Course guide
804264 - DDJS - Serious-Games Design

Last modified: 21/07/2025

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

Degree: BACHELOR'S DEGREE IN MULTIMEDIA STUDIES (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN VIDEO GAME DESIGN AND DEVELOPMENT (Syllabus 2014). (Optional subject).
BACHELOR'S DEGREE IN DESIGN, ANIMATION AND DIGITAL ART (Syllabus 2017). (Optional subject).

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

LECTURER

Coordinating lecturer: Fernández Ruiz, Marta

Others:

TEACHING METHODOLOGY

- 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
Guided activities	20,0	13.33
Hours medium group	40,0	26.67
Self study	90,0	60.00

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 â□□â□□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 rethoric 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: 8h 20m
Laboratory classes: 8h 20m

GRADING SYSTEM

- First assignment (Conscientious designers): 10%
- Second assignment (Persuasive Games): 25%
- Third assignment (Final project): 30%
- Midterm exam: 25%
- 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.

- 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

Basic:

- de la Hera, Teresa; Jansz, Jeroen; Raessens, Joost; Schouten, Ben. Persuasive Gaming in Context. Amsterdam University Press, 2021.
- Flanagan, Mary; Nissembaum, 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

Other resources:

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