

## Course guides

# 820227 - IEEIA - Electronic Instrumentation

Last modified: 12/07/2021

**Unit in charge:** Barcelona East School of Engineering  
**Teaching unit:** 710 - EEL - Department of Electronic Engineering.

**Degree:** BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Compulsory subject).

**Academic year:** 2021    **ECTS Credits:** 6.0    **Languages:** Catalan, Spanish

### LECTURER

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**Coordinating lecturer:** FRANCISCO JOSÉ CASELLAS BENEYTO

**Others:** Primer quadrimestre:  
FRANCISCO JOSÉ CASELLAS BENEYTO - T11, T12, T13, T15  
XAVIER MARIMON SERRA - T14  
FRANCESC XAVIER ROSET JUAN - T11, T12, T13, T14, T15

Segon quadrimestre:  
FRANCISCO JOSÉ CASELLAS BENEYTO - M11, M12, M13, M14, M15  
FRANCESC XAVIER ROSET JUAN - M11, M12

### DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

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**Specific:**

1. Understand the applications of electronic instrumentation.

**Transversal:**

2. SELF-DIRECTED LEARNING - Level 3. Applying the knowledge gained in completing a task according to its relevance and importance. Deciding how to carry out a task, the amount of time to be devoted to it and the most suitable information sources.

### TEACHING METHODOLOGY

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### LEARNING OBJECTIVES OF THE SUBJECT

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### STUDY LOAD

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Type	Hours	Percentage
Hours small group	15,0	10.00
Self study	90,0	60.00
Hours large group	45,0	30.00

**Total learning time:** 150 h



## CONTENTS

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### 1. Introduction to the subject of electronic instrumentation.

**Description:**

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**Specific objectives:**

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**Related activities:**

- .

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

Theory classes: 1h

### 2. Measures and analysis of basic signals.

**Description:**

- .

**Specific objectives:**

- .

**Related activities:**

- .

**Full-or-part-time:** 9h

Theory classes: 3h

Laboratory classes: 2h

Self study : 4h

### 3. Basic instruments.

**Description:**

- .

**Specific objectives:**

- .

**Related activities:**

- .

**Full-or-part-time:** 85h

Theory classes: 21h

Laboratory classes: 8h

Self study : 56h



#### 4. Measurement systems.

**Description:**

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**Specific objectives:**

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**Related activities:**

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**Full-or-part-time:** 54h

Theory classes: 20h

Laboratory classes: 4h

Self study : 30h

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## GRADING SYSTEM

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## BIBLIOGRAPHY

**Basic:**

- Pallás Areny, Ramón. Instruments electrònics bàsics. Barcelona: Marcombo, DL 2008. ISBN 9788426714848.
- Pérez García, Miguel Ángel. Instrumentación electrónica. 1ª ed. Madrid: Paraninfo, 2014. ISBN 9788428337021.

**Complementary:**

- Manuel Lázaro, Antonio [et al.]. Problemas resueltos de instrumentación y medidas electrónicas. Madrid: Paraninfo, 1994. ISBN 8428321418.
- Pallás Areny, Ramón; Casas, Òscar; Bragós Bardia, Ramon. Sensores y acondicionadores de señal : problemas resueltos. Barcelona: Marcombo, cop. 2008. ISBN 9788426714947.
- Sumathi, S.; Surekha, P. LabVIEW based advanced instrumentation systems [on line]. Berlin: Springer Distribution Center GmbH, 2007 [Consultation: 29/05/2020]. Available on: <http://dx.doi.org/10.1007/978-3-540-48501-8>. ISBN 9783540485001.