



## CAS Applied Quantum Computing for Life Sciences and Business

A deep dive into quantum computing focused on applications in life sciences

The CAS programme provides a unique opportunity for professionals in the life sciences and similar fields to acquire expertise in quantum computing and leverage its potential for transformative advancements in their respective domains. Through a comprehensive curriculum and practical hands-on experiences, participants will be prepared to navigate the intersection of quantum computing and life sciences, driving innovation and shaping the future of scientific research and applications in their organizations.

### Contents

#### Module 1:

Introduction to the basics of quantum information and quantum computing, bridging classical computational challenges to the realm of "quantum Hello World."

#### Module 2:

Introduction to various quantum hardware and software alternatives is followed by workshops focusing on the main commercial options.

#### Module 3:

Reviewing and hands-on practice of various quantum algorithms, followed by their application in real-world use cases.

#### Module 4:

Exploring beyond quantum computing, delving into the quantum ecosystem and emerging trends in the field.

**Target Group**

The CAS programme is a specialized and comprehensive programme that combines foundational knowledge in quantum computing with its practical applications in the life sciences and similar domains. It is tailored to individuals who possess a background in the life sciences, such as bioinformatics, biotechnology, pharmaceuticals, or related fields, and are interested in leveraging quantum computing to enhance their work. The CAS programme is for novices and requires learners to have only basic algebra and programming notions (Python). These basic notions will also be refreshed during the programme.

**Duration**

15 days

**Degree / ECTS**

Certificate of Advanced Studies FHNW Applied Quantum Computing for Life Sciences and Business, 10 ECTS

**Location**

FHNW Campus Muttenz, Switzerland

**Programme Head**

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**Further Information and Registration**

[www.fhnw.ch/applied-quantum-computing](http://www.fhnw.ch/applied-quantum-computing)

