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## Department of Philosophy

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PHIL 365: PHILOSOPHY OF COMPUTING — *Katalin Bimbo*

[Course description — Fall term (2020)]

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Nowadays, computers are *ubiquitous*, and computation plays an *essential role* in practically all areas of human activities. The course will focus on questions that arose (or became more salient) since the emergence of electronic computers in the middle of the 20th century. As we progress through the course, you will encounter concepts and problems that may be signaled by phrases such as “quantum computing,” “information security,” “complexity,” “identity” and “human–computer interaction.”

We will start with asking what computers, computing, information and programs are. Then we will proceed to looking at some *models of computation* and how they delineate what is *computable* (and what is not). Philosophers speculated about thinking machines for centuries. After the invention of fast, electronic, digital computers in the middle of the 20th century, *artificial intelligence* (AI) was born in 1956. We will dwell on various approaches to AI and the results they produced. It is natural to wonder about the relationship between *artificial intelligence* and *human intelligence*, and we will contemplate this relationship.

In the last part of the course, we will turn to the place of *computer science* (CS) among the sciences (or more generally, among the fields of knowledge). The discussion “What is CS?” is anchored by two aspects of CS, namely, its connection to *mathematics* and its utterly *applied* character. Philosophy may offer useful views about the nature of CS (as a science) — without resolving all the open problems in CS.

A primary goal of the course is to give you an understanding of computing, as well as of the science of computing together with their philosophical aspects.

[There is no official prerequisite for the course and no programming or computer science experience is required. However, interest in computers, in philosophy or in informatics is likely to be helpful.]

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**Time:** M, W, F 12:00 pm–12:50 pm

**Texts and readings** will be recommended or linked in the e-classroom.

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For **further information**, please contact the instructor at <bimbo@ualberta.ca>

The (official) **course outline** is available in the e-classroom during the course.

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