Course Title:	INFORMATION THEORY AND PHYSICS 2: QUANTUM PHYSICS
Instructor	G.Massimo Palma
N of hours	15
description	Introduction to the basic concepts of quantum information theory
contents	• Density operators, bipartite systems and reduced density operators, Schmidt decomposition, von Neumann entropy • entanglement and non separability • discrete open system dynamics and quantum maps, quantum channels, POVM • Quantum metrology, Heisenberg limit, quantum parameter estimation, quantum Fisher Information and Quantum Cramer-Rao bound. Quantum non demoltion mesurements • quantum computation paradigms, quantum algorithms