

## 804139 - DDN - Level Design

Coordinating unit:	804 - CITM - Image Processing and Multimedia Technology Centre		
Teaching unit:	804 - CITM - Image Processing and Multimedia Technology Centre		
Academic year:	2019		
Degree:	BACHELOR'S DEGREE IN VIDEO GAME DESIGN AND DEVELOPMENT (Syllabus 2014). (Teaching unit Optional) BACHELOR'S DEGREE IN VIDEO GAME DESIGN AND DEVELOPMENT (Syllabus 2014). (Teaching unit Optional)		
ECTS credits:	6	Teaching languages:	Catalan, Spanish, English

### Teaching staff

Coordinator: Pons López, Juan Jose

### Degree competences to which the subject contributes

#### Specific:

CEVJ 1. (ENG) Dissenyar les mecàniques, les regles, l'estructura, el guió i el concepte artístic d'un videojoc, maximitzant la immersió i els criteris de jugabilitat i balanceig per oferir la millor experiència d'usuari possible.

#### General:

CGFC6VJ. (ENG) Analizar, diseñar, construir y mantener aplicaciones tipo videojuego de forma robusta, segura y eficiente, eligiendo el paradigma y los lenguajes de programación más adecuados.

#### Transversal:

CT1a. ENTREPRENEURSHIP AND INNOVATION: Being aware of and understanding how companies are organised and the principles that govern their activity, and being able to understand employment regulations and the relationships between planning, industrial and commercial strategies, quality and profit.

CT2. SUSTAINABILITY AND SOCIAL COMMITMENT: Being aware of and understanding the complexity of the economic and social phenomena typical of a welfare society, and being able to relate social welfare to globalisation and sustainability and to use technique, technology, economics and sustainability in a balanced and compatible manner.

CT4. EFFECTIVE USE OF INFORMATION RESOURCES: Managing the acquisition, structuring, analysis and display of data and information in the chosen area of specialisation and critically assessing the results obtained.

07 AAT N3. SELF-DIRECTED LEARNING - Level 3. Applying the knowledge gained in completing a task according to its relevance and importance. Deciding how to carry out a task, the amount of time to be devoted to it and the most suitable information sources.

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.

### Teaching methodology

Class sessions are divided into two areas of activity:

1. Descriptive part, in which the professor explains new contents, describes work materials, and solves doubts of the students.
2. Participatory part, in which the students work, explain and comment on the exercises proposed
3. Class gamation mechanics. Evaluation among students, kahoot, etc.

### Learning objectives of the subject

- Learn the basics of the design of levels based on the objective of the public, the genre of play, the mechanics, the



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metaphor (theme) and user experience

- Learn the elements necessary to evaluate a game or prototype, finding its weak points and strengths, analyzing Each game or phase in three segments, early game, middle game and end game. Learning to identify what elements are important in each phase.
- Learn the latest techniques for creating levels, procedural, manual, based on architecture, the design of theme parks, etc ...

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### Content

<p>Level Design I</p>	<p>Learning time: 37h 30m Practical classes: 15h Self study : 22h 30m</p>
<p>Description:</p> <p>Introduction to the course</p> <ol style="list-style-type: none"> <li>1. Syllabus</li> <li>2. Evaluation system</li> <li>3. Review of the main sources and resources</li> </ol> <p>Preproduction blueprint</p> <ol style="list-style-type: none"> <li>1. References: Location, subject and environment</li> <li>2. Mockup, constraints and bubble diagram</li> <li>3. Case analysis</li> </ol> <p>Professional playtesting: physical prototypes</p> <ol style="list-style-type: none"> <li>1. Professional playtesting methodology</li> <li>2. Playtesting report</li> <li>3. Proposal for improvement and conclusions</li> </ol> <p>Related activities:</p> <p>Desarrollo de niveles I: RPGMaker</p> <ol style="list-style-type: none"> <li>1. Introducción a los juegos de rol P &amp; P</li> <li>2. Documentación y funcionamiento básico de la herramienta</li> <li>3. Portabilidad de un módulo de de un juego de rol en un escenario RPGMaker (one page dungeon)</li> </ol>	
<p>Level Design II</p>	<p>Learning time: 37h 30m Practical classes: 15h Self study : 22h 30m</p>
<p>Description:</p> <p>Level design minute by minute</p> <ol style="list-style-type: none"> <li>1. Top-down versus bottom-up approaches</li> <li>2. Script, storyboard and storytelling</li> <li>3. Level Flowchart</li> </ol> <p>Applied digital playtesting methodologies</p> <ol style="list-style-type: none"> <li>1. Methods of Q.A. (Functionality testing, Compatibility testing)</li> <li>2. Identification. Reporting. Analysis. Verification.</li> <li>3. Mobile Test automatization frameworks</li> </ol> <p>Related activities:</p> <p>Development of levels II: Analysis of level editors</p> <ol style="list-style-type: none"> <li>1. Selection of an editor from the list</li> <li>2. Search for levels and proposal of blueprint</li> <li>3. Level development</li> </ol>	

