Course guide
804238 - A2D - 2D Animation

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: 2022  ECTS Credits: 6.0  Languages: Spanish, English

LECTURER

Coordinating lecturer: Maria Pagés
Others: Maria Pagés  Javier Ruiz

PRIOR SKILLS
The 2D animation subject presents the introduction of the animation principles and the context of animation inside the film language. We will work the history of animation and the tools necessary to dominate the bases. This activities will conclude with the creation and animation of videogame characters.

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:
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.
CT3. TEAMWORK: Being able to work in an interdisciplinary team, whether as a member or as a leader, with the aim of contributing to projects pragmatically and responsibly and making commitments in view of the resources that are available.

CT4. EFFECTIVE USE OF INFORMATION RESOURCES: Managing the acquisition, structuring, analysis and display of data and information in the chosen area of specialisation and critically assessing the results obtained.

CT5. FOREIGN LANGUAGE: Achieving a level of spoken and written proficiency in a foreign language, preferably English, that meets the needs of the profession and the labour market.
TEACHING METHODOLOGY

The subject will provide three theoretical resources to be able to execute a series of practices that summarize the general role that an animator has within a production. The first will be a cultural documentation on the world of animation, its history and its main figures, as well as weekly recommendations to enrich the global vision of the matter. Each practice also has a theoretical formula to face it easily and finally a practical example by the teacher during class. These practices will receive as much feedback as the student needs before the delivery date.

The total of practices and contents will be summarized in an exam that will work the main aspects worked during the subject.

LEARNING OBJECTIVES OF THE SUBJECT

- Master the fundamentals and principles of animation.
- Understand the production phases of 2D animation.
- Learn the traditional and Cut-Out techniques of 2D animation.
- Show knowledge and know how to apply concepts related to the control of the visualization of objects and scenes through viewers and synthetic cameras.
- Show understanding of the basic concepts and procedures involved in 2D animation, as well as the mathematical and physical foundations.
- Show ability to analyze movement in objects, humans and animals and the ability to apply computer animation techniques and its mathematical and physical foundations in 2D animation.
- Show knowledge and mastery of procedures, techniques, technologies and graphic computer programs and the ability to select the most appropriate in each case and to apply them, in the process of composition and animation of 2D objects and characters in the video game creation.
- Show knowledge of the phases of creating a 2D or 3D movie and ability to plan the process.
- Use strategies to prepare and carry out oral presentations and write texts and documents with coherent content, an adequate structure and style, and a good level of spelling and grammar.

STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours medium group</td>
<td>32,0</td>
<td>21.33</td>
</tr>
<tr>
<td>Hours large group</td>
<td>18,0</td>
<td>12.00</td>
</tr>
<tr>
<td>Guided activities</td>
<td>10,0</td>
<td>6.67</td>
</tr>
<tr>
<td>Self study</td>
<td>90,0</td>
<td>60.00</td>
</tr>
</tbody>
</table>

Total learning time: 150 h

CONTENTS

COURSE INTRODUCTION

Description:
Course presentation, personal and 2D animation history and concept introduction.

Specific objectives:
Teacher introduction along with his job and course general information.

Full-or-part-time: 7h 30m
Theory classes: 2h 30m
Self study: 5h
### INTRODUCTION TO ANIMATION

**Description:**
- Animation principles
- Animator's job, tools and techniques
- Production pipeline

**Full-or-part-time:** 50h  
Theory classes: 20h  
Self study: 30h

### INTRODUCTION TO SCREENWRITING AND STORYBOARD FOR ANIMATION

**Description:**
- Adventure screenwriting structure for animation.
- Composition and camera movement in Toonboom.
- Storyboard in Toonboom.

