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Course Unit	Environments and Level Design		Field of study	Visual Arts/Game Design
Bachelor in	Game Design		School	School of Public Management, Communication and Tourism

Academic Year	2023/2024	Year of study	2	Level	1-2	ECTS credits 6.0
Type	Semestral	Semester	1	Code	8309-801-2101-00-23	

Workload (hours)	162	Contact hours	T	-	TP	30	PL	30	TC	-	S	-	E	-	OT	-	O	-

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s)	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. Understand fundamental concepts of history and theory of architecture and produce in response to them;
2. Demonstrate skills in 3D software manipulation and scenario / architecture modeling;
3. Understand and employ a design methodology for the design of levels with built-up three-dimensional environments;
4. Demonstrate creative skills in the execution of environments with architecture for digital games - Concept Art and 3D;
5. Demonstrate critical thinking and analysis skills on virtual worlds present in digital games;
6. Acquire teamwork skills in the production of content applied to a level environment.

Prerequisites

Before the course unit the learner is expected to be able to:
Mastery of the basics and introductory Blender 3D.

Course contents

Introduction to the history and theory of architecture: fundamental elements of architecture; brief view of architectural styles; urban models and urban utopias. Project methodology for level design. Specific development of 3D architecture and world modelling in Blender.

Course contents (extended version)

1. Introduction to the history and theory of architecture:
   - Fundamental elements of architecture.
2. Brief view of architectural styles:
   - Egiptian architecture;
   - Greek architecture;
   - Roman architecture;
   - Medieval architecture (Romanic and Gothic);
   - Renassaince architecture;
   - Baroque architecture;
   - Neoclassical and Romantic architecture;
   - Modern architecture;
   - Post-modern architecture;
   - A few elements of non-western architecture.
3. Urban models (organic, classical, garden, modern).
4. Urban utopias.
5. Project methodology for level design:
   - References and concept art;
   - Topographical map;
   - Functions of architecture in the scenario (obstacle, restriction, concealment, exploration);
   - Interconnection between gameplay tension and dramatic tension;
   - Models and iterative implementation.
6. Specific development of 3D architecture and world modelling in Blender;
   - Conceptualizing;
   - Modelling;
   - Materials and lighting;
   - Textures.

Recommended reading

1. Felinto, D. & Pan, M. (2013). Game Development with Blender. Boston, MA: Cengage Learning. [ISBN: 1435456637]
2. Pardew, Les (2005) Beginning Illustration and Storyboarding for Games: Thomson Course Technology. [ISBN: 1592004954]
3. Roth, L. M. (2000). Entender la Arquitectura: Sus Elementos, Historia y Significado. Barcelona: Gustavo Gili. [ISBN: 8425217008]
4. Borries, F. von, Walz, S. P. , & Böttger, M. (2007). Space Time Play: Computer Games, Architecture and Urbanism: The Next Level. London: Springer Science & Business Media. [ISBN: 9783764384142]
5. Totten C. W. (2019). Architectural Approach to Level Design. : Boca Raton, CRC Press. [ISBN: 9781351116282]

Teaching and learning methods

- Content exposition, with the aid of different architectural examples. - Questioning, in order to develop critical skills. - Active method, when the student solves exercises and completes assignments.

Assessment methods

- FINAL EVALUATION (internal and mobility) - (Regular, Student Worker) (Final, Supplementary, Special)
   - Case Studies - 10% ([individual] Technical charts of architectural elements' recognition in digital games.)
   - Development Topics - 30% ([group] Analisys of a game relating it to an architectural style.)
   - Projects - 50% ([group] Level design, concept and 3D development of a creative set (capstone project between UCs).)
   - Development Topics - 10% ([group] Project developed within the scope of the Interdisciplinary Week.)

Language of instruction

Portuguese, with additional English support for foreign students.

Electronic validation

Rogerio Paulo Azevedo Moreira Silva Gomes	Barbara Costa Vilas Boas Barroso	Carlos Sousa Casimiro da Costa	Luisa Margarida Barata Lopes
09-11-2023	13-11-2023	07-02-2024	14-02-2024

This document is valid only if stamped in all pages.

Language of instruction

Portuguese, with additional English support for foreign students.

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