# 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:** Basic Formation

**Department:** -

**Type of learning:** Classroom-based learning

**Languages in which it is taught:** Spanish

**Lecturer/-s:**

| | | |
|---|---|---|
| 2052A | Adrian Mantilla Pousa **(Profesor responsable)** | adrian.mantilla@ucv.es |

# 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**

- Punctuality and attendance account for 10% of the course evaluation, constituting part of the 50% of the assessment system for practical exams. It is mandatory to have a 50% attendance rate to maintain the right to continuous assessment. Lack of active attention and participation in the development of course classes can also be interpreted as a lack of attendance.
- 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.

**MENTION OF DISTINCTION:**
According to Article 22 of the Regulations governing the Evaluation and Qualification of UCV Courses, the mention of "Distinction of Honor" may be awarded by the professor responsible for the course to students who have obtained, at least, the qualification of 9 over 10 (“Sobresaliente”). The number of "Distinction of Honor" mentions that may be awarded may not exceed five percent of the number of students included in the same official record, unless this number is lower than 20, in which case only one "Distinction of Honor" may be awarded.

## 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.<br>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.<br>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, …<br>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.<br>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.

# Addendum to the Course Guide of the Subject

Due to the exceptional situation caused by the health crisis of the COVID-19 and taking into account the security measures related to the development of the educational activity in the Higher Education Institution teaching area, the following changes have been made in the guide of the subject to ensure that Students achieve their learning outcomes of the Subject.

## Situation 1: Teaching without limited capacity (when the number of enrolled students is lower than the allowed capacity in classroom, according to the security measures taken).

In this case, no changes are made in the guide of the subject.

## Situation 2: Teaching with limited capacity (when the number of enrolled students is higher than the allowed capacity in classroom, according to the security measures taken).

In this case, the following changes are made:

### 1. Educational Activities of Onsite Work:

**All the foreseen activities to be developed in the classroom as indicated in this field of the guide of the subject** will be made through a simultaneous teaching method combining onsite teaching in the classroom and synchronous online teaching. Students will be able to attend classes onsite or to attend them online through the telematic tools provided by the university (videoconferences). In any case, students who attend classes onsite and who attend them by videoconference will rotate periodically.

In the particular case of this subject, these videoconferences will be made through:

[X] Microsoft Teams

[ ] Kaltura

## Situation 3: Confinement due to a new State of Alarm.

In this case, the following changes are made:

### 1. Educational Activities of Onsite Work:

**All the foreseen activities to be developed in the classroom as indicated in this field of the guide of the subject**, as well as the group and personalized tutoring, will be done with the telematic tools provided by the University, through:

| | |
|---|---|
| X | Microsoft Teams |
| | Kaltura |

Explanation about the practical sessions:

## 2. System for Assessing the Acquisition of the competences and Assessment System

**ONSITE WORK**

**Regarding the Assessment Tools:**

[X] The Assessment Tools will not be modified. If onsite assessment is not possible, it will be done online through the UCVnet Campus.

[ ] The following changes will be made to adapt the subject's assessment to the online teaching.

| Course guide | | Adaptation | |
|---|---|---|---|
| Assessment tool | Allocated percentage | Description of the suggested changes | Platform to be used |

The other Assessment Tools will not be modified with regards to what is indicated in the Course Guide.

**Comments to the Assessment System:**