

Academic Year: (2022 / 2023)

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Department assigned to the subject: Electronic Technology Department

Coordinating teacher: PLEITE GUERRA, JORGE

Type: Courses of humanities ECTS Credits : 3.0

Year : Semester :

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

It is recommended having transversal knowledge such as:

- General basic knowledge of first engineering courses: Maths, Physics, ...
- Some Music interest, enough to wonder about different issues and having found some answers for some of them
- Certain english level, enough for reading and understanding this text.

OBJECTIVES

The main target of the course is to integrate the artistic vision of a musician with the technical and scientific vision. Sometimes, perhaps often, we tend to separate the technical approach from the emotional one, as if they were antagonistic approaches located in separate hemispheres in the brain (left and right, respectively).

This subject deals with an eclectic approach to one of the main arts such as Music is, linking apparently distant aspects but identical in their essence, such as rhythm, frequencies and emotions, sensation of depth and acoustics, timbre of an instrument and harmonics, etc.

Specifically, the competencies expected by the student in the subject are

- Acquisition of an integrated approach of Technology, Scientific Method and Emotion using Music as a base.
- Regarding students with concerns in Music, they will be introduced into physical and technological basics without having specific prior technical knowledge, which will allow them to specify and improve defining different aspects that may be more diffuse in the purely sensory and emotional domain .
- Regarding students oriented to Technology, it will allow them to open application paths, and even possible ways of development and future research, connecting it with emotional experimentation.

DESCRIPTION OF CONTENTS: PROGRAMME

- 1.- Introduction
- 2.- Using DAWs How to develop your Project.
- 3.- Recording
- 4.- Editing
- 5.- Mixing
- 6.- Mastering.
- 7.- Other concepts
- 8.- Present your Project

LEARNING ACTIVITIES AND METHODOLOGY

The subject consists of the following activities:

- Theoretical classes: in which the subject will be learnt with the highest possible experimental level approach, often supported on audiovisual material.
- Project Development: the D.A.W. (Digital Audio Workstation) using will be introduced. Work groups

of 2/3 students will be created, that will share an audiovisual project throughout the course and will perform a class presentation showing the project results.

ASSESSMENT SYSTEM

% end-of-term-examination/test:	0
% of continuous assessment (assignments, laboratory, practicals...):	100
- Presentation of the Project: 35%.	
- Delivery of the Project, uploaded to Aula Global: 35%.	
Minimum Project Grade: 5 out of 10 points.	
- Set of Tests: 30%	
Minimum Global Test Grade: 5 out of 10 points.	

BASIC BIBLIOGRAPHY

- Catherine Schmidt-Jones Sound, Physics and Music, Rice University, Houston, Texas.
- Douglas Cohen Music: Its Language, History, and Culture, Brooklyn College Library and Academic IT.
- Fletcher, Neville H. The physics of musical instruments, Springer.
- Olson, Harry F. Music, physics and engineering, Dover Publications Inc..
- Zhou Fan Seminar Notes: The Mathematics of Music, Yale University.

ADDITIONAL BIBLIOGRAPHY

- <https://proquest.safaribooksonline.com/9781305115101> Web Link 1, The Internet.
- Dave Benson Music: A Mathematical Offering, Cambridge University Press.
- Julio Ribeiro Alves The History of the Guitar, Marshall Digital Scholar.
- <http://iopscience.iop.org/article/10.1088/0031-9120/51/6/065015/pdf> Web Link 4, The Internet.
- <https://aapt.scitation.org/doi/pdf/10.1119/1.4931010> Web Link 3, The Internet.
- <https://spinditty.com/instruments-gear/Beginners-Guide-to-Guitar-Effects-Pedals> Web Link 2, The Internet.