Information about the subject

Degree: Degree in Design and Narration in Animation and Video games

Faculty: Faculty of Legal, Economic and Social Sciences

Code: 2051216 **Name:** 3D Animation

Credits: 6,00 **ECTS Year:** 2 **Semester:** 2

Module: 3D MODELLING AND ANIMATION

Subject Matter: THREE-DIMENSIONAL ANIMATION **Type:** Compulsory

Department: Multimedia and Digital Arts

Type of learning: Classroom-based learning

Languages in which it is taught: Spanish

Lecturer/-s:

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Module organization

3D MODELLING AND ANIMATION

Subject Matter	ECTS	Subject	ECTS	Year/semester
THREE-DIMENSIONAL MODELLING	24,00	3D Digital sculpture and character modelling I	6,00	3/1
		3D Digital sculpture and character modelling II	6,00	3/1
		3D modelling and representation I	6,00	1/1
		3D modelling and representation II	6,00	2/1
THREE-DIMENSIONAL ANIMATION	18,00	3D Animation	6,00	2/2
		3D Character Animation I	6,00	2/2
		3D Character Animation II	6,00	3/1

Recommended knowledge

This subject aims to provide students with a solid understanding of the fundamental principles and techniques of three-dimensional animation. Throughout this course, we will explore the theoretical bases of 3D animation, along with Autodesk Maya tools and software. Students will have the opportunity to apply this knowledge in hands-on projects that will foster the development of essential skills in visual storytelling and animated content creation.

Although it is not mandatory, the following knowledge is recommended: **- Basic Principles of Graphic Design and Art:** Having a solid understanding of the fundamentals of graphic design and artistic techniques will help you create attractive and effective visual animations. This includes concepts such as composition, color, shape and proportion. **- Visual Storytelling Concepts:** 3D animation is often used to tell stories. Knowing the principles of visual storytelling, such as plot structure, characterization, and character development, will allow you to create more impactful and meaningful animations. **- Have passed the subject Modeling and 3D rendering I and II.** Although it is not mandatory, it is highly recommended to start with a basic knowledge and graphic assimilation of 3D software.

We hope this guide is a useful tool for your 3D animation journey, and that it inspires you to explore the intersection between art and technology in creating virtual worlds.

Prerequisites

In order to take the subject Animation in 3D, it is essential to have passed the subjects Modelling and Representation in 3D I and Modelling and Representation in 3D II.
3D II

- In order to take the subject Character Animation I it is essential to have passed the subjects 3D Animation and Character Modelling and Digital Sculpting I.
I

- In order to take the subject Character Animation II, it is essential to have passed the subject Character Animation I.

Learning outcomes

At the end of the course, the student must be able to prove that he/she has acquired the following learning outcomes:

R1   To produce a work in which original ideas and proposals for three-dimensional animation with inorganic objects are expressed.

R2   To develop three-dimensional animations, in a cooperative way, with inorganic objects.

R3   To apply new trends in three-dimensional animation in the projects developed in the subject.

R4   To use the specific vocabulary of three-dimensional animation.

R5   To create three-dimensional animations of inorganic objects, using basic techniques (keyframes, parameters, deformers, camera, etc.).

R6   To make three-dimensional animation videos, adjusting the export parameters (size, FPS speed, resolution, global illumination, quality, etc.).

R7   To prepare animated inorganic models, to be included in the development of videogames.

R8   To carry out a work in which original ideas and proposals for three-dimensional animations with organic objects are expressed.

R9   To apply new trends in the animation of three-dimensional organic objects.

R10   To use the specific vocabulary acquired in the subject.

Competencies

Depending on the learning outcomes, the competencies to which the subject contributes are (please score from 1 to 4, being 4 the highest score):

BASIC		Weighting			
		1	2	3	4
B2	Students to apply their knowledge to their job or vocation in a professional manner and to possess competences that are usually shown through the elaboration and defence of arguments and problem-solving within their area of study.				x
B5	Studens to have developed those learning skills needed to undertake subsequent studies highly autonomously.				x

GENERAL		Weighting			
		1	2	3	4
G1	To develop original and innovative ideas and proposals in the area of design and narrative of animation and videogames in the required work in a project, combining conceptual and technical aspects.				x
G2	To collaborate in teams that adopt interdisciplinary roles in the elaboration of animation and videogames projects.				x
G3	To identify new trends in the field of animation and videogames and to incorporate them in their work.				x
G5	To use a specific and inclusive vocabulary in the area of expertise of the degree.				x

