

Course guide

804139 - DDN - Level Design

Last modified: 09/02/2024

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

Degree: BACHELOR'S DEGREE IN VIDEO GAME DESIGN AND DEVELOPMENT (Syllabus 2014). (Optional subject).

Academic year: 2023 **ECTS Credits:** 6.0 **Languages:** English

LECTURER

Coordinating lecturer: Barroso, Fernando
Pastor, Alvaro

Others:

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:

CEVJ 1. Design the mechanics, rules, structure, script and artistic concept of a video game, maximising immersion and criteria of playability and balance to provide the best possible user experience.

Generical:

CGFC6VJ. Analyse, design, build and maintain video game applications robustly, securely and efficiently, choosing the most appropriate paradigm and programming languages.

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



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 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 ...

CONTENTS

Level Design I

Description:

Introduction to the course

1. Syllabus
2. Evaluation system
3. Review of the main sources and resources

Definition of Level Design and Level Designers

1. The figure of the Level Designer
2. Production of one level
3. Social skills: Tools for teamwork

Level Design Theory

1. Fundamentals for creating levels
2. Abstract Level Design. High-level and Mid-level design. Design based on POA's.
3. The Big Picture: the video game as a progression of levels

Related activities:

Development of 2D Levels I

1. Introduction to level design in puzzle games
2. Documentation and basic operation of the game editor
3. Development of a level in the game editor

Full-or-part-time: 37h 30m

Practical classes: 15h

Self study : 22h 30m



Level Design II

Description:

Preproduction

1. Basics of documentation
2. Research, references and worldbuilding
3. From plan to reality. Constraints, objectives and context.

Layout

1. Introduction to level layouts
2. Flow and pacing
3. Preparing the level structure

Related activities:

2D Level Development II: Platforms

1. Introduction to level design in platform games
2. Documentation and basic operation of the game editor
3. Level development

Full-or-part-time: 37h 30m

Practical classes: 15h

Self study : 22h 30m

Level Design III

Description:

Blockouts

1. High level: Composition and landscapes
2. Prototyping, metrics and level geometry.
3. Navigation: readability and distinction. Guide the player
4. Integration of combat in the level design.

After blockout and final finishes

1. Swing
2. Improving the game experience (enhance game experience)
3. Introduction to working with environment art and lightning

Related activities:

Level III Development: Mini Open World

1. Introduction to level design in open world games
2. Documentation and basic operation of Unreal Engine
3. Level development

Full-or-part-time: 37h 30m

Practical classes: 15h

Self study : 22h 30m



Level Design IV

Description:

Technical aspects

1. Scripting
2. Work with tools and ingredients from other departments
3. Optimization and bugfixing

Professional careers

1. Entry routes
2. Cover Letters, CV and Portfolio
3. Level Design Tests and interviews

Related activities:

Development of levels IV: Action/adventure level in Unreal engine

1. Pre-production
2. Level development
3. Playtesting and feedback implementation

Full-or-part-time: 37h 30m

Practical classes: 15h

Self study : 22h 30m

ACTIVITIES

Guided activity I

Description:

1. Elevator pitch
2. Showroom of projects

Full-or-part-time: 5h

Laboratory classes: 1h

Self study: 4h

Guided activity II

Description:

1. Playtesting of 2 projects
2. Internal critical comparison
3. Critical reference comparison

Full-or-part-time: 5h

Laboratory classes: 1h

Self study: 4h

GRADING SYSTEM

1. First assignment: 2 Levels made from level editors. 20% of the final grade
2. Second assignment: Mini open world practice (by groups) and multiplayer level analysis. 20% of the final grade
3. Partial exam: 20% of the final grade
4. Third and final assignment: Action/adventure level made with Unreal Engine. 30% of the final grade (by groups)
5. The evaluation of the student's participation in the training activities of the subject and the learning attitude will be evaluated by monitoring their interventions, voluntary presentations and optional tasks. 10% of the final grade.

EXAMINATION RULES.

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.

BIBLIOGRAPHY

Basic:

- Bjork, Staffan; Holopainen, Jussi. Patterns in game design. Hingham: Charles River Media, cop. 2005. ISBN 1584503548.
- Bartle, Richard A. Designing virtual worlds. Indianapolis: New Riders, 2004. ISBN 9780131018167.
- Koster, R.. A theory of fun for game design. O'Reilly, 2013.
- Meigs, T. Ultimate game design: building game worlds. New York: McGraw-Hill/Osborne, 2003. ISBN 0072228997.
- Schell, Jesse. The art of game design: a book of lenses [on line]. Amsterdam: Morgan Kaufmann, 2008 [Consultation: 06/05/2022]. Available on: <https://www-sciencedirect-com.recursos.biblioteca.upc.edu/book/9780123694966/the-art-of-game-design>. ISBN 9780123694966.
- Trullenque Viudas, R. Game design & development (GDD) [on line]. Barcelona: Universitat Politècnica de Catalunya, 2013 [Consultation: 12/04/2022]. 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.
- Rouse, Richard. Game design: theory & practice. Plano, Texas: Wordware, 2005. ISBN 1556229127.
- Tekinbas, K.S.; Zimmerman, E. Rules of play: game design fundamentals. Cambridge: The MIT Press, 2004. ISBN 978026224045.

Complementary:

- Clayton, A.. Introduction to Level Design por PC Games. Charles River Media, 2003.
- 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.
- 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>.
- Kremers, Rudolf. Level Design: Concept, Theory and Practice. A. K. Peters, 2009.
- Lecky Thompson, Guy W.. Infinite Game Universe. Level Design, Terrain and Sound. Charles River Media, 2002.
- 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.
- Gibbons, Andrew S.. An Architectural Approach to Instructional Design. 2013.

RESOURCES

Other resources:

<http://www.gamasutra.com/category/design/> /> <http://www.worldofleveldesign.com/gettingstarted>
<https://www.reddit.com/r/gamesdesign/> /> <http://trenchescomic.com/tales>