32069 - QCOM - Quantum Computation

Coordinating unit: 230 - ETSETB - Barcelona School of Telecommunications Engineering
Teaching unit: 893 - ICFO - Institute of Photonic Sciences
Academic year: 2015
Degree: DOCTORAL DEGREE IN PHOTONICS (Syllabus 2007). (Teaching unit Optional)
ERASMUS MUNDUS MASTER'S DEGREE IN PHOTONICS ENGINEERING, NANOPHOTONICS AND BIOPHOTONICS (Syllabus 2010). (Teaching unit Optional)
MASTER'S DEGREE IN PHOTONICS (Syllabus 2009). (Teaching unit Optional)
ECTS credits: 2,5
Teaching languages: English

Teaching staff
Coordinator: J.I. LATORRE
Others: J. ESCHNER

Teaching methodology
Presencial teaching + activities

Learning objectives of the subject
This course will provide an introduction to quantum computation, from the theoretical as well as the experimental side. The basic concepts of quantum logic and quantum algorithms will be explained, and how they can be implemented using atom-photon interaction in quantum optical systems.

Content

-Experimental concepts

Degree competences to which the content contributes:

-Theoretical concepts

Degree competences to which the content contributes:

Qualification system
- Attendance
- Active participation, oral contributions, questions
- Delivery of exercises
- Individual presentation of a Quantum Computation topic
Regulations for carrying out activities

The usual in University teaching

Bibliography

Basic:


Complementary: