

Course Unit	Audio	Field of study	Audiovisual
Bachelor in	Game Design	School	School of Public Management, Communication and Tourism
Academic Year	2017/2018	Year of study	3
Type	Semestral	Semester	1
Workload (hours)	162	Contact hours	T - , TP 45, PL 15, TC - , S - , E - , OT - , O -
		Level	1-3
		ECTS credits	6.0
		Code	8309-414-3102-00-17

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) Barbara Costa Vilas Boas Barroso

### Learning outcomes and competences

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

1. Understand differences between digital and analogical sound;
2. Recognize and apply basic conceptual principles of sound for audiovisual, multimedia and games;
3. Recognize and create different sound formats ;
4. Understand physical and psychological sound perception and to produce sound accordingly;
5. Recognize and apply the different rules and techniques of sound recording;
6. Apply knowledge of and to use tools of sound editing;
7. Understand and classify different basic typologies of musical evolution;
8. Analyse themes, compositional structures, models and techniques present in sound with different formats and functions.

### Prerequisites

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

### Course contents

The program will comprehend: physical dimensions of sound, sound propagation and space acoustics; audition, voice and speech techniques for actors; instrument acoustics, musical terminology and conventions, musical styles and periods; sound treatment and digital audio operations; sound for audiovisual and multimedia; sound post-production; games and the audio workflow.

### Course contents (extended version)

1. Technology, formats and functions of sound.
2. Introduction to the physical dimensions of sound:
  - Sound propagation;
  - Architectural acoustics;
  - Instrument acoustics.
3. Introduction to sound perception:
  - Human hearing;
  - Human voice;
  - Oral expression techniques and directing actors.
4. Introduction to the cultural dimensions of sound:
  - Brief overview of western music styles and periods;
  - Terminology and conventions.
5. Sound in different media: audiovisual, multimedia and games.
6. The 3 work stages:
  - Pre-production;
  - Recording / using data;
  - Post-production.
7. Sound treatment:
  - Evolution of sound recording;
  - Microphones and placement;
  - Recorders and their operation.
8. Sound in audiovisual and multimedia:
  - Overview of sound in cinema;
  - Foley vs. Sound libraries;
  - Sound design.
9. Audio for games:
  - Overview of sound in games;
  - Types of audio in games;
  - Pre-production and constraints;
  - Production and aesthetics;
  - Post-production and blending the total soundscape.

### Recommended reading

1. Brandon, A. (2005). Audio for Games: Planning, Process, and Production. (Berkeley, CA: New Riders Games. [ISBN: 0735714134]
2. Collins, K. (2008). Game Sound: An Introduction to the History, Theory, and Practice of Video Game Music and Sound Design. Cambridge, MA: MIT Press. [ISBN: 026203378X]
3. Marks, A. (2008). The Complete Guide to Game Audio: For Composers, Musicians, Sound Designers, Game Developers. Burlington, MA: Focal Press. [ISBN: 0240810740]
4. Rose, J. (2008). Audio Postproduction for Film and Video. Burlington, MA & Oxford: Focal Press. [ISBN: 0240809718]
5. Viers, R. (2008). The Sound Effects Bible: how to create and record Hollywood style sound effects. Studio City, CA: Michael Wiese Productions. [ISBN: 1932907483]

### Teaching and learning methods

Contact Hours: This is a problem-based learning (PBL) course, in which students work with classmates to solve complex and authentic problems that help develop content knowledge as well as problem-solving, reasoning, communication and self-assessment skills. Non-contact Hours: Active method, when the student does the proposed assignments.

**Assessment methods**

1. DISTRIBUTED EVALUATION - (Regular) (Final, Supplementary, Special)
  - Projects - 20% (Research-based project on musical periods / styles, acoustics and instrument recording.)
  - Projects - 30% (Development of thematic sound libraries and voice-acting portfolio.)
  - Projects - 25% (Design and development of a sound-based game.)
  - Intermediate Written Test - 25% (Group of 5 tests solved during the semester.)
2. STUDENT-WORKER - (Student Worker) (Final, Supplementary, Special)
  - Intermediate Written Test - 40% (Group of 3 tests solved during the semester.)
  - Practical Work - 60% (Group of 6 assignments solved outside of class, but with tutorial aid.)

**Language of instruction**

1. Portuguese
2. English

**Electronic validation**

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19-10-2017	24-10-2017	24-10-2017	01-11-2017