

# Fundamentals of quantum technologies

**MASTER IN QUANTUM TECHNOLOGIES**

***UNIVERSIDAD INTERNACIONAL MENÉNDEZ PELAYO***

This document can be used as reference documentation of this subject for the application for recognition of credits in other study programmes. For its full effect, it should be stamped by UIMP Student's Office.



## GENERAL DATA

### Brief description

This subject will be taught first in order to equalize the knowledge of students from different backgrounds.

### Name

Fundamentals of quantum technologies

### Code

102768

### Academic year

2024-25

### Degree

[MASTER IN QUANTUM TECHNOLOGIES](#)

### ECTS Credits

3

### Type

MANDATORY

### Duration

Cuatrimestral

### Language

# CONTENTS

## Contents

- Historical and conceptual introduction. First and second quantum revolutions.
- Quantum theory postulates and mathematical tools.
- Density operator. Pure and mixed states.
- Reversible transformations.
- Composite systems and entanglement.
- Schmidt decomposition.
- Purification.

## FACULTY

### Coordinator/s

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### Lecturers

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