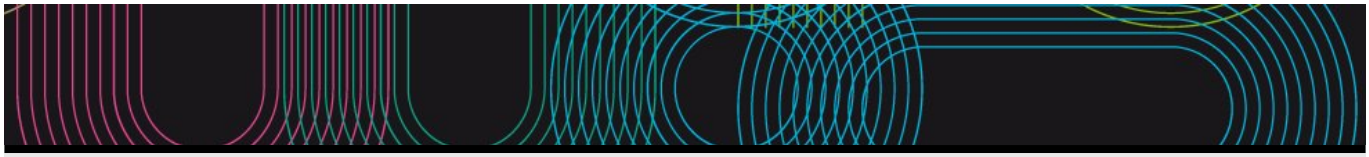

| IDENTIFYING DATA | | | | |
|---|---|---|---|---|
| **Fundamentals of quantum information** | | | | |
| Subject | Fundamentals of quantum information | | | |
| Code | V05M198V01104 | | | |
| Study programme | (*)Máster Universitario en Ciencia e tecnoloxías de información cuántica | | | |
| Descriptors | ECTS Credits | Choose | Year | Quadmester |
| | 3 | Mandatory | 1st | 1st |
| Teaching language | | | | |
| Department | | | | |
| Coordinator | | | | |
| Lecturers | | | | |
| E-mail | | | | |
| Web | http://guiadocente.udc.es/guia_docent/index.php?centre=614&ensenyament=614551&assignatura=614551004&any_academic=2023_24&any_academic=2023_24 | | | |
| General description | | | | |

| Training and Learning Results | |
|---|---|
| Code | |
| A7 | Acquire and know how to apply the basic principles of quantum computing: analyze, understand and implement quantum algorithms, master the appropriate computer languages as well as understand the paradigm of two quantum circuits. |
| A8 | Know the classical computing algorithms and strategies inspired by quantum computing: tensor networks, product states of matrices, etc. |
| B3 | To know the physical bases that allow encoding and processing information. Understanding of the new rules that Quantum Mechanics imposes for its processing. |
| B4 | To have knowledge of quantum computing, algorithms, circuits, its programming in different languages and accessible platforms. |
| 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 | A14<br>A14<br>A14<br>A14<br>A14<br>A7<br>A8<br>B3<br>B4<br>C1<br>C2<br>C18<br>C3<br>C18<br>C18<br>C18<br>C18<br>C18<br>C18<br>C18<br>D18<br>D18<br>D18<br>D18<br>D18<br>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**