Course guides
230034 - CIRCAF - High-Frequency Circuits

Last modified: 06/05/2019

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

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

Academic year: 2019 **ECTS Credits:** 4.5 **Languages:** Catalan

LECTURER

Coordinating lecturer: -

Others:

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Generical:
2. They will have acquired knowledge related to experiments and laboratory instruments and will be competent in a laboratory environment in the ICC field. They will know how to use the instruments and tools of telecommunications and electronic engineering and how to interpret manuals and specifications. They will be able to evaluate the errors and limitations associated with simulation measures and results.

Transversal:
1. SELF-DIRECTED LEARNING - Level 2: Completing set tasks based on the guidelines set by lecturers. Devoting the time needed to complete each task, including personal contributions and expanding on the recommended information sources.

TEACHING METHODOLOGY

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LEARNING OBJECTIVES OF THE SUBJECT

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STUDY LOAD

Type	Hours	Percentage
Hours large group	26	23.21
Hours small group	13	11.61
Self study	73,5	65.18

Total learning time: 112 h

CONTENTS

(ENG) Tema 1. Línies de transmissió

(ENG) Tema 2. Línies planars

(ENG) Tema 3. Carta de Smith i adaptació d'impedàncies

(ENG) Tema 4. Representació matricial de circuits d'alta freqüència

(ENG) Tema 5. Circuits passius de microones

(ENG) Tema 6. Circuits actius de microones

(ENG) Tema 7. Circuits integrats de microones

(ENG) Tema 8. Eines CAD per a simulació de circuits d'alta freqüència: principis de funcionament i ús.

(ENG) Tema 9. Sistemes i instruments bàsics de microones

ACTIVITIES

(ENG) Proves de resposta curta (Control)

(ENG) Pràctica de laboratori

(ENG) Altres activitats

(ENG) Proves de resposta llarga (Examen Final)

GRADING SYSTEM

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EXAMINATION RULES.

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BIBLIOGRAPHY

Basic:
- Barlabé i Dalmau, A.; Muñoz Porcar, C. La carta de Smith: aplicacions. 1a ed. Aula Politècnica. Barcelona: Edicions UPC, 2001. ISBN 8483015056.
- Bará, J. Circuitos de microondas con líneas de transmisión [on line]. Barcelona: Edicions UPC, 1994 [Consultation: 06/02/2015]. Available on: http://hdl.handle.net/2099.3/36161. ISBN 9788489636552.
- Pozar, D.M. Microwave engineering. 4th ed. Hoboken: Wiley, 2012. ISBN 9780470631553.