

## Game Development

Academic Year: ( 2021 / 2022 )

Review date: 04-06-2021

Department assigned to the subject: Computer Science and Engineering Department

Coordinating teacher: ZARRAONANDIA AYO, TELMO AGUSTIN

Type: Electives ECTS Credits : 3.0

Year : 4 Semester :

## REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

- Programming (Course: 1 / Semester: 1)

## OBJECTIVES

R1. Knowledge and comprehension. Basic knowledge about the scientific and technologic basis of Computer Science Engineering. Specific knowledge about Computation Science, Computers Engineering and Information Systems.

R2. Engineering Analysis. To be able to identify problems of Computer Science Engineering, identify their issues, identify and select the most adequate method to solve them considering social, human health, environmental and commercial limitations.

R3. Engineering Design. To be able to carry out engineering design according to the level of knowledge and comprehension, satisfying the requirements of the problem and collaborating with other engineers. The design covers devices, processes, methods and other non-technical requirements as social, health, security, environmental and commercial considerations.

R4 Research and Innovation. To be able to use the appropriate methods to conduct a research and carry out innovations in the area of informatics engineering

R5. Engineering Applications. To be able to apply the knowledge and comprehension required to solve problems, supervise research processes and design devices and process in the context of the Computer Science area according with cost, quality, security, efficiency, environmental and ethics criteria. These capacities include the knowledge, use and understanding of limitations of informatic systems, processes engineering, computer architectures, computational models, teams, technique bibliographic references and other sources of information.

## DESCRIPTION OF CONTENTS: PROGRAMME

- Introduction to game design and development
- Architecture and main elements of a videogame
- Videogame programming fundamentals: game objects, behaviours, physics, UI y particle systems.
- Development frameworks and game engines

## LEARNING ACTIVITIES AND METHODOLOGY

- \* Theoretical lectures: 0,5 ECTS. To achieve the specific cognitive competences of the course. Besides, to develop transversal competences as capacity to analysis and abstraction.
- \* Practical lectures: 0,5 ECTS. To develop the specific instrumental competences. Besides, to develop transversal competences as problem solving and knowledge application.
- \* Continuous assessment exercises: 0,5 ECTS. Initiated during the practical sessions and finished out of them. Their objective is to complete the development of the specific instrumental competences and to initiate the development of the attitudinal specific competences as well as the transversal competences on problem solving and knowledge application.
- \* Practice: 1 ECTS. Carried out without the presence of the teacher. Their objective is to complete and integrate the development of the specific competences and transversal competences by means of practice cases in which the problem, solving method, criteria for selecting the solving method, the results and their interpretation are well documented.
- \* Tutorships: Teacher assistance
- \* Exercises and examination: 0,5 ECTS. To complete the development of specific cognitive and procedural capacities

## ASSESSMENT SYSTEM

The evaluation system includes the assessment of guided academic activities and practical cases, with the following weights:

Practical case: 70%

Examination: 30%

<b>% end-of-term-examination:</b>	30
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<b>% of continuous assessment (assignments, laboratory, practicals...):</b>	70
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## BASIC BIBLIOGRAPHY

- HOCKING, Joseph Unity in action: Multiplatform game development in C# , Manning Publ., 2015
- Salen, K., Tekinbağ, K. S., & Zimmerman, E. Rules of play: Game design fundamentals, MIT Press, 2004