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## **(I) Teaching quantum computing through quantum software**

*Wednesday, 8 June 2022 15:15 (30 minutes)*

In winter 2022, I designed and delivered an undergraduate course in quantum computing for 4th year computer engineering students at UBC. The core tenet of the course was “implement *everything*”: roughly half the lecture time consisted of live-coding the theory and algorithms to show how they are implemented in practice, and demonstrating tools that are used on a daily basis in research. I will give an overview of the course, assessment strategies, and highlight what worked well and what didn't. Furthermore, while quantum computing is inherently interdisciplinary, it is still quite often taught by people with physics backgrounds, in physics departments. As the subject becomes more popular and expands to lower-year undergraduate courses in a variety of departments, we require different approaches to both what content is covered, and how. To exemplify this, I will discuss how teaching the course to a computer engineering audience has caused me to majorly rethink the order in which quantum computing material is taught in order to make it more accessible.

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