

# Course guide

## 804257 - PEE - Postproduction and Visual Effects

Last modified: 22/06/2023

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

**Degree:** BACHELOR'S DEGREE IN VIDEO GAME DESIGN AND DEVELOPMENT (Syllabus 2014). (Optional subject).

**Academic year:** 2023    **ECTS Credits:** 6.0    **Languages:** Catalan, Spanish, English

### LECTURER

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**Coordinating lecturer:** Salvador Bolarín

**Others:** Iñaki González

### DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

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#### Specific:

CEVJ 7. Master the wide range of professional tools in the sector for developing all kinds of digital content.  
CEVJ 8. Design, model, texturise and animate 2D and 3D objects, characters and scenes for inclusion in digital projects, audiovisual sequences and video games.  
CEVJ 9. Apply advanced modelling and animation, post-production and special effects techniques to the creation of digital content and/or its inclusion in a video game project.

#### Transversal:

01 EIN N1. ENTREPRENEURSHIP AND INNOVATION - Level 1. Showing enterprise, acquiring basic knowledge about organizations and becoming familiar with the tools and techniques for generating ideas and managing organizations that make it possible to solve known problems and create opportunities.  
02 SCS. SUSTAINABILITY AND SOCIAL COMMITMENT. Being aware of and understanding the complexity of social and economic phenomena that characterize the welfare society. Having the ability to relate welfare to globalization and sustainability. Being able to make a balanced use of techniques, technology, the economy and sustainability.  
07 AAT N3. SELF-DIRECTED LEARNING - Level 3. Applying the knowledge gained in completing a task according to its relevance and importance. Deciding how to carry out a task, the amount of time to be devoted to it and the most suitable information sources.  
04 COE. EFFICIENT ORAL AND WRITTEN COMMUNICATION. Communicating verbally and in writing about learning outcomes, thought-building and decision-making. Taking part in debates about issues related to the own field of specialization.

### TEACHING METHODOLOGY

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The subject combines the following methods:

- Master classes
- Exercises in class with computer
- Student presentations
- Visualization and analysis of real projects
- Completion of exercises and projects autonomously with follow-up during the classes.

### LEARNING OBJECTIVES OF THE SUBJECT

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- Know the basic concepts of the capture, lighting and composition of the image
- Create image compositions using digital tools
- Analyze the different stages of creation of visual products: preproduction, production, postproduction
- Know the most used tools in the industry
- Obtain the necessary knowledge to complete a kinematics



## STUDY LOAD

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

**Total learning time:** 150 h

## CONTENTS

### VISUAL EFFECTS

**Description:**

- Introduction
- Preproduction
- Production
- Postproduction

**Full-or-part-time:** 2h 30m

Practical classes: 1h

Self study : 1h 30m

### LIGHT

**Description:**

- Theory of light
- Behavior of light
- Light and materials
- Light and Shadows

**Full-or-part-time:** 3h 42m

Theory classes: 1h

Self study : 2h 42m

### PHOTOGRAPHY

**Description:**

- Introduction
- The camera and the objectives
- Light and exposure

**Full-or-part-time:** 4h 42m

Practical classes: 2h

Self study : 2h 42m



## CINEMATOGRAPHY

### Description:

- Introduction
- Composition
- Movements and perspective
- Cameras. characteristics

**Full-or-part-time:** 4h 42m

Practical classes: 2h

Self study : 2h 42m

## COLOR THEORY

### Description:

- Basic aspects of digital color

**Full-or-part-time:** 4h 42m

Theory classes: 2h

Self study : 2h 42m

## HOUDINI FUNDAMENTALS

### Description:

- Introduction to Houdini
- Differences with other 3D Software
- Interface
- Workflows
- Modeling and Procedural Modeling
- Digital Asset Concept
- Attributes, Variables and Functions
- Introduction to UV
- Cameras, Lights and Renders
- Introduction to Materials
- Introduction to Particles

**Full-or-part-time:** 37h 30m

Practical classes: 15h

Self study : 22h 30m

## HOUDINI: DYNAMIC SYSTEMS

### Description:

- Introduction to dynamics and simulations
- Particle systems
- Volume systems
- Rigid bodies
- Fluid systems

**Full-or-part-time:** 37h 30m

Practical classes: 15h

Self study : 22h 30m



## PROJECTS

### Description:

- Particle project without simulation
- Particle project with simulation
- Project of volumes without simulation (Static Procedural Volume)
- Project of volumes with simulation (Smoke Solver)
- Simulation project of rigid bodies
- Fluid simulation project

**Full-or-part-time:** 54h 42m

Guided activities: 23h 12m

Self study : 31h 30m

## ACTIVITIES

### Visual Effects

### Description:

Activities are divided into 4 sections:

1. Section: Carrying out 5 practical exercises with a value of 50% of the final grade.
  - Work with particles, volumes and rigid bodies. These concepts will be worked with simulation and without simulation.
2. Section: Carrying out an exercise with a value of 25% of the final grade.
  - The exercise will contain several of the techniques learned during the course.
3. Section: Carrying out a report with the different exercises performed (5 +1) whose length per exercise must be within the range of 500 to 600 words. Do not include any type of graphic or photograph, only text. The weighting of this section is 15% of the final grade.
4. Section: Evaluation of the student's participation and learning attitude during the course. The weighting of this block is 10% of the final grade.

**Full-or-part-time:** 45h

Practical classes: 15h

Self study: 30h

## GRADING SYSTEM

To take into account for final grade:

- Exercise Deliveries (5): 50%
- Final Exercise Delivery (1): 25%
- Exercise Delivery Reports: 15%
- Participation and learning attitude: 10%



## BIBLIOGRAPHY

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### Basic:

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- Birn, Jeremy. Digital lighting & rendering. 3rd ed. Berkeley, CA: New Riders, cop. 2014. ISBN 0321928989.
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