

## 804239 - E3D - 3D Scenarios

Coordinating unit:	804 - CITM - Image Processing and Multimedia Technology Centre
Teaching unit:	804 - CITM - Image Processing and Multimedia Technology Centre
Academic year:	2019
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

### Teaching staff

Coordinator:	Martínez Navarro, Beatriz
Others:	Belmonte Martínez, Pablo Ávila Casademont, Ginés Ripoll Tarré, Marc

### Degree competences to which the subject contributes

#### Specific:

- CEVJ 7. (ENG) Dominar el gran abanico de herramientas profesionales del sector para la elaboración de contenidos digitales de todo tipo.
- 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 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.

#### Transversal:

- 04 COE N2. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 2. Using strategies for preparing and giving oral presentations. Writing texts and documents whose content is coherent, well structured and free of spelling and grammatical errors.
- 06 URI N3. EFFECTIVE USE OF INFORMATION RESOURCES - Level 3. Planning and using the information necessary for an academic assignment (a final thesis, for example) based on a critical appraisal of the information resources used.
- 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.
- 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.

### Learning objectives of the subject

- To understand the theory of level design.
- To plan game levels 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 level design.

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To strengthen the modeling, texturing and lightning basics.

To use the subject learning to create professional high quality level designs.

To adapt the concepts of 2d design and illustration into the creation of interactive levels.

To do the exercices proposed in class applying the correct structure, presentation and planification and maintaining a good orthographic and grammatical level.

### 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>Level design</p>	<p>Learning time: 41h 20m</p> <p>Theory classes: 5h Practical classes: 8h 20m Guided activities: 3h Self study : 25h</p>
<p>Description: Planning &amp; preproduction. Game types. Environment art. 2d vs 3d. Progressió visual.</p>	
<p>Architecture and lightning</p>	<p>Learning time: 41h 20m</p> <p>Theory classes: 5h Practical classes: 8h 20m Guided activities: 3h Self study : 25h</p>
<p>Description: Architecture and urban planning. Visual perception and lightning. Virtual sets.</p>	
<p>Content creation</p>	<p>Learning time: 41h 20m</p> <p>Theory classes: 5h Practical classes: 8h 20m Guided activities: 3h Self study : 25h</p>
<p>Description: Digital sculpture and painting. Map extraction. Photogrametry. Baking of light.</p>	

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Export and integration	Learning time: 26h Theory classes: 3h Practical classes: 7h Guided activities: 1h Self study : 15h
Description: Interactivity. Collision model. Effects. Optimization.	

### Planning of activities

Level design	Hours: 10h Self study: 10h
Description: To design a game level from a variety of rules and concepts specified in the documentation of the exercise. This is an individual task. Support materials: Classroom documentation, Adobe photoshop, Microsoft Word. Descriptions of the assignments due and their relation to the assessment: Upload to the folder located in the Àgora campus, as specified in the classroom documentation. Specific objectives: To design a functional game level, following the classroom documentation.	
Production of a game level	Hours: 20h Practical classes: 5h Self study: 15h
Description: Following a design guide, a 3d level must be created, alongside its game executable. This is a group activity. Support materials: Autodesk Maya, Unity 3d Descriptions of the assignments due and their relation to the assessment: The project will be presented in class. Documentation, graphics and a working executable must also be uploaded to the campus. Specific objectives: Teamwork. 3d assets production. Game engine integration.	

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### Bibliography

#### Basic:

- Sjoerd "Hourences" de Jong. The hows and whys of level design. [Belgium]; [Morrisville]: Sjoerd de Jong: Lulu.com, 2006.
- Kremers, R. Level design: concept, theory, and practice. Wellesley, MA: A.K. Peters, 2009. ISBN 9781568813387.
- Birn, J. Digital lighting and rendering. 3rd ed. Berkeley, CA: New Riders, 2014. ISBN 0321928989.

#### Complementary:

- Demers, O. Digital texturing and painting. [S.I.]: New Riders, 2002. ISBN 0735709181.
- Kerr, N. Techniques of photographic lighting. New York: American Photographic Book Publishing, 1982. ISBN 0817460241.
- Brown, B. Cinematography: theory and practice: image making for cinematographers and directors. [s.l.]: Focal Press, 2011. ISBN 9780240812090.
- Ahearn, L. 3D game textures: create professional game art using Photoshop [on line]. 3rd ed. Waltham, MA: Focal Press, 2012 [Consultation: 21/12/2016]. Available on: <<http://www.sciencedirect.com/science/book/9780240820774>>. ISBN 9780240820774.
- Rogers, S. Level up!: the guide to great video game design. 2nd ed. Chichester: Wiley, 2014. ISBN 9781118877166.

#### Others resources:

##### Hyperlink

[www.digitaltutors.com](http://www.digitaltutors.com)

Resource

<http://www.brainstorm-digital.com>

Resource

<http://level-design.org>

Resource