804240 - P2VJ - Project II

Degree competences to which the subject contributes

Specific:
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.

General:
CGFC1VJ. Design, develop, select and evaluate applications and computer systems from 0 for video games, ensuring their reliability, security and quality, in accordance with ethical principles and current legislation and regulations.
CGFC6VJ. Analyse, design, build and maintain video game applications robustly, securely and efficiently, choosing the most appropriate paradigm and programming languages.

Transversal:
01 EIN. ENTREPRENEURSHIP AND INNOVATION: Knowing about and understanding how businesses are run and the sciences that govern their activity. Having the ability to understand labor laws and how planning, industrial and marketing strategies, quality and profits relate to each other.
05 TEQ N2. TEAMWORK - Level 2. Contributing to the consolidation of a team by planning targets and working efficiently to favor communication, task assignment and cohesion.

Teaching methodology
During each class, the lecturer will first show the students the theory behind the problem that need solving. Together with the students, the lecturer will explore the different solutions that exist in the present that solve and simplify the complexities of real time applications like videogames.

The students will have to work on a special research project assigned by the teacher to then show it in class. All the material will stay online.

Learning objectives of the subject
Learn how to embark in the development of a video game of mid size.
Learn how to work in a large team and coordinate with the rest.
How to structure a micro studio, bringing all the required documentation.
### Study load

<table>
<thead>
<tr>
<th></th>
<th>Hours large group:</th>
<th>18h</th>
<th>12.00%</th>
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<tbody>
<tr>
<td></td>
<td>Hours medium group:</td>
<td>30h</td>
<td>20.00%</td>
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<td></td>
<td>Hours small group:</td>
<td>0h</td>
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<tr>
<td>Guided activities:</td>
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<td>12h</td>
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<tr>
<td>Self study:</td>
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<td>90h</td>
<td>60.00%</td>
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# Content

## Creation of a micro studio

<table>
<thead>
<tr>
<th>Description:</th>
<th>Learning time: 15h</th>
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| Study of the project and group formation. Development of the internal roles for the groups. Presence inside the social networks. The SCRUM methodology. | Theory classes: 6h  
Self study: 9h |

## Planification and documentation

<table>
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<tr>
<th>Description:</th>
<th>Learning time: 20h</th>
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| Structure of a Game Design Document  
Creation of the Technical Design Document  
Creation of the Project Development Document  
Method to introduce your product to investors  
Creation and presentation techniques of the Pitch | Theory classes: 8h  
Self study: 12h |

## Coding the Vertical Slice

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<tr>
<th>Description:</th>
<th>Learning time: 45h</th>
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| Internal structure of the videogame.  
Path finding using Dijkstra.  
Using the A* algorithm for better pathfinding.  
Dynamic obstacles during navigation.  
Searching entities in an area.  
System to accumulate modifier on entities.  
System to development of Skill Trees. | Theory classes: 18h  
Self study: 27h |
The individual personal research project will weight 25%.

Exercises
- Exercise 1 with a weight of 5% of the final grade: Introducing your micro studio.
- Exercise 2 with a weight of 5% of the final grade: Pitch Presentation.
- Exercise 3 with a weight of 15% of the final grade: Videogame Vertical Slice (prototype).
- Exercise 4 with a weight of 20% of the final grade: Videogame Alpha.

Final Exercise
- Exercise with a weight of 30% of the final grade: Fully functional videogame with all the documentation recording the evolution of the product.

Qualification system

The individual personal research project will weight 25%

Exercises
- Exercise 1 with a weight of 5% of the final grade: Introducing your micro studio.
- Exercise 2 with a weight of 5% of the final grade: Pitch Presentation.
- Exercise 3 with a weight of 15% of the final grade: Videogame Vertical Slice (prototype).
- Exercise 4 with a weight of 20% of the final grade: Videogame Alpha.

Final Exercise
- Exercise with a weight of 30% of the final grade: Fully functional videogame with all the documentation recording the evolution of the product.

Regulations for carrying out activities

All exercises will be presented in class. The content will be important as it will be the presentation skills of the group.
**Bibliography**

**Basic:**


**Complementary:**