

Course guide

804398 - MP - Modelling of Characters

Last modified: 18/05/2026

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: 2026 **ECTS Credits:** 6.0 **Languages:** Spanish

LECTURER

Coordinating lecturer: Miranda, Miguel

Others:

TEACHING METHODOLOGY

- Master demo classes.
- Class participation.
- Case studies.
- Autonomous Work.

LEARNING OBJECTIVES OF THE SUBJECT

- Create organic models adapted to the needs of the different production phases of an animation.
- Carry out the design, modeling, texturing, lighting and rendering of 3D characters, to interact with objects or virtual environments.

STUDY LOAD

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

Total learning time: 150 h



CONTENTS

title english

Description:

1. Search for references, style, influences
2. Assemble references. Pure Ref
3. Interface. Program organization, main menus and shortcuts
4. How to deal with character blocking: Image plane - classic fit
5. Mesh base or creation of a mannequin with primitives (Blocking)
6. Customize Zbrush, document, gradient, buttons
7. Materials, Colorize
8. Brushes, alphas, masks and selections
9. Subtools
10. Polygroups
11. Pipeline to sculpt a character

Full-or-part-time: 30h

Theory classes: 12h

Self study : 18h

B. Organic modeling tools

Description:

12. Fitting the first basic volume
13. Proportions and silhouette
14. Relationship of perspective with volumes. Go from 2d to 3d
15. Organic modeling tools. Brushes
16. Layers, everything in layers
17. Sculptri Pro
18. Dynamesh
19. Zremesher and Geometry HD

Full-or-part-time: 30h

Theory classes: 12h

Self study : 18h

C. Inorganic Modeling

Description:

20. Inorganic Modeling Tools
21. Brushes hard surfaces. Shadow Box and props
22. Zmodeler
23. Deformation
24. Sculpting and geometry optimization. Basic rules
25. Decimation. Subtoolmaster.
26. Zwrap

Full-or-part-time: 30h

Theory classes: 12h

Self study : 18h

D. Sculpted

Description:

- 27. Anatomy
- 28. Basic hair, define, eyebrows, eyelashes
- 29. FiberMesh and Hair Brushes
- 30. UVs Mapping, polypaint and texturing. spotlight
- 31. Detailing the character. Micro details
- 32. Retopology
- 33. Model for production
- 34. Reinterpret
- 35. Facialshapes

Full-or-part-time: 30h

Theory classes: 12h

Self study : 18h

E. Composition, rendering and assembly

Description:

- 36. Zbrush workflow with other applications (GoZ to Maya)
- 37. Extracting maps. Multimap exporter
- 38. Camera, composition and retouching
- 39. Transpose. Character pose
- 40. Timelapse. Video turnaround
- 41. Expression-appeal
- 42. Materials and lights
- 43. Render and assembly of layers in Photoshop
- 44. Character presentation: final illustration
- 45. Final exam review.
- 46. Portfolio review and Tips for finding a job (motivational)

Full-or-part-time: 30h

Theory classes: 12h

Self study : 18h

GRADING SYSTEM

Practices 1: 20% of the final grade

Practices 2: 20% of the final grade

Final work: 35% final grade

Participation and learning attitude: 10%

Final exam: 15% final grade

Students who participate in the continuous evaluation and do not exceed this subject, may submit to the reevaluation test in which only the theoretical part will be reevaluated.



EXAMINATION RULES.

- The exercises will be done in autonomous work time.
- Its late delivery will behave to suspend the practice.
- The content of the exercises and their correct writing will be assessed.

Irregular actions that can lead to a significant variation in the grade of one or more students constitute a fraudulent performance of an assessment act. This action entails the descriptive qualification of suspension and a numerical grade of 0 in the overall ordinary assessment of the subject, without the right to re-evaluation.

If the teachers have indications of the use of AI tools not allowed in the assessment tests, they can call the students involved to an oral test or a meeting to verify their authorship.

BIBLIOGRAPHY

Basic:

- Sham Tichoo Purdue. Pixologic Zbrush 2022: A comprehensive Guide, 8th edition. Univ. and CAD/CIM Technologies, 2022.
- Uldis Zarins. Anatomy for sculptors and Anatomy of facial expression.
- Tom Bancroft. Creating characters with Personality.
- Disney research. Graph-Based Synthesis for Skin Micro Wrinkles.
- ZBrush Character Sculpting: Volume 1. 3dtotal,
- Sarah Simblet. Anatomy for the artist.
- Chris Legaspi. Anatomy for 3D Artists: The essential Guide for CG Professionals.
- Beginner's Guide to ZBrush. 3dtotal Publishing,
- 100 Tuesday tips. Griz and Norm,