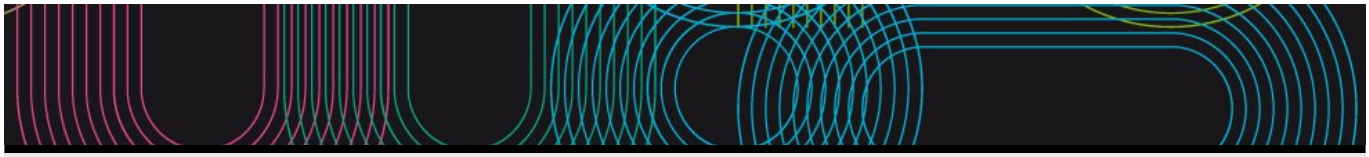
Universidade Vigo

Subject Guide 2024 / 2025



| IDENTIFYING DATA | | | | |
|---|---|---|---|---|
| **Quantum computing tools** | | | | |
| Subject | Quantum computing tools | | | |
| Code | V05M198V01107 | | | |
| 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/20232024/fundamentos-informacion-cuantica-19342-18435-2-103724 | | | |
| 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. |
| 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 | A7<br>B18<br>B3<br>B4<br>C1<br>C2<br>C3<br>C18 |

| 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**