Course guides
32057 - QP - Quantum Physics

Unit in charge: Barcelona School of Telecommunications Engineering
Teaching unit: 1022 - UAB - (ANG) pendent.
Degree: DOCTORAL DEGREE IN PHOTONICS (Syllabus 2007), (Optional subject).
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: ALBERT BRamon PLANAS
Others: JOHN CALSAMIGLIAANNA SANPERA

TEACHING METHODOLOGY
Presencial teaching + activities

LEARNING OBJECTIVES OF THE SUBJECT
This is an introductory course to standard Quantum Mechanics (QM) addressed to students (generally, non-physicists) who have not taken a regular course on QM or Quantum Physics.

CONTENTS
- The physical basis of Quantum Mechanics (QM). The photon.
- Heisenberg’s uncertainty principle. Qualitative examples.
- Mathematical interlude: vectors and operators. Dirac’s notation.
- The formalism of QM. Matrix (Heisenberg) and wave (Schroedinger) mechanics.
- Orbital angular momentum. Hydrogen atom.


- Stationary perturbation theory.

**GRADING SYSTEM**

- Exercises solved by students during the semester or
- Conventional, written exam at the end.
- Or a combination of the two points above to agree with other courses within this master.

**EXAMINATION RULES.**

The usual in University teaching

**BIBLIOGRAPHY**

**Basic:**

**Complementary:**