

**COURSE DATA****DATA SUBJECT**

Code: 34827
Name: Video game development
Cycle: Undergraduate Studies
ECTS Credits: 6
Academic year: 2026-27

STUDY (S)

Degree	Center	Acad. year	Period
1407 - Degree in Multimedia Engineering	Escola Tècnica Superior d'Enginyeria	4	First quarter

SUBJECT-MATTER

Degree	Subject-matter	Character
1407 - Degree in Multimedia Engineering	Optatividad	ELECTIVES

COORDINATION

PEREZ AIXENDRI MANUEL

SUMMARY

The course "Video game development" is an optional course of the fourth year of the Multimedia Engineering Degree. The course workload is 6 ECTS and it is given in the first four-month period of the fourth year.

PREVIOUS KNOWLEDGE**RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE**

There are no specified enrollment restrictions with other subjects of the curriculum.

OTHER REQUIREMENTS**COMPETENCES / LEARNING OUTCOMES****1405 -**

G4 - Be able to integrate into working groups and collaborate in multidisciplinary environments and be able to communicate properly with professionals from all fields.



I10 - e able to design and evaluate human-computer interfaces that ensure accessibility and usability of computer systems, services and applications.

MM21 - Communicate effectively, both in writing and verbally, knowledge, procedures, results and ideas related to ICT and specifically to multimedia, and know their socioeconomic impact.

MM24 - Be able to design, develop, evaluate and ensure the accessibility, ergonomics, usability and security of multimedia systems, services and applications and of the information that these manage.

MM28 - Be able to solve problems with initiative, decision-making and creativity and to communicate and transmit the knowledge, abilities and skills of a multimedia engineer.

MM6 - Conceive, design, and implement projects related to multimedia products by using engineering methodologies, applying the principles of human resources management and applying economic principles.

MM7 - Be able to apply the principles of audiovisual graphic design and communication to multimedia products.

DESCRIPTION OF CONTENTS

1. Videogames' industry companies.

- Game developers
- Technology licensees
- Production
- Publishing
- Distributors

2. Different roles in videogames

The role of different professionals in a videogame.

3. History of videogames

- Starts
- Generations



- Classification of Games
- Classification of Gamers

4. Videogames Production and Direction

- Project Proposal Document
- Economic study

5. Development tools

- ¿ Review of the most used tools.
- ¿ Unity introduction.

6. Game development 1

- User Interfaces
- Scenarios
- Characters modeling and texturing.
- Behaviors programming.

7. Game development 2

- ¿ Sound
- ¿ Multiplayer scripting
- ¿ Advanced techniques

WORKLOAD

PRESENCIAL ACTIVITIES



Activity	Hours
Theory	30,00
Laboratory	20,00
Classroom practices	10,00
Total hours	60,00

NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	0,00
Individual or group project	10,00
Independent study and work	20,00
Preparation of lessons	35,00
Preparation for assessment activities	15,00
Resolution of case studies	10,00
Total hours	90,00

TEACHING METHODOLOGY

Theoretical activities.

Description: The lectures will present the course contents providing a global vision, a detailed analysis of the key concepts and encouraging the student participation. The workload of this section for the students is 20% of the total of the course.

Practical activities.

Description: The practical activities complement the theoretical classes and allow the students to put into practice the contents and improve the understanding of the course concepts. They include the following types of classroom activities:

- Solving problems in class.
- Regular discussion of exercises and problems that the students have previously tried to work out.
- Laboratory sessions.
- Support tutorial sessions (individualized or in group).
- Individual evaluation of questionnaires to be done in class with the help of professors.
- The workload of this section for the students is 30% of the total of the course.

Personal work.

Description: It is the work that the student must carry out individually out of the classroom timetable. It tries to promote the autonomous work habit. Activities in this group are: monographs, guided literature search, exercises and problems as well as preparation of classes and exams. The workload of this section for the students is 50% of the total of the course.



During the course the e-learning (pizarra virtual) platform of the University of Valencia will be used to support the teaching activities. This platform allows the access to the course materials used in the classes as well as additional documents, solved problems and exercises.

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EVALUATION

The evaluation of the course will be conducted by continuous assessment and level tests through number of tasks carried out during the course and the development of a video game.

The final grade will take into account:

- Successful completion of tasks. Each task will have a mark and the final grade is calculated as an average of these.
- The timely delivery of tasks is particularly encouraged, and affect the delays of the task.
- In the project the result thereof, the capacity for teamwork, effort and proper documentation will be assessed.
- The attendance on regular basis to on-campus lectures/activities will be taken into account. Active participation, attitude and punctuality during the course will also have a weight in the final grade.

The final grade for the course is calculated as an average of the diferent parts of the course (33% theory + 33% problems + 33% lab). Problems will be evaluated as an average between tasks carried out during the course (60%) and a final exam (40%). A minimum grade of 4 in each and every one of the parts is required to pass the course.

The second summons will be valued by a final exam.

In any case, the evaluation of this subject will be done in compliance with the University Regulations in this regard, approved by the Governing Council on 30th May 2017 (ACGUV 108/2017)

Copying or plagiarism of any activity that is part of the evaluation will result in the impossibility of passing the course, and the student will then be subject to the appropriate disciplinary procedures indicated in the ACTION PROTOCOL FOR FRAUDULENT PRACTICES AT THE UNIVERSITY OF VALENCIA (ACGUV 123/2020).

REFERENCES

- Rogers, Scott. *Level up!; The Guide to Great Video Game Design*. Second edition. Chichester, West Sussex: Wiley, 2014. https://trobes.uv.es/permalink/34CVA_UV/1q5na80/alma991009416139806258
- Gregory, Jason. *Game Engine Architecture*. 3rd edition. Boca Raton, FL: A K Peters/CRC Press,



an imprint of Taylor and Francis, 2018. https://trobes.uv.es/permalink/34CVA_UV/1q5na80/alma991009618317306258