

UNIVERSITÀ DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Theory of Quantum Information and Quantum Computing

2122-1-F1701Q148

Aims

The aim of the course is to give an introduction to Quantum Information and Computing and to qubits, the basic elements of quantum computers and quantum technologies.

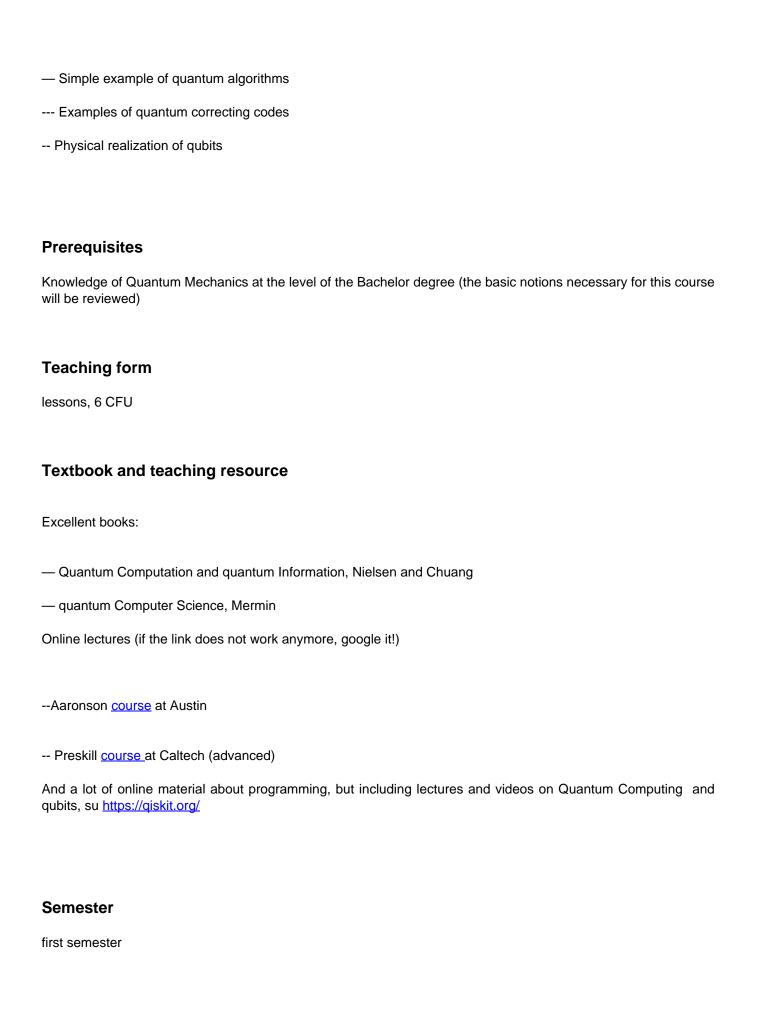
Contents

Introduction to the fundamental principles of quantum physics for Quantum Computing and Quantum Technologies: entanglements, Bell's inequalities, qubits and their physical realization, examples of quantum circuits and elementary algorithms.

Detailed program

— Basic elements o	f quantum	mechanics
--------------------	-----------	-----------

- Entanglement and Bell's inequalities
- -- Quantum information
- -- Qubits
- Quantum circuits



Assessment method

oral exam with open questions on the entire program

Office hours

On student request, at agreed time