**Course guides**

**32105 - ELEWA - Electromagnetic Waves**

**Unit in charge:** Barcelona School of Telecommunications Engineering  
**Teaching unit:** 748 - FIS - Department of Physics.

**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:** Cristina Masoller  
**Others:** Mario Montes

**TEACHING METHODOLOGY**

Presencial Teaching + activities

**LEARNING OBJECTIVES OF THE SUBJECT**

Photonics is a discipline concerning the control of light and its technological applications. Light is electromagnetic radiation of wavelengths in the range from 300 mm to 30 nm, generally divided into infrared, visible, and ultraviolet regions (however, the main applications of photonic devices are in the narrower range of visible and near infrared wavelengths). The wave nature of light is very important in the function of photonic devices (specifically, for transmission and modulation of light). This course focuses on the study of the elementary properties of electromagnetic waves.

**CONTENTS**

- Maxwell's equations in vacuum. Wave equation.

**GRADING SYSTEM**

- 60 % written exam  
- 40 % problems and exercises during the course

**EXAMINATION RULES**

The usual in University teaching
BIBLIOGRAPHY

Basic:

Complementary: