13962 - MPTT - Microwave Photonics and Terahertz Technologies

Coordinating unit: 230 - ETSETB - Barcelona School of Telecommunications Engineering
Teaching unit: 739 - TSC - Department of Signal Theory and Communications
Academic year: 2015
Degree: ERASMUS MUNDUS MASTER'S DEGREE IN RESEARCH ON INFORMATION AND COMMUNICATION TECHNOLOGIES (Syllabus 2009). (Teaching unit Optional)
MASTER'S DEGREE IN PHOTONICS (Syllabus 2009). (Teaching unit Optional)
ERASMUS MUNDUS MASTER'S DEGREE IN PHOTONICS ENGINEERING, NANOPHOTONICS AND BIOPHOTONICS (Syllabus 2010). (Teaching unit Optional)
ECTS credits: 3
Teaching languages: English

Teaching staff
Coordinator: MARIA C. SANTOS
Others: JOSEP PRAT

Teaching methodology
Presencial Teaching + activities

Learning objectives of the subject

'Microwave Photonics' is a cross-disciplinary field of knowledge concerned with interactions between the 'optical' and the 'electrical' portions of the electromagnetic spectrum, with differentiated concepts and techniques. The difference is blurred in the portion of spectrum in between, the new area of Terahertz Technologies. In this elective subject we will give an overview of the main techniques and devices involved in the field of Microwave Photonics and in the new Terahertz Technologies from a practical perspective and with emphasis on applications.
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Content

(ENG) - Microwave-Photonic Systems: concepts and devices

Degree competences to which the content contributes:

(ENG) - Radio-over-fiber systems

Degree competences to which the content contributes:

(ENG) - Antenna optical beam forming and beam steering networks

Degree competences to which the content contributes:

(ENG) - Terahertz Photonics

Degree competences to which the content contributes:

(ENG) - Microwave-photonic and Terahertz systems case studies

Degree competences to which the content contributes:

Qualification system

Some of these topics will be covered in a lecture format, whereas others will be subjects for in-class student presentations and subsequent discussion in a collegial seminar-style format. Passing grade depends on class participation, a written final report (term-paper) and in-class presentation on the topic of the term-paper.

Regulations for carrying out activities

The usual in University teaching

Bibliography

Basic:


