

## Course guide

### 804428 - DSG - Serious Games Design

**Last modified:** 29/05/2025

<b>Unit in charge:</b>	Image Processing and Multimedia Technology Centre
<b>Teaching unit:</b>	804 - CITM - Image Processing and Multimedia Technology Centre.
<b>Degree:</b>	BACHELOR'S DEGREE IN VIDEO GAME DESIGN AND DEVELOPMENT (Syllabus 2014). (Optional subject). BACHELOR'S DEGREE IN DESIGN, ANIMATION AND DIGITAL ART (Syllabus 2023). (Optional subject). BACHELOR'S DEGREE IN DIGITAL DESIGN AND MULTIMEDIA TECHNOLOGIES (Syllabus 2023). (Optional subject).

**Academic year:** 2025    **ECTS Credits:** 6.0    **Languages:** English

#### LECTURER

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**Coordinating lecturer:** Fernández Ruiz, Marta

**Others:**

#### DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

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**Specific:**

CEVJ 4. Identify and use gameplay mechanics and dynamics in non-gaming environments to enhance motivation, concentration, effort and loyalty in a wide range of sectors including education, marketing, business and health and sport.

CEVJ 1. Design the mechanics, rules, structure, script and artistic concept of a video game, maximising immersion and criteria of playability and balance to provide the best possible user experience.

CEAAD 8. Relate and apply the principles of audiovisual narrative and use the various associated techniques.

CEVJ 2. Schematically and visually represent complex concepts, ideas and/or data based on personal skills and external references, in order to convey attractiveness, originality and creativity.

**Transversal:**

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.

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.

05 TEQ. TEAMWORK. Being able to work as a team player, either as a member or as a leader. Contributing to projects pragmatically and responsibly, by reaching commitments in accordance to the resources that are available.

#### TEACHING METHODOLOGY

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- Master class. The teacher delivers the content and describes the materials (work plan, notes, presentations, links, exercise statements, etc.) that will be used along the course or for the student's autonomous work. During the master classes students can participate, usually asking questions about the content taught by the teacher.

- Case studies. The teacher presents both in oral and written format an example of a specific project, topic or practice related to the contents that are being taught in the course. The case studies describe the problem and provide data.

- Project-based learning. Students apply the knowledge learned in other courses and look for information, discuss with the teacher and acquire knowledge that can implement in the project. A part of this project development work takes place during classes. In this case the work is guided and supervised by the teacher. Another part is developed inside a team, during class hours or during autonomous work hours. Finally, another part is individual work for later sharing.

- Autonomous work. Students work independently outside the course sessions (studying, reading, solving exercises or problems or developing practices).

## LEARNING OBJECTIVES OF THE SUBJECT

- Knowledge of the concepts of game mechanics and dynamics and their uses for the development of entertaining and fun project proposals.
- Understanding of the concept "human factor" and the mechanisms and psychological processes involved. Being able to apply this knowledge in the decision-making process in video game design.
- Consistency with social, economic and environmental dimensions when applying solutions and completing projects aligned with human development and sustainability.
- Understanding of the mechanisms and psychological processes of attention, perception, memory, learning and emotions and the role they play in the process of human-computer interaction.
- Being able to create a game design document.
- Reading comprehension when reading documents written in English, related to the subject, such as notes, scientific articles, popular articles, web pages, etc.
- Strategically prepare and carry out oral presentations and write texts with coherent contents, adequate structures and styles, and a good level of spelling and grammar.
- Teamwork and collaboration once the goals and collective/individual responsibilities have been identified in a project. Joint decisions on the strategy to be followed.

## STUDY LOAD

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

**Total learning time:** 150 h

## CONTENTS

### Introduction to serious games

#### Description:

- Serious games concept.
- History of serious games.
- Scope of application of serious games.
- Approaches and frameworks for game design.
- Game design components: rules, mechanics, aesthetics, storytelling, goals, resources, obstacles, rewards.

**Full-or-part-time:** 9h

Practical classes: 4h

Self study : 5h

### Games and conscientious designers

**Description:**

- Definition and framework of action of conscious design.
- Tools to find, reflect and transmit values in games.
- Values at Play (VAP) heuristic.

**Related activities:**

Design of a game and implementation of values through different game components and the VAP heuristic.

