

Course Unit	Elective 3 - Level design & game balancing	Field of study	Arts/Game Design/Computing/Social and Business Sciences		
Master in	Digital Game Design and Development	School	School of Public Management, Communication and Tourism		
Academic Year	2023/2024	Year of study	1	Level	2-1
Type	Semestral	Semester	2	ECTS credits	6.0
Workload (hours)	162	Contact hours	T -	TP 30	PL -
			TC -	S -	E -
			OT -	O -	
<small>T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other</small>					

Name(s) of lecturer(s) Barbara Costa Vilas Boas Barroso, Rogerio Paulo Azevedo Moreira Silva Gomes

### Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:

1. Identify and reflect critically on level design elements (gameplay, narrative, art, technology, player experience) and genre archetypes;
2. Understand how level design has evolved and contributes to a player's experience;
3. Explore theory of games, shape composition, environment architecture, and player psychology to iterate on level setups from the initial planning phases to playable prototypes;
4. Recognize and follow common milestones in the level design process, as well as know key roles involved;
5. Effectively use the iterative cycle for game balancing;
6. Craft player immersion and create level progressions that support narrative and character development;
7. Understand the dialectic balance/progression in PvE games vs. PvP games.

### Prerequisites

Not applicable

### Course contents

Introduction to Level Design; Player motivation and investment; Introduction to Game Balancing; Critical vocabulary; Impacts; Strategies; Case studies and application.

### Course contents (extended version)

1. Introduction to Level Design
  - Fundamental Concepts
  - Components
  - Activities
  - Processes
  - Evolution of level design
  - Genre implications
2. Player motivation and investment
  - Exploration design and guidance
  - Emotive design and progression
  - Narrative, conflict and combat
  - Narrative based level design vs. non-narrative based
3. Introduction to Game Balancing
  - Difficulty
  - Progression
  - Initial Conditions
  - Among multiple strategies
  - Between game objects
  - For fairness
4. Critical vocabulary
  - Possibility space
  - Curves
  - Solvability
  - Metagame balance
  - Systems
  - Interactions between systems
5. Impacts
  - Player vs. Player
  - Player vs. Environment
  - Gameplay vs. Gameplay
  - Level Design challenge
6. Strategies
  - Designer experience
  - Small-scale playtesting
  - Analytics
  - Heuristics
  - Balance between types of balance
7. Case studies and application

### Recommended reading

1. Gazaway, D. (2021). Introduction to Game Systems Design (Game Design). 1st Edition. Pearson. ISBN: 978-0137440849.
2. Salmond, M. (2021). Video Game Level Design: How to Create Video Games with Emotion, Interaction, and Engagement. Bloomsbury Academic. ISBN: 978-1350015722
3. Schreiber, I. & Romero, B. (2021). Game Balance. 1st Edition. CRC Press. ISBN: 978-1498799577.
4. Sylvester, T. (2013). Designing Games: A Guide to Engineering Experiences. O'Reilly Media.
5. Totten, C. (2021). An Architectural Approach to Level Design: Second Edition. 2nd Edition. CRC Press. ISBN: 978-0815361367

### Teaching and learning methods

The work sessions are based on the teaching and application of techniques and methodologies for: a) level design; b) game balancing, encouraging the related interpretation of these approaches. The following are involved: Active method, for solving exercises and developing work, in order to allow consolidation of knowledge; combined with Micro-exposition of content and Interrogative method.

**Assessment methods**

- FINAL EVALUATION - (Regular, Student Worker) (Final, Supplementary, Special)
- Practical Work - 50% (includes case study and redesign)
- Practical Work - 50% (comprises components aimed at the integrated project)

**Language of instruction**

1. Portuguese
2. English

**Electronic validation**

Barbara Costa Vilas Boas Barroso, Rogerio Paulo Azevedo Moreira Silva Gomes	João Paulo Pereira de Sousa	Carlos Sousa Casimiro da Costa	Luisa Margarida Barata Lopes
29-02-2024	19-03-2024	05-05-2024	08-05-2024