

# Quantum Information Theory

**Lecturer**

Stefano PIRONIO (Coordinator)

**Course mnemonic**

PHYS-F509

**ECTS credits**

5 credits

**Language(s) of instruction**

English and French

**Course period**

First term

**Campus**

Plaine

## Course content

Quantum computers and algorithms, quantum communications, quantum cryptography.

## Objectives (and/or specific learning outcomes)

Initiation to quantum information.

## Pre-requisites and co-requisites

### Required knowledge and skills

Quantum mechanics, Dirac notation.

## Teaching method and learning activities

black board course

## References, bibliography and recommended reading

Quantum Computation and Quantum Information Nielsen and Chuang

Lecture Notes of Preskill <http://www.theory.caltech.edu/~preskill/ph229/>

## Other information

### Place(s) of teaching

Plaine

### Contact(s)

S. Pironio (stefano.pironio@ulb.be)

## Evaluation method(s)

Oral examination and Oral presentation

### Main language(s) of evaluation

English and French

## Programmes

### Programmes proposing this course at the faculty of Sciences

MA-PHYS | **Master in Physics** | finalité Research/unit 1 and finalité Teaching/unit 1