ACADEMIC PROGRAM

ANIMATION FOR VIDEOGAMES

B.F.A. IN **INTERACTIVE PRODUCT DESIGN**

MODALITY: ON CAMPUS

ACADEMIC YEAR: 2023-2024

Name of the course:	Animation for videogames
Degree :	Interactive Product Design
Location:	Centro Universitario de Tecnología y Arte Digital
Modulo:	Ideation and Concept Design
Area:	Audiovisual Production and Development
Year:	3º
Teaching period:	1º
Type:	OB
ECTS credits:	6
Teaching modality:	On campus
Language:	English
Lecturer / Email	Alejandro Batuecas Largo/alejandro.batuecas@u-tad.com
Web page:	http://www.u-tad.com/

SUBJECT DESCRIPTION

Area description

This subject belongs to the module of Conceptual Design and Ideation and, within this, to the area of Audiovisual Production and Development.

This area refers to the study and practice of the set of fundamental artistic techniques of creation and their application to the digital environment, such as video games. In it, the student obtains diverse skills related to art, and acquires the necessary knowledge of digital tools that will allow them to use them.

Subject description

In Animation for video games, you will acquire the basic skills necessary for the creation of graphic content and animation for application in the prototypes and video games created in all the game design subjects of the degree, especially in the Game Design subject.

In Animation for Video Games, you will acquire knowledge of various techniques for creating graphics, as well as learning various specific tools for their creation.

Moreover, knowledge of the principles of traditional animation is not only essential for the creation of animated content, but also complements the design of video games, and will also allow the student to learn the language of animators, something very necessary in the professional field, where the design decisions of a game directly affect the animations of the characters and other elements.

COMPETENCIES AND LEARNING OUTCOMES

Competencies

BASIC AND GENERAL

GC12 - Express a critical and self-critical sense and the ability to analyse in order to evaluate different alternatives.

GC1 - Lifelong learning through self-study and continuous training.

GC2 - Knowing how to adapt to change and new situations with flexibility and versatility.

GC3 - Develop creativity and innovation and have the ability to present new resources, ideas and methods in order to subsequently turn them into actions.

GC5 - Demonstrate initiative and entrepreneurial spirit.

GC6 - Demonstrate motivation for quality.

CB1 - That students have demonstrated possession and understanding of knowledge in an area of study that builds on the foundation of general secondary education, and is usually at a level that, while relying on advanced textbooks, also includes some aspects that involve knowledge from the cutting edge of their field of study.

CB2 - Students are able to apply their knowledge to their work or vocation in a professional manner and possess the competences usually demonstrated through the development and defence of arguments and problem solving within their field of study.

CB3 - Students have the ability to gather and interpret relevant data (usually within their field of study) in order to make judgements that include reflection on relevant social, scientific or ethical issues.

CB4 - Students are able to communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.

CB5 - That students have developed those learning skills necessary to undertake further study with a high degree of autonomy.

SPECIFIC

SC5 - Understand the influence of sociology, philosophy and psychology in their correlation with the history of art, literature and games as a reference in the creative process.

SC8 - Evaluate the ethical, technical and creative implications of technology in the design of interactive products.

SC9 - Understand the principles of audiovisual narrative to develop discourses and stories applicable to interactive products.

SC10 - Knowing the techniques of artistic representation and design of 2D and 3D content.

SC11 - Apply creativity in the digital content environment.

SC14 - Apply the fundamentals of narrative to the development of interactive products.

SC15 - Analysing the characteristics and needs of users in the humanistic environment as a fundamental element in the design of interactive products.

SC17 - Apply the fundamentals of animation on computer-generated models.

SC18 - Apply theoretical and practical knowledge of product design for content development.

Learning outcomes

Transforming a concept or message into a graphic representation

Experiment with different drawing techniques

Use visual language knowledge to build basic designs

Transferring knowledge of the psychological and perceptual effects of light, colour, music and sound to game design

Use symbolism and iconography to convey information

Create coherent visual worlds

Identify the most appropriate geometry representation method for each type of shape or space

Differentiate and categorize the different processes that take place in the generation of graphs within the graphical pipeline model.

Develop insight into bi-dimensional and three-dimensional geometry.

CONTENTS

- Principles of Art and Theory of Artistic Composition
- Application of the principles of art and composition in the design of games and applications.
- Process and development of animations in videogames

SUBJECT SYLLABUS

1. Introduction to 3D basic animation: Tools for animation
    - The 12 Principles of Animation
    - Introduction to Autodesk Maya
    - Principles applied to video games
    - Pipeline in 3D animation
    - Parent constrains

- Motion Paths
- Cameras
- Basic rigging

2. Character animation

- Basic rigging II
- Introduction to body mechanics
- Human locomotion
- Animation of characters for video games
- Advanced body mechanics
- Maya-Unreal Pipeline

TRAINING ACTIVITIES AND TEACHING METHODOLOGIES

TRAINING ACTIVITIES

LEARNING ACTIVITIES	Total hours	Hours of presence
Theoretical classes	30,00	30,00
Seminars and workshops	3,33	3,33
Practical classes	20,67	20,67
Tutorials	4,00	4,00
Evaluation Activities	6,00	6,00
Group work and study	17,67	0,88
Autonomous and individual study and work	68,33	0,00
TOTAL	150	65

Teaching methodologies

Expository method/Master lecture

Case studies

Exercise and problem solving

Problem-based learning

Cooperative learning

TEMPORAL DEVELOPMENT

1. Introduction to 3D basic animation: Tools for animation: 7 weeks
2. Character animation: 8 weeks

EVALUATION SYSTEM

ASSESSMENT SYSTEM	MINIMUM SCORE RESPECT TO THE FINAL ASSESSMENT (%)	MAXIMUM SCORE RESPECT TO THE FINAL ASSESSMENT (%)
Assessment of participation in class, exercises or projects of the course	10	30
Assessment of assignments, projects, reports, memos	35	70
Objective test	30	60

GRADING CRITERIA

ASSESSMENT SYSTEM	ORDINARY EVALUATION	EXTRAORDINARY EVALUATION
Assessment of participation in class, exercises or projects of the course	20	20
Assessment of assignments, projects, reports, memos	35	35
Objective test	45	45

General comments on the evaluations/assessments

- The final mark will be between 0 and 10, being 5 the minimum mark to pass the course.
- Handing in on time is essential, late submissions will be penalised with 50% of the mark. Deliveries after the due date will not be accepted.

- The marks of the parts passed will be maintained in the extraordinary call.
- The evaluation percentages of the Ordinary call will be maintained in the Extraordinary call.
- Smartwatches and mobile phones are not allowed to be used during the exams. These devices must be put away and out of the student's sight during the exam. The use of mobile phones is not permitted during lessons.
- Any detection of plagiarism, copying or the use of bad practices (such as the use of AIs) in a paper or exam will result in the failure of the paper with a zero, a report to the faculty and academic coordinator and the application of the current regulations, which can lead to very serious penalties for the student.

LIST OF REFERENCES (BOOKS, PUBLICATIONS, WEBSITES):

Key referencies

WILLIAMS, Richard. The Animator's Survival Kit. Farrar, Straus and Giroux, 2012. COOPER, Jonathan. Game Anim: Video Game Animation Explained. A K Peters/CRC Press; 2019.

Recommended references

LUHTA, Eric, Roy,Keeny. How to cheat in Maya 2013. Taylor & Francis Group

REQUIRED MATERIALS, SOFTWARE AND TOOLS

Type of classroom
Projection equipment and whiteboard

Materials:
Laptop computer

Software:
Autodesk Maya