**Full-or-part-time:** 7h 30m  
Theory classes: 2h 30m  
Self study: 5h

### ANIMATION BIBLE CREATION

**Description:**
Concepts for animation bible creation.

**Full-or-part-time:** 10h  
Theory classes: 5h  
Self study: 5h

### CHARACTER DESIGN AND RIGGING

**Description:**
Drawing, color and rigging concepts for character creation in Toonboom.

**Full-or-part-time:** 25h  
Theory classes: 10h  
Self study: 15h

### VIDEOGAMES CHARACTER ANIMATION

**Description:**
Advanced character animation for videogames.

**Full-or-part-time:** 50h  
Theory classes: 20h  
Self study: 30h
## ACTIVITIES

### EASY BALL

**Description:**
Animation of ball moving from one side to the other of the frame, learning the concept of easy in and easy out.
1. 25 drawings of a ball moving from frame 1 to 25 with the same timing.
2. 21 drawings of a ball moving from frame 1 to 25 with an easy out and easy in.

**Full-or-part-time:** 1h
Guided activities: 1h

### BOUNCING BALL SOLID

**Description:**
Traditional animation of a solid ball bouncing in Y until it stops.

**Full-or-part-time:** 1h
Guided activities: 1h

### BOUNCING BALL SOFT

**Description:**
Traditional animation of a soft ball bouncing in X until it stops. It's necessary to apply the concepts of easy in and easy out and squash and stretch.

**Full-or-part-time:** 2h
Guided activities: 2h

### BOUNCING BALL OBSTACLE

**Description:**
Cut-Out animation of a ball bouncing from a high position until it stops at the bottom through a number of simple obstacles.

**Full-or-part-time:** 2h
Guided activities: 2h

### POSE TO POSE FACE

**Description:**
Traditional animation of a simple face looking from one side to the other. It's necessary to apply the easy in and easy out, squash and stretch, timing, breakdown and inbetween concepts.

**Full-or-part-time:** 2h
Guided activities: 2h
**POSE TO POSE BODY**

**Description:**
Mixed animation of a body changing his weight from on leg to the other applying the concepts from the last pose to pose exercise.

**Full-or-part-time:** 3h  
Guided activities: 3h

---

**JUMP**

**Description:**
Traditional animation of a character jumping in X applying the pose to pose technique.

**Full-or-part-time:** 3h  
Guided activities: 3h

---

**WALKING CYCLE**

**Description:**
Traditional animation of a character walking as a Richard Williams cycle.

**Full-or-part-time:** 3h  
Guided activities: 3h

---

**PROJECT BIBLE**

**Description:**
Bible creation in groups.
1- Cover  
2- Index  
3- Sinopsis  
4- Screenplay structure  
5- Moodboard  
6- Character design  
7- BG design  
8- Storyboard for one scene  
9- Simple animation of the scene

**Full-or-part-time:** 12h  
Guided activities: 12h

---

**CHARACTER CREATION**

**Description:**
Design and rigging for a Toonboom character

**Full-or-part-time:** 6h  
Guided activities: 6h
### CHARACTER ANIMATION IDLE

**Description:**
Cut-Out animation of a videogame IDLE

**Full-or-part-time:** 3h  
Guided activities: 3h

### CHARACTER ANIMATION WALKING

**Description:**
Cut-Out animation of a walking videogame character

**Full-or-part-time:** 3h  
Guided activities: 3h

### CHARACTER ANIMATION STRIKE

**Description:**
Cut-Out animation of a videogame character stricke

**Full-or-part-time:** 3h  
Guided activities: 3h

### CHARACTER ANIMATION FINAL

**Description:**
Cut-Out animation of a videogame character linking animations.

**Full-or-part-time:** 4h  
Guided activities: 4h

### GRADING SYSTEM

- Weekly activities 45%  
- Partial 15%  
- Animation test 30%  
- Attitude 10%

Students who fail will have the chance to take the reevaluation exam. The mark of this exam will replace the mark of the partial and final exams and, in case of passing the course, the maximum final mark will be 5.
BIBLIOGRAPHY

Basic:
- Retrogamer magazine. Imagine Publishing.