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<p>Level Design III</p>	<p>Learning time: 37h 30m Practical classes: 15h Self study : 22h 30m</p>
<p>Description:</p> <p>Schools and Approaches</p> <ol style="list-style-type: none"> <li>1. Design based on architecture and theme parks</li> <li>2. Procedural generation</li> <li>3. Manual generation</li> </ol> <p>Professional Playtesting III: Checklist and frameworks</p> <ol style="list-style-type: none"> <li>1. TRC, XR, Lotcheck, Lotcheck</li> <li>2. Playtest friendly code</li> <li>3. Automated tests and continuous integration: Extreme programming</li> </ol> <p>Related activities:</p> <p>Level III development: Unreal Engine</p> <ol style="list-style-type: none"> <li>1. Basic notions of the editor: Blueprints vs. C</li> <li>2. Search for levels and design blueprint proposal</li> <li>3. Level development</li> </ol>	
<p>Level Design IV</p>	<p>Learning time: 37h 30m Practical classes: 15h Self study : 22h 30m</p>
<p>Description:</p> <p>Level design second to second</p> <ol style="list-style-type: none"> <li>1. Objectives, obstacles and programmed events</li> <li>2. Rewarding and monetization of micropayments</li> <li>3. Documentation and level GDD (LDD)</li> </ol> <p>Playtesting professional IV: Objectives and analysis</p> <ol style="list-style-type: none"> <li>1. Playtesting of functionalities</li> <li>2. Analysis of blind reactions and playtesting</li> <li>3. Target, difficulty, duration and fun</li> </ol> <p>Worldbuilding</p> <ol style="list-style-type: none"> <li>1. Level Up and difficulty increase</li> <li>2. Target oriented design (target)</li> <li>3. Design oriented to the game experience (Feeling)</li> </ol> <p>Related activities:</p> <p>Development of levels IV: Unreal engine II</p> <ol style="list-style-type: none"> <li>1. Search levels</li> <li>2. Design blueprint proposal</li> <li>3. Level development</li> </ol>	

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### Planning of activities

Guided activity I	Hours: 5h Laboratory classes: 1h Self study: 4h
Description: 1. Elevator pitch 2. Showroom of projects 3. Project analysis and popular leaderboard	
Guided activity II	Hours: 5h Laboratory classes: 1h Self study: 4h
Description: 1. Playtesting of 2 projects 2. Internal critical comparison 3. Critical reference comparison	

### Qualification system

#### Exercices (30%):

The first 3 blocks will end with the design of a level, these 3 levels will be assessed among the students to ponder the final grade of the subject with 10% each exercise.

#### Final project (60%):

The last block will also end with a level design, this must be presented at the presentation fair that will be held on the penultimate day of class and will be evaluated by the students and the teacher.

#### Participation and attitude of learning (10%):

The evaluation of the student's participation in the training activities of the subject, and the attitude of learning, will be evaluated by monitoring their class interventions and the proportion of exercises and practices presented . This evaluation corresponds to 10% of the final grade.

