Course guides
32096 - PHTD - Photonics Technology and Devices

Unit in charge: Barcelona School of Telecommunications Engineering
Teaching unit: 731 - OO - Department of Optics and Optometry.
Degree: MASTER'S DEGREE IN PHOTONICS (Syllabus 2009). (Optional subject).
ERASMUS MUNDUS MASTER'S DEGREE IN PHOTONICS ENGINEERING, NANOPHOTONICS AND BIOPHOTONICS (Syllabus 2010). (Optional subject).
Academic year: 2015  ECTS Credits: 5.0  Languages: English

LECTURER
Coordinating lecturer: Moreno Sereno, Mauricio
Others: M. SAGRARIO MILLAN GARCIA-VARELA

TEACHING METHODOLOGY
Presencial teaching + activities

LEARNING OBJECTIVES OF THE SUBJECT
The course focuses on the components that we need in order to build simple electrooptical systems used to generate, modulate, and receive optical signals. It assumes a basic knowledge of optics, semiconductors, and electromagnetic waves; many of the key background concepts are either reviewed in the beginning or linked to related subjects. Devices covered include optical couplers, electro-optic devices, magnetooptic devices, acousto-optic devices, nonlinear optical devices, light-emitting diodes (LEDs), photodetectors, thermal detectors and optical modulators. Special attention is paid to cameras and spatial light modulators and their involvement in optoelectronic information processors. Some examples of applications are described.

CONTENTS

- Radiometry and Photometry
- Radiation sources
- Radiation Detectors
- Non Linear Photonics
- Optical Modulators
- Optical Couplers

**GRADING SYSTEM**

- Practical numerical exercises.
- Presentation and discussion of works done by students = 40%
- Global examination = 60%

**EXAMINATION RULES.**

The usual in university teaching

**BIBLIOGRAPHY**

**Basic:**

**Complementary:**