



## Course guides 230027 - CCAV - Audiovisual Coding

Last modified: 29/04/2020

**Unit in charge:** Barcelona School of Telecommunications Engineering  
**Teaching unit:** 739 - TSC - Department of Signal Theory and Communications.

**Degree:** BACHELOR'S DEGREE IN AUDIOVISUAL SYSTEMS ENGINEERING (Syllabus 2009). (Compulsory subject).  
BACHELOR'S DEGREE IN TELECOMMUNICATIONS TECHNOLOGIES AND SERVICES ENGINEERING (Syllabus 2015). (Optional subject).

**Academic year:** 2020    **ECTS Credits:** 6.0    **Languages:** Spanish

### LECTURER

**Coordinating lecturer:** Antonio Bonafonte, Luis Torres

**Others:**

### DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

**Generical:**

12 CPE N3. They will be able to identify, formulate and solve engineering problems in the ICC field and will know how to develop a method for analysing and solving problems that is systematic, critical and creative.

### TEACHING METHODOLOGY

### LEARNING OBJECTIVES OF THE SUBJECT

### STUDY LOAD

Type	Hours	Percentage
Self study	85,0	56.67
Hours large group	52,0	34.67
Hours small group	13,0	8.67

**Total learning time:** 150 h

### CONTENTS

#### (ENG) Tema 1. Introducció i Principis bàsics de codificació

**Description:**

**Full-or-part-time:** 6h

Theory classes: 2h

Laboratory classes: 2h

Self study : 2h



### (ENG) Tema 2. Codificació entròpica

**Description:**

**Specific objectives:**

**Full-or-part-time:** 14h

Theory classes: 6h

Laboratory classes: 2h

Self study : 6h

### (ENG) Tema 3. Codificació de veu

**Description:**

**Full-or-part-time:** 26h

Theory classes: 12h

Laboratory classes: 2h

Self study : 12h

### (ENG) Tema 4. Codificació d'àudio

**Description:**

**Full-or-part-time:** 22h

Theory classes: 10h

Laboratory classes: 2h

Self study : 10h

### (ENG) Tema 5. Codificació d'imatge

**Description:**

**Full-or-part-time:** 18h

Theory classes: 8h

Laboratory classes: 2h

Self study : 8h

### (ENG) Tema 6. Codificació de vídeo

**Description:**

**Full-or-part-time:** 22h

Theory classes: 10h

Laboratory classes: 2h

Self study : 10h



**title english**

**Description:**

**Full-or-part-time:** 64h

Theory classes: 4h

Self study : 60h

## ACTIVITIES

**(ENG) Pràctica de laboratori**

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

Laboratory classes: 2h

**(ENG) Pràctica de laboratori**

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

Laboratory classes: 2h

**(ENG) Pràctica de laboratori**

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

Laboratory classes: 2h

**(ENG) Pràctica de laboratori**

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

Laboratory classes: 2h

**(ENG) Pràctica de laboratori**

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

Laboratory classes: 2h

**(ENG) Proves de resposta llarga (Examen Final)**

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

Theory classes: 1h

## GRADING SYSTEM



## EXAMINATION RULES.

---

## BIBLIOGRAPHY

---

### Basic:

- Bonafonte, A.; Marques, F. Apunts de l'assignatura [on line]. [Consultation: 13/05/2020]. Available on: <https://atenea.upc.edu/login/index.php>.

### Complementary:

- Taubman, D.S.; Marcellin, M.W. JPEG2000: image compression fundamentals, standards and practice. Boston; Dordrecht; London: Kluwer Academic Publishers, 2002. ISBN 079237519X.

- Bosi, M.; Goldberg, R.E. Introduction to digital audio coding and standards. Boston: Kluwer Academic Publishers, 2003. ISBN 1402073577.

- Dutoit, T.; Marques, F. Applied signal processing: a MATLAB-based proof of concept [on line]. New York: Springer, 2009 [Consultation: 10/05/2020]. Available on: <http://dx.doi.org/10.1007/978-0-387-74535-0>. ISBN 9780387745343.

- Chu, Wai C. Speech Coding Algorithms: Foundation and Evolution of Standardized Coders. 1. Wiley Science, 2003. ISBN 0471373125.