SPECIFIC		Weighting			
		1	2	3	4
E12	To develop (to sculp, texturize, light up, render and/or animate) organic components of the 3D scene.	x			
E13	To develop (to sculp, texturize, light up, render and/or animate) inorganic components of the 3D scene.				x

E19	To prepare resources analytically in two and three dimensions susceptible to be included in projects of animation and videogames.			**X**

Assessment system for the acquisition of competencies and grading system

Assessed learning outcomes	Granted percentage	Assessment method
	10,00%	Written tests
	90,00%	Elaboration of projects

Observations

- It will be mandatory to obtain a passing grade (5) in the written exam for the rest of the exams to be valid during the first exam sessions.
- In case of losing the right to continuous assessment, either due to lack of attendance or failing the theoretical exam, the student will need to, during the second exam sessions, take a new theoretical exam and submit new assignments and projects.
- Unauthorized use by the professor of generative technologies (artificial intelligences), fraudulent use, plagiarism, and/or improper use of others' artistic work in favor of students will result in the loss of the right to assessment in both the first and second exam sessions.
In 3D Animation, the single evaluation is not accepted as an option to pass the subject. The reason is that continuous tutoring by the teacher and in-person monitoring of the practices proposed in the subject are required to obtain the learning results planned in the teaching guide.

CLASS ATTENDANCE IN FACE-TO-FACE DEGREES

In accordance with the development guidelines of the General Regulations for the Evaluation and Qualification of Official Teachings and Own Degrees of the UCV, in face-to-face degrees, class attendance with a minimum of 80% of the sessions of each subject will be required as a requirement. to be evaluated. This means that, if a student does not attend the sessions of each subject, in a percentage greater than 20%, he/she will not be able to be evaluated, neither in the first nor in the second call, unless the person responsible for the subject, with the approval of the person responsible for degree, in view of duly justified exceptional circumstances, exempt from the minimum attendance percentage.The same criterion will be applicable for hybrid or virtual degrees in which teachers must maintain the same percentage in the requirement of "presence" in the different training activities , if any, even if these are carried out in virtual environments.

MENTION OF DISTINCTION:

The mention of "Honors" may be awarded to students who have obtained a grade equal to or greater than 9.0. Their number may not exceed five percent of the students enrolled in a group in the corresponding academic year, unless the number of students enrolled is lower.

Learning activities

The following methodologies will be used so that the students can achieve the learning outcomes of the subject:

M2   Participatory master class

M6   Project-based learning

IN-CLASS LEARNING ACTIVITIES

	LEARNING OUTCOMES	HOURS	ECTS
Active listening, summaries, concept maps and/or notes organizing the information and work in small groups (Kagan structures) to process the received information. M2, M6	R1, R2, R3, R4, R5, R6, R7, R8, R10	25,00	1,00
The student, individually or in a group, leads their action to the elaboration of a tangible final result (product) in which process knowledges and needed competences are incorporated. M2, M6	R1, R2, R3, R4, R5, R6, R7, R8, R9	25,00	1,00
TOTAL		**50,00**	**2,00**

LEARNING ACTIVITIES OF AUTONOMOUS WORK

	LEARNING OUTCOMES	HOURS	ECTS
Autonomous work. Study, memorization, test preparation, practical abilities drilling, elaboration of works, essays, reflections, metacognitions, portfolios elaboration, … M6	R1, R2, R3, R4, R5, R6, R7, R8, R9, R10	39,00	1,56
The student, individually or in a group, leads their action to the elaboration of a tangible final result (product) in which process knowledges and needed competences are incorporated. M6	R1, R2, R3, R4, R5, R6, R7, R8, R9, R10	61,00	2,44
TOTAL		**100,00**	**4,00**

Description of the contents

Description of the necessary contents to acquire the learning outcomes.

Theoretical contents:

Content block	Contents
Block I - Introduction to 3D animation. Basics	Assimilation of basic tools and animation concepts.
Block II - Direct and indirect kinematics	Direct application of the previous knowledge acquired by creating 3D animations in inorganic objects through bone systems and direct and indirect cinematics.
Block III - Advanced Animation	El estudiante transitará por las herramientas y técnicas de animcación avanzada implementandolas en motores de videojuegos.

Temporary organization of learning:

Block of content	Number of sessions	Hours
Block I - Introduction to 3D animation. Basics	5,00	10,00
Block II - Direct and indirect kinematics	10,00	20,00
Block III - Advanced Animation	10,00	20,00

References

Given the digital component of 3D modeling, it is difficult to find reference books that serve for a deep and advanced assimilation of 3D modeling, without becoming obsolete in short periods of time due to new tools and/or software updates. Therefore, these bibliographical references should be understood as small approaches to the technological environment.