ACADEMIC PROGRAM

PREVISUALIZATION AND REALIZATION

B.F.A. IN ANIMATION

MODALITY: ON CAMPUS

ACADEMIC YEAR: 2023-2024

Name of the course:	Previsualization and Realization
Degree :	Animation
Location:	Centro Universitario de Tecnología y Arte Digital
Area:	Digital Creation Techniques
Year:	2º
Teaching period:	2
Type:	OB
ECTS credits:	6
Teaching modality:	On campus
Language:	English
Lecturer / Email	Antonio Alonso Sánchez /antonio.alonso@u-tad.com
Web page:	http://www.u-tad.com/

SUBJECT DESCRIPTION

Area description

This subject provides the student with the knowledge of the procedures, techniques and digital artistic tools for the creation of characters and digital environments, using modeling techniques for three-dimensional representation in virtual environments and texturing and shading for the simulation of the representation of textures and materials of the digital object or character in the field of animation. In the subject of digital creation techniques the student also acquires the knowledge and skills necessary to create narrative content, applying the principles of audiovisual language to an environment of cameras and 3D elements, as well as their lighting and digital composition.

Subject description

The course Previsualization and Realization deals with the planning and development of sequences and actions, oriented to their integration into the editing structures in the narrative and storytelling, along with their implementation in an audiovisual creation. Directly related to Elements of Visual Composition, Audiovisual Narrative, Film History and Screenwriting, this subject consolidates the knowledge of the construction of visual narratives.

Every animation project involves complex scenes that require planning and previsualization of editing in order to achieve effective and meaningful sequences. The previsualization and realization is one of the fundamental steps of an audiovisual production.

COMPETENCIES AND LEARNING OUTCOMES

Competencies
BASIC AND GENERAL

CG11 - Know the legal framework of the professions associated with the degree.

GC3 - Participate in the management of projects linked to the design and development processes of a digital product.

GC7 - Knowing the employability resources of the professions associated with the degree.

CG8 - Optimize the work according to the technological resources related to the processes and tools of the project to be developed.

CG9 - Use the techniques and artistic tools associated with the generation of digital content.

CB1 - That students have demonstrated to possess and understand knowledge in an area of study that starts from the basis of general secondary education, and is usually found at a level that, although supported by advanced textbooks, also includes some aspects that involve knowledge from the forefront of their field of study.

CB2 - That students know how to apply their knowledge to their work or vocation in a professional manner and possess the skills that are usually demonstrated through the development and defense of arguments and problem solving within their field of study.

CB3 - That students have the ability to gather and interpret relevant data (usually within their area of study) to make judgments that include reflection on relevant social, scientific or ethical issues.

CB4 - That students can transmit information, ideas, problems and solutions to both specialized and non-specialized audiences.

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

TRANSVERSALS

CT1 - To know the definition and scope, as well as to put into practice the fundamentals of the methodologies of management of technological development projects.

CT2 - To know the main agents of the sector and the complete life cycle of a project in development and commercialization of digital content.

CT4 - Update the knowledge acquired in the use of digital tools and technologies according to the current state of the sector and the technologies used.

CT5 - Demonstrate versatility, flexibility and creativity in the development of projects, activities and works.

SPECIFIC

CE17 - Use texturing techniques to apply materials to 3D models.

SC4 - Represent three-dimensional forms and spaces using the essential techniques of traditional and digital modeling.

CE7 - Create audiovisual pieces applying the principles of composition, audiovisual narrative and graphics animation to the realization, planning, editing and post-production of sequences and shots.

CE9 - Use modeling techniques for the three-dimensional representation of shapes from a design.

CE11 - Use the theory, techniques and tools associated with lighting, rendering and compositing

Learning outcomes
At the end of the degree, the graduate will be able to:

- Identify the impact of new digital media in today's society.

- Handle with ease digital tools for the creation of images, videos, modeling and artistic works.

