposed in the previous class.

The following eighty minutes will consist of a masterful explanation of the new topic and/or procedure to be worked on.

The last twenty minutes will be dedicated to the presentation and proposal of the next exercise to be carried out, which will be directly linked to the master class carried out previously.

### LEARNING OBJECTIVES OF THE SUBJECT

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- Identify the key concepts related to user experience, user-centered design, usability, playability, accessibility and prototyping in the development of interactive applications.

### STUDY LOAD

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Type	Hours	Percentage
Self study	90,0	60.00
Hours large group	30,0	20.00
Hours medium group	18,0	12.00
Guided activities	12,0	8.00

**Total learning time:** 150 h



## CONTENTS

### 1. Introduction

**Description:**

Basics of three-dimensional space  
Coordinate systems  
Program interface  
Customization and menus  
Navigation  
Object modeling, creation and manipulation process

**Full-or-part-time:** 25h

Theory classes: 10h

Self study : 15h

### 2. History and evolution of art in video games

**Description:**

Origins of art in video games  
Pixel art and the 8 and 16 bit era  
Transition to 3D graphics  
Character Evolution  
Artistic styles  
Influence of cinema on the art of video games  
Indie games and experimental art  
Audiovisual and cinematographic narrative in video games  
VR and AR  
The future of art in video games  
Great designers and artists in the industry  
Criticism and analysis of specific video game works

**Full-or-part-time:** 25h

Theory classes: 10h

Self study : 15h

### 3. Design fundamentals

**Description:**

Basic design principles  
Color, shape, line  
3D sculpture finishing and polishing techniques  
Complex shapes from 2D shapes  
Parametric modifiers  
Advanced polygon modeling tools  
Freeform modifiers  
Composite objects  
Modularity  
Cleaning model parameters

**Full-or-part-time:** 25h

Theory classes: 10h

Self study : 15h



#### 4. Organic sculpting

**Description:**

Digital sculpture tools in Zbrush  
Change of modeling paradigm  
Customization of the interface  
Use of references  
Character blocking  
Automatic retopology techniques  
Dynamesh  
Zremesher  
Subdivision of polygons  
Brushes and alphas  
Use of masks  
Sculpture polishing  
Sculpture of creatures  
In character  
Appealing  
Color theory  
Poly-painting  
Render passes  
Image composition theory

**Full-or-part-time:** 25h

Theory classes: 10h

Self study : 15h

#### 5. Pipeline of artistic production

**Description:**

Conceptualization and sketches  
Advanced 3D modeling  
Reinforcement loops and rings  
Compatibility between programs  
Export and import file types  
Polished by means of high-poly sculpting  
Advanced manual retopology techniques  
Understanding of the three-dimensionalization process of objects according to the industry  
New technologies

**Full-or-part-time:** 25h

Theory classes: 10h

Self study : 15h



## 6. Texturing and integration with graphics engines

### Description:

Theory of UVs  
Deployment of UVs  
Atlas of UVs  
Types of maps  
Introduction to Substance Painter  
Advanced texturing techniques  
Baked high-low  
Use of masks  
Procedural patterns  
color  
Creation of intelligent materials  
Export and implementation to graphic engines

### Full-or-part-time: 25h

Theory classes: 10h  
Self study : 15h

## GRADING SYSTEM

Design Fundamentals: 10%  
Organic sculpting: 10%  
Artistic production pipeline: 10%  
Texturing and integration into graphics engines: 10%  
Midterm exam: 20%  
Final exam: 30%  
Attitude: 10%

Students who fail due to the curricular evaluation will have the right to the option of taking the reevaluation exam. The grade for this exam will replace the grade for the partial and final exams and, if passed, the maximum grade for the subject will be a 5.

## BIBLIOGRAPHY

### Basic:

- Beginners Guide To Zbrush. 3dtotal Publishing,
- Adam Watkins. Creating Games with Unity, Substance Painter, & Maya: Models, Textures, Animation, & Code.
- Kelly L. Murdock. Autodesk Maya 2020 Basics Guide.
- Ami Chopine. 3D Art Essentials: The Fundamentals of 3D Modeling, Texturing, and Animation.