Course guides
804239 - E3D - 3D Scenaries

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

Degree: BACHELOR'S DEGREE IN VIDEO GAME DESIGN AND DEVELOPMENT (Syllabus 2014). (Compulsory subject).

Academic year: 2021 ECTS Credits: 6.0 Languages: Catalan, Spanish

LECTURER

Coordinating lecturer: Ripoll Tarré, Marc
Others: Masana Lafuente, David

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
CEVJ 7. Master the wide range of professional tools in the sector for developing all kinds of digital content.
CEVJ 8. Design, model, texturise and animate 2D and 3D objects, characters and scenes for inclusion in digital projects, audiovisual sequences and video games.
CEVJ 9. Apply advanced modelling and animation, post-production and special effects techniques to the creation of digital content and/or its inclusion in a video game project.

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.

TEACHING METHODOLOGY

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.
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 exercises proposed in class applying the correct structure, presentation and planification and maintaining a good orthographic and grammatical level.
STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Hours large group</td>
<td>18.0</td>
<td>12.00</td>
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<tr>
<td>Self study</td>
<td>90.0</td>
<td>60.00</td>
</tr>
<tr>
<td>Hours medium group</td>
<td>32.0</td>
<td>21.33</td>
</tr>
<tr>
<td>Guided activities</td>
<td>10.0</td>
<td>6.67</td>
</tr>
</tbody>
</table>

Total learning time: 150 h

CONTENTS

Level design

Description:
- Planning & preproduction.
- Game types.
- Environment art.
- 2d vs 3d.
- Progressió visual.

Related competencies:
- 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.
- 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.

Full-or-part-time: 41h 20m
- Theory classes: 5h
- Practical classes: 8h 20m
- Guided activities: 3h
- Self study: 25h
## Architecture and lightning

**Description:**
- Architecture and urban planning.
- Visual perception and lightning.
- Virtual sets.

**Related competencies:**
- 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.
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**Full-or-part-time:** 41h 20m
- Theory classes: 5h
- Practical classes: 8h 20m
- Guided activities: 3h
- Self study: 25h

## Content creation

**Description:**
- Digital sculpture and painting.
- Map extraction.
- Photogrametry.
- Baking of light.

**Related competencies:**
- CEVJ 8. Design, model, texturise and animate 2D and 3D objects, characters and scenes for inclusion in digital projects, audiovisual sequences and video games.
- CEVJ 7. Master the wide range of professional tools in the sector for developing all kinds of digital content.
- CEVJ 9. Apply advanced modelling and animation, post-production and special effects techniques to the creation of digital content and/or its inclusion in a video game project.
- 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.

**Full-or-part-time:** 41h 20m
- Theory classes: 5h
- Practical classes: 8h 20m
- Guided activities: 3h
- Self study: 25h
Export and integration

Description:
Interactivity.
Collision model.
Effects.
Optimization.

Related competencies:
CEVJ 8. Design, model, texturise and animate 2D and 3D objects, characters and scenes for inclusion in digital projects, audiovisual sequences and video games.
CEVJ 7. Master the wide range of professional tools in the sector for developing all kinds of digital content.
CEVJ 9. Apply advanced modelling and animation, post-production and special effects techniques to the creation of digital content and/or its inclusion in a video game project.
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.

Full-or-part-time: 26h
Theory classes: 3h
Practical classes: 7h
Guided activities: 1h
Self study: 15h

ACTIVITIES

Level design

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.

Specific objectives:
To design a functional game level, following the classroom documentation.

Material:
Classroom documentation, Adobe photoshop, Microsoft Word.

Delivery:
Upload to the folder located in the Àgora campus, as specified in the classroom documentation.

Related competencies:
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.

Full-or-part-time: 10h
Self study: 10h
Production of a game level

Description:
Following a design guide, a 3D level must be created, alongside its game executable. This is a group activity.

Specific objectives:
Teamwork.
3D assets production.
Game engine integration.

Material:
Autodesk Maya, Unity 3D

Delivery:
The project will be presented in class. Documentation, graphics and a working executable must also be uploaded to the campus.

Related competencies:
CEVJ 9. Apply advanced modelling and animation, post-production and special effects techniques to the creation of digital content and/or its inclusion in a video game project.
CEVJ 8. Design, model, texture and animate 2D and 3D objects, characters and scenes for inclusion in digital projects, audiovisual sequences and video games.
CEVJ 7. Master the wide range of professional tools in the sector for developing all kinds of digital content.
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Full-or-part-time: 20h
Practical classes: 5h
Self study: 15h

GRADING SYSTEM

BIBLIOGRAPHY

Basic:

Complementary:
RESOURCES

Hyperlink: