Course guide
804408 - RA - Rigging for Animation

Last modified: 18/09/2023

Unit in charge:	Image Processing and Multimedia Technology Centre
Teaching unit:	804 - CITM - Image Processing and Multimedia Technology Centre.

Degree: BACHELOR'S DEGREE IN DESIGN, ANIMATION AND DIGITAL ART (Syllabus 2023). (Compulsory subject).

Academic year: 2023   **ECTS Credits:** 6.0   **Languages:** Spanish

LECTURER

Coordinating lecturer: Belén, Ana

Others:

TEACHING METHODOLOGY

Directed learning classes are structured in two-hour sessions. During part of the sessions, the teacher explains the theoretical concepts and exemplifies them through examples that are solved, as far as possible, in a participatory way by the students. Another part of the session is dedicated to the students practicing the concepts introduced by solving a series of exercises proposed by the professor and, when appropriate, time will also be dedicated to the resolution of doubts and problems with those that have been encountered during the realization of the exercises Intensive use will be made of the virtual campus, both to publish the material of the subject (notes, problem statements, proposed solutions, compilation of links, etc.) as a communication mechanism to publish notices, ask for revisions of the different tests, etc.

LEARNING OBJECTIVES OF THE SUBJECT

Build 3D riggs from different given models with the aim of their subsequent animation.

STUDY LOAD

Type	Hours	Percentage
Hours large group	30,0	20.00
Self study	90,0	60.00
Hours medium group	18,0	12.00
Guided activities	12,0	8.00

Total learning time: 150 h

CONTENTS

1 Introduction

Description:
Cleaning the scene (References) ☐ Working with references.
Organization ☐ DAG / Non DAG objects.
Nomenclature ☐ Side + Descriptor + Usage.
Transforms and Shapes.
Hierarchies. WS or WRS.
Transformations in "world", "object" or "gimbal". Rotate Orders.
Constraints. Types of connections (parent, constraints, direct connections, driven keys).
Attributes ☐ Attribute creation.

Full-or-part-time: 18h 45m
Theory classes: 7h 30m
Self study : 11h 15m

2 The joints

Description:
Create joints.
Orient joints.
Mirror joints.
Joint Labeling.
Ik/FK.

Full-or-part-time: 18h 45m
Theory classes: 7h 30m
Self study : 11h 15m

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Description:
The curves.
The transforms.
The importance of offset.

Full-or-part-time: 18h 45m
Theory classes: 7h 30m
Self study : 11h 15m

4 The deformers

Description:
Non-linear.
Cluster.
Delta mush.
BS.
Skin cluster.

Full-or-part-time: 18h 45m
Theory classes: 7h 30m
Self study : 11h 15m

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5 Editor script interpretation

Description:
Know how to read the editor script.
Some simple commands. (getAttr, setAttr, for, if).

Full-or-part-time: 18h 45m
Theory classes: 7h 30m
Self study : 11h 15m

6 The Node Editor

Description:
Reverse.
Mult Double Linear.
Plus Min Average.
Blend Colors.
Condition.

Full-or-part-time: 18h 45m
Theory classes: 7h 30m
Self study : 11h 15m

7 Rig of a Biped

Description:
Model analysis. ☐ Check that you are ready to start.
Placement of bones for deformation.
Thorn.
Neck head.
Arms.
Hands.
Fingers.
Legs.
Feet.
Jaw and eyes.
Spaces.
Skinning.
Final rig adjustments

Full-or-part-time: 18h 45m
Theory classes: 7h 30m
Self study : 11h 15m

8 Final practice

Description:
Make the rig of a biped. A model will be provided but students are free to choose their own.
They will also have a PDF guide that will be distributed in class so they can consult it due to the number of steps. And thus also rely on it in the final projects.

Full-or-part-time: 18h 45m
Theory classes: 7h 30m
Self study : 11h 15m

GRADING SYSTEM

1. Behavior and participation (10%)
2. Create the Rig of a ferris wheel (model will be provided), so that the different types of constraints are used and begin to integrate the use of controls, offsets, joints and skinClusters. (10%)
3. Rig of a proxy (object) to be chosen by the student (a flexo or the "cube" character is proposed, both models will be given by the teacher). The use of different deformers and the use of nodes for the construction of the rig will be evaluated. (20%)
4. Partial delivery ☐ Rig of the "pelota con patas". That is, the construction of half of a rig in a cartoon character. The use of the different elements taught during the classes will be assessed. (20%)
5. Final delivery ☐ Rig of a biped. Model to be chosen by the student, the teacher will deliver a typical model. (40%)

Before each assignment, students will be provided with a rubric with the breakdown of scores for each exercise.

EXAMINATION RULES.

Part of the exercises can be done during class with the subject teacher. The students will also have to devote time to independent work (outside of hours) to perform the exercises. To do so, follow the instructions specified in the work document.
The exercise once completed will be deposited in the Virtual Campus in the delivery of the classroom of the section on the corresponding date, they will only be taken into account to evaluate those exercises delivered before the deadline.
The documents must be completed, following the instructions, especially with respect to the file numbers. The correct management of the documentation provided is an aspect of the skills to be acquired and part of the evaluation.

BIBLIOGRAPHY

Basic:
- Tina O'Hailey. Rig it Right! Conceptos de Rigging en Maya. Taylor & Francis, 2013.

RESOURCES

Audiovisual material:
- Canal de 3D. https://www.youtube.com/@antCGi

Hyperlink:
- Estudio de Deformaciones. Estudio de Deformaciones
- Chat de rigging. Chat de rigging

Other resources:
https://www.youtube.com/@antCGi