**Full-or-part-time:** 23h

Practical classes: 5h

Guided activities: 3h

Self study : 15h

### Games and persuasion

**Description:**

- Persuasive communication.
- Foundations of procedural rhetoric and other approaches to persuasion.
- Newsgames.
- Advergames.
- Games for health.
- Ecogames.
- Video games and experimental installations for persuasive purposes.

**Related activities:**

Design of a newsgame or awareness game based on choices.

**Full-or-part-time:** 32h

Practical classes: 9h

Guided activities: 3h

Self study : 20h

### Games and education

**Description:**

- Pedagogical principles applied to educational games. Game-based learning.
- Educational gameplay concept.
- Frameworks for the analysis and design of educational games.

**Specific objectives:**

Game design-based learning workshop.

**Full-or-part-time:** 23h

Practical classes: 6h

Guided activities: 2h

Self study : 15h

### Serious game project

**Description:**

- Brainstorming and team conceptualization.
- Implementation of the design components and frameworks seen throughout the course in a Game Design Document.
- Prototyping.
- Exhibition and final report.

**Related activities:**

Conceptualization and exhibition of an educational game. The game will be presented to the other teams in order to receive constructive feedback. Final report delivery.

**Full-or-part-time:** 63h

Practical classes: 29h

Guided activities: 4h

Self study : 30h

## ACTIVITIES

### Values at Play (VAP) Heuristic

**Description:**

Design of a game and implementation of social and cultural values through different game components and the VAP heuristic.

**Full-or-part-time:** 8h

Self study: 8h

### Design of a newsgame or awareness game.

**Description:**

Design of a newsgame or awareness game based on choices.

**Full-or-part-time:** 8h

Self study: 8h

### Educational game project - Game-based learning

**Description:**

Conceptualization and exhibition of an educational game. The game will be presented to the other teams in order to receive constructive feedback. Final report delivery (GDD).

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

Practical classes: 20h

Self study: 30h

Guided activities: 4h

### Game design-based learning workshop

**Description:**

Workshop focused on the design of games with an educational purpose.

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

Guided activities: 4h

## GRADING SYSTEM

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- First assignment (Conscientious designers): 15%
- Second assignment (Persuasive Games): 15%
- Third assignment (Game-Based Learning): 15%
- Fourth assignment (Final project): 30%
- Midterm exam: 15%
- Learning attitude: 10%

The evaluation of the student's participation in the activities and the learning attitude will be evaluated by keeping track of their interventions.

Irregular actions that may lead to a significant variation of the grade of one or more students constitute a fraudulent performance of an evaluation act. This action entails the descriptive grade of failure and a numerical grade of 0 for the ordinary global evaluation of the course, without the right to re-evaluation.

If the lecturers have indications of the use of AI tools not allowed in the evaluation tests, they may summon the students concerned to an oral test or a meeting to verify the authorship.

## EXAMINATION RULES.

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- Once completed, the activities must be delivered to the Virtual Campus in the corresponding delivery area and within the corresponding deadline.
- The evaluation of the activities does not only imply their resolution, but also the presentation of the results (when the student or the group is required to do so during the classes).
- The documents should be completed following the instructions given therein, especially with regard to file names and content structure. The correct management of the documentation provided is an aspect related to the skills to be acquired and is, therefore, subject to evaluation.

## BIBLIOGRAPHY

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### Basic:

- de la Hera, Teresa; Jansz, Jeroen; Raessens, Joost; Schouten, Ben. Persuasive Gaming in Context. Amsterdam University Press, 2021.
- Flanagan, Mary; Nissenbaum, Helen. Values at Play in Digital Games. The MIT Press, 2014.
- Morales Moras, Joan . Serious Games. Diseño de Videojuegos con una Agenda Educativa y Social. Editorial UOC, 2015.
- Plass, Jan; Mayer, Richard; Homer, Bruce. Handbook of Game-Based Learning. The MIT Press, 2020.
- Martin, Scott. Serious games in personalized learning: new models for design and performance. Taylor & Francis, 2022.

### Complementary:

- Schrier, Karen. Knowledge Games. Johns Hopkins University Press, 2016.
- Aubrey, Karl; Riley, Alison. Understanding and Using Educational Theories. SAGE, 2018.
- Kalmpourtzis, George . Educational Game Design Fundamentals: A Journey to Creating Intrinsically Motivating Learning Experience. CRC Press, 2018.

## RESOURCES

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### Other resources:

Games for Change <https://www.gamesforchange.org/games/> />Values at Play <https://www.valuesatplay.org/>