

804248 - A3D - 3D Animation

Coordinating unit:	804 - CITM - Image Processing and Multimedia Technology Centre
Teaching unit:	804 - CITM - Image Processing and Multimedia Technology Centre
Academic year:	2018
Degree:	BACHELOR'S DEGREE IN VIDEO GAME DESIGN AND DEVELOPMENT (Syllabus 2014). (Teaching unit Compulsory) BACHELOR'S DEGREE IN VIDEO GAME DESIGN AND DEVELOPMENT (Syllabus 2014). (Teaching unit Compulsory)
ECTS credits:	6
Teaching languages:	Catalan, Spanish, English

Teaching staff

Coordinator:	Ripoll Tarré, Marc
Others:	Belmonte Martínez, Pablo

Degree competences to which the subject contributes

Specific:

- CEVJ 9. (ENG) Aplicar técnicas de modelado y animación avanzada, postproducción y efectos especiales para la elaboración de contenidos digitales y/o su inclusión en un proyecto de videojuego.
- CEVJ 8. (ENG) Dissenyar, modelar, texturitzar i animar objectes, personatges i escenes 2D i 3D per la seva inclusió en projectes digitals, seqüències audiovisuals i videojocs.
- CEVJ 7. (ENG) Dominar el gran abanico de herramientas profesionales del sector para la elaboración de contenidos digitales de todo tipo.

Transversal:

- 05 TEQ. TEAMWORK. Being able to work as a team player, either as a member or as a leader. Contributing to projects pragmatically and responsibly, by reaching commitments in accordance to the resources that are available.
- 04 COE N3. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 3. Communicating clearly and efficiently in oral and written presentations. Adapting to audiences and communication aims by using suitable strategies and means.
- 07 AAT. SELF-DIRECTED LEARNING. Detecting gaps in one's knowledge and overcoming them through critical self-appraisal. Choosing the best path for broadening one's knowledge.

Teaching methodology

Learning of new contents through theory, references and practical examples.
Participative classroom where to resolve problems and discuss contents.
Practical exercises to apply and experiment with the contents of the course. They will be used to work during the week and improve the skills to master the 3d design tools and techniques.

Learning objectives of the subject

- To understand the theory of animation.
- To plan animations adapting to every possible mechanic, aesthetic and narrative combinations.
- To understand the work methodology used by professional videogame studios and analyze the importance of teamwork.
- To know commonly used techniques applied to animation.
- To use the subject learning to create professional high quality character animations.
- Represent character emotion through facial expressions and vocalization.
- To do the exercises proposed in class applying the correct structure, presentation and planification and maintaining a good orthographic and grammatical level.

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Study load

Total learning time: 150h	Hours large group:	18h	12.00%
	Hours medium group:	32h	21.33%
	Hours small group:	0h	0.00%
	Guided activities:	10h	6.67%
	Self study:	90h	60.00%

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Content

<p>Animation</p>	<p>Learning time: 26h Theory classes: 3h Practical classes: 7h Guided activities: 1h Self study : 15h</p>
<p>Description: Animation concepts Keyframes Animation curves</p>	
<p>Rigging and Skinning</p>	<p>Learning time: 41h 20m Theory classes: 5h Practical classes: 8h 20m Guided activities: 3h Self study : 25h</p>
<p>Description: Setup Joints Inverse kinematics Skinning</p>	
<p>Character animation</p>	<p>Learning time: 41h 20m Theory classes: 5h Practical classes: 8h 20m Guided activities: 3h Self study : 25h</p>
<p>Description: References and acting Animation concepts with characters Motion capture Facial animation</p>	

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<p>Techniques</p>	<p>Learning time: 41h 20m</p> <p>Theory classes: 5h Practical classes: 8h 20m Guided activities: 3h Self study : 25h</p>
<p>Description: Retargeting Scripting Physics Non Linear animation</p>	

Planning of activities

<p>Exercice 1</p>	<p>Hours: 10h Self study: 10h</p>
<p>Description: To create a functional rig for a character and adjust the skin until getting a ready to animate character.</p> <p>Support materials: Autodesk Maya</p> <p>Descriptions of the assignments due and their relation to the assessment: The exercise will be uploaded to an Àgora folder specified by the professor and saved as a Maya scene with the full name of the student.</p> <p>Specific objectives: To practice and better understand the rigging tools and techniques applied to characters.</p>	
<p>Exercice 2</p>	<p>Hours: 20h Guided activities: 5h Self study: 15h</p>
<p>Description: To design animations for a character and create them for their inclusion in a videogame.</p> <p>Support materials: Autodesk Maya</p> <p>Descriptions of the assignments due and their relation to the assessment: The exercise will be uploaded to an Àgora folder specified by the professor and saved as a Maya scene with the full name of the student.</p> <p>Specific objectives: To animate a character, designing his actions.</p>	

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Qualification system

2 exercises

1 practice with a percentage of 15% of the final evaluation.

1 practice with a percentage of 30% of the final evaluation.

1 exam with a percentage of 15% from the final evaluation.

1 final exam with a percentage of 30% from the final evaluation.

Learning attitude and learning: 10% of the final evaluation.

Revaluation exam: possibility to access the revaluation exam to reevaluate the two previous exams (45% of the final evaluation). Only students that didn't pass the assignment can access the revaluation exam.

Regulations for carrying out activities

Some of the exercises can be worked in classroom with professors, however, students must work in an autonomous way to finish their exercises. They should follow the instructions given in the exercise document.

Bibliography

Basic:

Williams, Richard. The animator's survival kit. Expanded ed. London: Faber and Faber, 2009. ISBN 9780571238347.

Thomas, F.; Johnston, O. The illusion of life: Disney animation. New York: Hyperion, 1995. ISBN 0786860707.

Osipa, J. Stop staring: facial modeling and animation done right. 2nd ed. Indianapolis: Wiley, 2007. ISBN 9780471789208.

Luhta, E.; Roy, K. How to cheat in Maya 2012: tools and techniques for character animation. Waltham, MA: Focal Press, 2011. ISBN 9780240816982.

Complementary:

Hooks, Ed. Acting for animators. London: Routledge, 2011. ISBN 9780415580236.

Jones, A.; Oliff, J. Thinking animation: bridging the gap between 2D and CG. Boston, MA: Course Technology, 2008. ISBN 9781598632606.

Others resources:

Hyperlink

www.thegnomonworkshop.com

Resource

www.digitaltutors.com

Resource

<http://area.autodesk.com>

Resource

<http://www.cgsociety.org/>

Resource