- Use various techniques of artistic expression such as drawing, 3D modeling and postproduction for the generation of digital content.

- Model objects or figures with different techniques, whether digital or traditional.

- Represent objects and spaces in 3D through modeling, texturing, lighting and digital rendering.

- Apply the basic techniques of digital modeling to the creation of objects, figures and 3D environments with clean and optimized modeling meshes.

- Manage the interaction between different materials and lighting systems in 3D and 2D creative environments.

- Create environments with a high degree of verisimilitude through the use of layers, alphas and other basic digital compositing techniques.

- Identify software and hardware requirements for lighting, rendering and compositing.

- Apply the required textures and shaders convincingly and according to the needs of the production to the various parts of a 3D animation scene such as sets, objects or characters.

- Apply the fundamentals of visual language to the digital environment.

- Adapt the anthropometric and proportion rules used in other arts such as architecture or painting for the recreation of a virtual landscape.

CONTENTS
· Fundamentals of CG Camera.

· Sequence planning and actions.

· Previsualization concept.

· Specific types of previsualization.

· Coreography and Staging.

· Introduction to the creation of visual effects.

SUBJECT SYLLABUS

Section 1- What's Previsualization and introduction to Maya and its Interface

   1.1. Introduction

   1.2. Uses and functions of Previsualization in industry / Introduction to Maya

      3.2.1. ¿What is Previs?