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### Regulations for carrying out activities

The practice exercises begin during the class hours in the band assigned to this and are completed outside the class schedule hours following the instructions given in the corresponding Practice Sheet document and the indications that to such effect have been given in the part of the corresponding class.

The resolution of the practical exercises will be delivered using the virtual campus with the delivery space enabled for each practice, following the instructions described in the corresponding Practice Sheet document, in the indicated periods. At the end of the practice, the files that are required will be delivered. The correct management of the documentation provided is an aspect related to the competencies to acquire and is, therefore, an object of evaluation.

The evaluation of the practices does not only involve the resolution of the exercises proposed, but also the defense of the results when the student is required to do so at the beginning of the classes.

Any incident that does not allow to solve the practice within the indicated period will be communicated to the corresponding professor by means of a message by the Virtual Campus; After this communication, the relevance or not of any cause that motivates the non-presentation of the exercise will be resolved and the alternatives will be established to complete the evaluation if the causes are justified. The reasons for non-presentation of exercises that are communicated to the faculty by the Head of Studies will also be considered justified.

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### Bibliography

#### Basic:

Schell, Jesse. The art of game design: a book of lenses [on line]. Amsterdam: Morgan Kaufmann, 2008 [Consultation: 09/04/2019]. Available on: <<https://www.sciencedirect.com/science/book/9780123694966>>. ISBN 9780123694966.

Tekinbas, K.S.; Zimmerman, E. Rules of play: game design fundamentals. Cambridge: The MIT Press, 2004. ISBN 978026224045.

Koster, R.. A theory of fun for game design. O'Reilly, 2013.

Bartle, Richard A. Designing virtual worlds. Indianapolis: New Riders, 2004. ISBN 9780131018167.

Trullenque Viudas, R. Game design & development (GDD) [on line]. 2013 [Consultation: 09/04/2019]. Available on: <<http://hdl.handle.net/2099.1/20515>>.

Fullerton, T. Game design workshop: a playcentric approach to creating innovative games. Amsterdam: Elsevier Morgan Kaufmann, 2008. ISBN 9780240809748.

Bjork, Staffan; Holopainen, Jussi. Patterns in game design. Hingham: Charles River Media, cop. 2005. ISBN 1584503548.

Rouse, Richard. Game design: theory & practice. Plano, Texas: Wordware, 2005. ISBN 1556229127.

Meigs, T. Ultimate game design: building game worlds. New York: McGraw-Hill/Osborne, 2003. ISBN 0072228997.

#### Complementary:

Short, Tanya X and Adams, Tarn. Procedural Generation in Game Design. 2017.

Fernández-Vara, Clara. Introduction to Game Analysis. Taylor and Francis, 2014.

Co, Phil. Level Design for Game Creating Compelling Game Experience. New Riders Games, 2006.

Montola, M. and Jaakko, S.. Playground Worlds. Creating and Evaluating Experiences of Role-Playing Games. Ropecon ry, 2008.

Torner, E., White, W.J. and Waggoner, Z.. Immersive Gameplay: Essays on Participatory Media Role-Playing. McFarland and amp., 2012.

Byrne, Ed. Game Level Design. Charles River Media, 2005.

Lecky Thompson, Guy W.. Infinite Game Universe. Level Design, Terrain and Sound. Charles River Media, 2002.

Gibbons, Andrew S.. An Architectural Approach to Instructional Design. 2013.

Clayton, A.. Introduction to Level Design por PC Games. Charles River Media, 2003.

Kremers, Rudolf. Level Design: Concept, Theory and Practice. A. K. Peters, 2009.

Totten, CW.. Level Design: Processes and Experiences. 2017.

Zagal, J. P., Fernández-Vara, C. and Mateas, M.. Rounds, levels and waves: The early evolution of gameplay segmentation. Games and Culture, 3(2), 175-198 [on line]. 2008 Available on: <<https://doi.org/10.1177/1555412008314129>>.

#### Others resources:

<http://www.gamasutra.com/category/design/>

<http://www.worldofleveldesign.com/gettingstarted>

<https://www.reddit.com/r/gamedesign/>

<http://trenchescomic.com/tales>