

Course Unit	Video (Motion Capture)		Field of study	Audiovisual	
Bachelor in	Game Design		School	School of Public Management, Communication and Tourism	
Academic Year	2017/2018	Year of study	2	Level	1-2
Type	Semestral	Semester	1	ECTS credits	6.0
Code	8309-414-2105-00-17				
Workload (hours)	162	Contact hours	T -	TP 15	PL 45
			TC -	S -	E -
			OT -	O -	

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s) Tania de Jesus Vilela da Rocha

Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:

1. Use audiovisual production technical equipments;
2. Recognize and use shots, camera positions and camera movements;
3. Implement the lighting of scene;
4. Assimilate the different production roles and rules and act accordingly;
5. Know and apply the stages of audiovisual production;
6. Understand motion capture workflow: technical aspects of shooting with chroma and manipulations of motion capture software.

Prerequisites

Before the course unit the learner is expected to be able to:
Not applicable

Course contents

Development of skills in video production; Development of skills for motion capture; Theory and History of Motion Capture (techniques and materials); Applying motion capture to 3D animation.

Course contents (extended version)

1. Video production:
 - Technologies, Formats and Functions of Video: Analog and Digital, Picture Quality;
 - Language Film and Video: Film History, Major theories;
 - Functions of Production: Camera Operation, Performance, Direction, Photography, Production (. . .);
 - Camera Work: Focus/aperture, white balance, camera positions, camera movements and zoom, guidelines;
 - Light Design: Natural and artificial. Temperatures, color, contrast, quality and direction;
2. Motion capture;
3. Theory and History of Motion Capture (types of techniques and materials);
4. Mathematical and physical elements for the preparation of motion capture;
5. Applying motion capture to 3D animation;
6. Development of practical projects.

Recommended reading

1. Menache, A. (2010). Understanding Motion Capture for Computer Animation. Burlington, MA: Morgan Kaufmann. ISBN 9780123814968.
2. Rose, F. (2011). The Art of Immersion: How the Digital Generation is Remarking Hollywood, Madison Avenue, and the Way we tell stories. London: W. W. Norton & Company. ISBN: 9780393341256
3. Murch, W. (2004). Num Piscar de Olhos. Rio de Janeiro: Editora Zahar. ISBN: 9788571107823
4. Maschwitz, S. (2008). The DV Rebel's Guide. Berkeley, California: Peachpit Press. ISBN: 9780321413642
5. Tobon, R. (2010). The Mocap Book: A practical guide to the art of motion capture. [s/l]: Foris Force. ISBN: 9780615293066

Teaching and learning methods

Content exposition, in a structured transmission knowledge; Interrogative method, asking the students systematically in order to develop critical capacity; Demonstrative method with practical application by students; Active method, solving exercises in order to allow greater consolidation of knowledge.

Assessment methods

- DISTRIBUTED EVALUATION (Interns and Erasmus) - (Regular, Student Worker) (Final, Supplementary, Special)
- Projects - 50% (Scene Remake Project - Minimum grade 9. 5;)
- Projects - 50% (MoCap Project - Minimum grade 9. 5;)

Language of instruction

Portuguese, with additional English support for foreign students.

Electronic validation

Tania de Jesus Vilela da Rocha	Daniel Ribas de Almeida	Daniel Ribas de Almeida	Luisa Margarida Barata Lopes
26-10-2017	09-12-2017	09-12-2017	19-12-2017