

Syllabus

for course in education at postgraduate level

Introduktion till kvantteknologi

Introduction to quantum technologies

Course code:	FK40006
Valid from:	Spring 2020
Established:	2020-02-03
Department:	Department of Physics
Subject:	Medical radiation physics, physics, chemical physics and theoretical physics.

Decision

This syllabus was adopted by the committee for post-grad education 2020-02-03.

Prerequisites and special admittance requirements

Admitted to graduate level education

Learning outcome

To understand the principles on which quantum technologies operate, be familiar with the state of the art systems and current challenges, have gained deeper insight into this important and interesting topic

Course content

Quantum technologies is a thriving field of research. The goal of this field of research is to develop novel technologies based on the power of quantum mechanics for practical applications in areas like communication, sensing, computation and simulation. The devices in development include quantum computers capable to solve complex problems faster than any classical computer, quantum communication devices that cannot be hacked, quantum simulators for understanding and developing novel quantum materials, and quantum sensors that push the limits of standard measurement techniques.

Forms of instruction

The course includes lectures, student presentations, and lots of discussions.

Compulsory components

Active participation throughout the semester is required.

Forms of examination

The course is assessed by oral examination. Alternatively, written hand-in exercises can be part of the examination.