



## 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	Fernández Veiga, Manuel		
E-mail			
Web	<a href="http://guiadocente.udc.es/guia_docent/index.php?centre=614&amp;ensenyament=614551&amp;assignatura=614551004&amp;any_academic=2023_24&amp;any_academic=2023_24">http://guiadocente.udc.es/guia_docent/index.php?centre=614&amp;ensenyament=614551&amp;assignatura=614551004&amp;any_academic=2023_24&amp;any_academic=2023_24</a>		
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
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New

A14  
A14  
A14  
A14  
A14  
A7  
A8  
B3  
B4  
C1  
C2  
C18  
C3  
C18  
C18  
C18  
C18  
C18  
C18  
C18  
C18  
C18  
D18  
D18  
D18  
D18  
D18  
D18

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**Contents**

Topic

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**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.

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**Methodologies**

Description

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**Personalized assistance**

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**Assessment**

Description

Qualification

Training and Learning Results

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**Other comments on the Evaluation**

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**Sources of information**

Basic Bibliography

Complementary Bibliography

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**Recommendations**