



IDENTIFYING DATA

Experimental techniques for quantum information

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|---------------------|---|----------|------|------------|
| Subject | Experimental techniques for quantum information | | | |
| Code | V05M198V01121 | | | |
| Study programme | (*)Máster Universitario en Ciencia e Tecnoloxías de Información Cuántica | | | |
| Descriptors | ECTS Credits | Choose | Year | Quadmester |
| | 3 | Optional | 1st | 1st |
| Teaching language | | | | |
| Department | | | | |
| Coordinator | | | | |
| Lecturers | Fernández Veiga, Manuel | | | |
| E-mail | | | | |
| Web | http://www.usc.gal/gl/estudos/masteres/ciencias/master-universitario-ciencia-tecnoloxias-informacion-cuantica | | | |
| General description | | | | |

Training and Learning Results

| | |
|------|--|
| Code | |
| A2 | Know and acquire competence in experimental techniques for the processing of quantum information: interactions, measurements, oscillations, interference, communication systems, ... |
| A4 | Know and be able to apply the physical theories inherent to the understanding of systems for quantum information processing, including quantum thermodynamics as well as advanced aspects of magnetism and quantum mechanics. |
| A5 | Know and understand the nature of the physical platforms for the processing of quantum information in solid state systems: superconducting systems, cryoscience and quantum materials, including or studying two topological states. |
| A11 | Acquiring a solid foundation on quantum theory gives information on its application in quantum communications, as well as on the technology of two photonic devices used in quantum communications, both terrestrial and aerial and via satellite. |
| B1 | To know the theoretical foundations of quantum mechanics, the mathematical formalism, the axioms and simpler systems. |
| B17 | To have knowledge of experimental techniques of quantum information and communication. Optical and solid state devices. |
| C1 | To analyze and break down a complex concept, examine each part and see how they fit together |
| C2 | To classify and identify types or groups, showing how each category is different from the others |
| C3 | To compare and contrast and point out similarities and differences between two or more topics or concepts |

Expected results from this subject

| | |
|------------------------------------|-------------------------------|
| Expected results from this subject | Training and Learning Results |
|------------------------------------|-------------------------------|

New

A2
A14
A4
A5
A11
B18
B1
B18
B17
C1
C2
C3
C18
C18
D18
D18

Contents

Topic

Planning

Class hours

Hours outside the
classroom

Total hours

*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies

Description

Personalized assistance

Assessment

Description

Qualification

Training and Learning Results

Other comments on the Evaluation

Sources of information

Basic Bibliography

Complementary Bibliography

Recommendations