

# Course guide

## 320117 - ES - Sound Equipment

**Last modified:** 19/04/2023

**Unit in charge:** Terrassa School of Industrial, Aerospace and Audiovisual Engineering  
**Teaching unit:** 710 - EEL - Department of Electronic Engineering.

**Degree:** BACHELOR'S DEGREE IN AUDIOVISUAL SYSTEMS ENGINEERING (Syllabus 2009). (Compulsory subject).

**Academic year:** 2023    **ECTS Credits:** 6.0    **Languages:** Spanish

### LECTURER

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**Coordinating lecturer:** Javier Gago

**Others:** Javier Gago, Juan Mon, Wenceslao Matarin

### DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

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#### Specific:

CE21-ESAUD. Ability to build, operate, and manage telecommunications services and applications, understood as systems for capturing, analog and digital processing, encoding, transportation, representation, processing, storage, reproduction, management, and presentation of audiovisual services and multimedia information. (Specific Technology Module: Sound and Image)

CE22-ESAUD. (ENG) Capacitat d'analitzar, especificar, realitzar i mantenir sistemes, equips, capçaleres i instal·lacions de televisió, àudio i vídeo, tant en entorns fixes com mòbils. (Mòdul de tecnologia específica: So i imatge)

CE23-ESAUD. Ability to carry out projects for premises and facilities for the production and recording of audio and video signals. (Specific Technology Module: Sound and Image)

#### Transversal:

CT05 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.

### TEACHING METHODOLOGY

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Face-to-face sessions

- a) Classroom sessions. The lecturer presents the theoretical content of the subject, performs demonstrations using a computer, assigns exercises and answers questions.
- b) Laboratory sessions. Students carry out a series of laboratory practicals.
- c) Recording studio sessions. Students carry out a series of practicals in the recording studio in order to gain experience with the various pieces of equipment.
- d) Assessment sessions. Individual tests on the material.

Take-home work

- e) Individual study and exercise completion.
- f) Completion of assignments and exercises to be handed in.

### LEARNING OBJECTIVES OF THE SUBJECT

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In this subject, students will become familiar with the operation of the various pieces of equipment that make up the audio chain, from capture to take-up. On completing the subject, students will be able to use, design, build, characterise and specify all of the various pieces of equipment that make up the audio chain.



## STUDY LOAD

Type	Hours	Percentage
Self study	90,0	60.00
Hours small group	30,0	20.00
Hours large group	30,0	20.00

**Total learning time:** 150 h

## CONTENTS

### Sound studio equipment

**Description:**

- 1- Introduction to sound studios
- 2- signals and circuits of audio
- 3- Microphones
- 4- Analog mixer
- 5- Analog equalizers
- 6- Digital audio equipments
- 7- Digital mixer
- 8- Transmission and reception audio equipments
- 9- Power amplifiers and speakers

**Specific objectives:**

- 1- Design , analysis , assembly and use of audio circuits and systems
- 2- Sound techniques and connection of equipments in a sound studio

**Full-or-part-time:** 150h

Theory classes: 30h

Laboratory classes: 30h

Self study : 90h

## GRADING SYSTEM

- First examination: 20%
- Second examination: 20%
- Laboratory: 40%
- Assignments and exercises: 20%

For those students who meet the requirements and submit to the reevaluation examination, the grade of the reevaluation exam will replace the grades of all the on-site written evaluation acts (tests, midterm and final exams) and the grades obtained during the course for lab practices, works, projects and presentations will be kept.

If the final grade after reevaluation is lower than 5.0, it will replace the initial one only if it is higher. If the final grade after reevaluation is greater or equal to 5.0, the final grade of the subject will be pass 5.0.

## EXAMINATION RULES.

Students will be expected to have passed Analogue Electronics and Digital Electronics.



## BIBLIOGRAPHY

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### Basic:

- Self, Douglas. Audio power amplifier design handbook [on line]. 6th ed. New York: Routledge, 2013 [Consultation: 03/05/2022]. Available on : <https://www.taylorfrancis-com.recursos.biblioteca.upc.edu/books/mono/10.4324/9780240526140/audio-power-amplifier-design-douglas-self>. ISBN 9780240526140.
- Recuero López, Manuel. Técnicas de grabación sonora, vol. 1 i 2. Madrid: Instituto Oficial de Radio y Televisión, 1992. ISBN 848698484X.
- Rumsey, Francis. Introducción al sonido y la grabación. Madrid: Instituto Oficial de Radio Televisión Española, 1994. ISBN 8488788037.

### Complementary:

- Sinclair, Ian R. Audio and Hi-Fi handbook. Oxford: Newnes, 2000. ISBN 0750649755.
- Nisbett, Alec. The sound studio: audio techniques for radio, television, film and recording. Amsterdam: Focal Press, 2003. ISBN 0240519116.