      3.2.2. Previs for live action movies, Techvis, Postvis

      3.2.3. Previz for Animation

      3.2.4 3D Maya introduction to its main features and

         Interface

      3.2.5 Viewport in Maya and its different display modes

      3.2.6 Outliner, Channel Box and Attribute Editor in Maya

   1.3 Basic cinematographic analysis capacity to face Previz (basic review)

      3.3.1 Main shots

      3.3.2 Creating Cameras in Maya and how to frame them

      3.3.3 Different kind of lenses

      3.3.4 Lenses in Maya Cameras

      3.3.5 Camera movements

      3.3.6 Applying camera movements to Maya cameras, keyframing

   1.4 3D Maya and Interface: Creating Projects and Scenes in Maya

      3.4.1 Creation of a Maya project and how to set it

      3.4.2 Creating a Maya scene

      3.4.3 Organizing a scene for Previz in Maya and how to create proper groups in professional

         production

      3.4.4 Creating an Skydome

      3.4.5 Referencing VS. Importing (of characters, props and assets)

      3.4.6 Basic introduction to Animation in Maya, keyframing

      3.4.7 Depth of Field ¡(DOF) in Maya cameras

      3.4.8 Lighting for Previz in Maya's Viewport

1.5 Playblast rendering pipeline

    3.5.1 Playblast rendering process

    3.5.2 Basic Guide/Settings for professional Previs rendering in Maya

Section 2. - The Shot and the Sequence Shot + Maya basic modeling

  2.1. Introduction

  2.2. Composing the shot

  2.3. Camera Movements II

  3.4. Character Movements (Stepped animation, continuous, cycles)

  3.5. Scene Narrative

  3.6. Shot and Sequence Shot

  3.7. Principle of Affinity & Contrast

4- Maya basic modeling

  4.1 Express Props Design

  4.2 Parenting a Prop to a Character

  4.3 Sculpt Tool (for modeling flat surfaces)

5- Maya Materials for Previz

  5.1 Main Maya Materials in common use for Previz

  5.2 Texturing, UVs (basic textures: checker)

  3. Reverse Angle Shot / Dialogue Scnes + Directing in Maya

    3.1 Off-frame

    3.2 Layout, Staging, Blocking in Dialogue Scenes

    3.3 Introduction to the Camera Sequencer in Maya

    3.4 Sound for reference in Previz

    3.5 Cameras II: other kind of shots

    3.6 Specific direction for dialogue scenes

4- Time, Space, Rythm / Action Scenes + Animating in Maya

    4.1 Animating with Attach to Curves and Motion Trails tools

4.2 Editing an Animation in the Graph Editor

4.3 Creation of Cards, animated textures for VFX simulation in Previz

4.4. Specific direction for Action Scenes

5-Complex Scenes: Compositing-Staging + Rendering at high quality in Maya

5.1 How to use an Image Plane

5.2 Directing Previz using an Storyboard

5.3 Arnold lights

5.4 Render a Sequence with Arnold (specific settings)

6- Planning and Film Continuity (raccord): + VFX in Maya

5.1 Hair

5.2 Particles

5.3 Physics

5.4 Cloth

5.5 Other VFXPlanning and continuity with story

TRAINING ACTIVITIES AND TEACHING METHODOLOGIES

TRAINING ACTIVITIES

LEARNING ACTIVITIES	Total hours	Hours of presence
Theoretical / Expository classes	24,00	24,00
Practical classes	30,00	30,00
Tutorials	5,20	2,60
Independent study and autonomous work of the student	38,00	0,00
Elaboration of work (group or individual)	48,00	0,00
Evaluation Activities	4,80	5,00
TOTAL	150	61,6

Teaching methodologies

Expository method or master class

Case method

Problem-based learning

Cooperative or collaborative learning

Inquiry-based learning

Flipped classroom or inverted classroom methodology

Gamification

TEMPORAL DEVELOPMENT

Theme 1-2 weeks

Theme 2- 3 weeks

Topic 3- 3 weeks

Theme 4- 3 weeks

Theme5- 3 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	20
Assessment of assignments, projects, reports, memos	20	60
Objective test	30	70

GRADING CRITERIA

ASSESSMENT SYSTEM	ORDINARY EVALUATION	EXTRAORDINARY EVALUATION
Assessment of participation in class, exercises or projects of the course	10	10

Assessment of assignments, projects, reports, memos	60	60
Objective test	30	30

General comments on the evaluations/assessments

The course consists of 6 units that are divided into 4 blocks.

Block 1: Unit 1 is complemented with Unit 2 together to be evaluable.

Block 2: Unit 3.

Block 3: Units 4, 5 and 6 make up a whole exercise that will be evaluated as a final project.

To pass each of the topics, they will be accounted for by these blocks.

Computerization by Block:

Block 1 = 20% of the final grade.

Block 2 = 25% of the final grade

Block 3 = 45% of the final grade

The remaining 10% will depend on the student's behavior, interest, participation and self-evaluation.

In order to obtain a passing grade, the student has the obligation to submit and pass all the activities required by the teacher in the form and time indicated. Except for justified cause, failure to comply with this requirement will lead the student directly to recovery.

Late deliveries will be penalized with a considerable drop in the grade. At each delivery, the teacher is committed to providing feedback to help students understand and improve their work. Plagiarism in any delivery will be penalized with automatic SUSPENSION of the whole course.

The student will demonstrate with his work in the classroom, his partial deliveries, his corrected autonomous exercises, and general attitude towards his learning, if he is qualified in the competences that are expected of him to develop in this subject.

Final numerical qualification from 0 to 10, it will be an indispensable requirement to reach a minimum qualification of 5 points to be able to obtain a pass.

The Blocks are eliminatory, that is to say, the student who passes one of the Blocks is exempt from taking that Block in the ordinary and extraordinary call.

The grades will be definitive, that is to say, the student will not have the possibility of being able to raise his grade outside the established deadlines.more relevance will be given to the quality of the projects than to the obtaining of a pass.one of the best weapons to face the labor market is to achieve SOBRESALIENTE projects, which serve as an excellent personal presentation.

LIST OF REFERENCES (BOOKS, PUBLICATIONS, WEBSITES):

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REQUIRED MATERIALS, SOFTWARE AND TOOLS

Type of classroom
Theory

Materials:
Display - Digital whiteboard, Laptop

Software:
Autodesk Maya, Adobe Premiere, After Effects, Photoshop.