The Poetry of Computer Science, the Computer Science of Poetry: Philosophy of Computation

CS198-79, Spring 2018 Syllabus
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Philosophy of Computation at Berkeley (pocab.org)

1 Introduction

This is a course on the philosophy of computation. Over the course of the semester, we will build up a worldview that is firmly grounded on computer scientific ideas and discuss the merits, or lack thereof, of said worldview. Topics include scientism, theology, incompleteness, information, computability, uncomputability, complexity, Eastern philosophy, Western philosophy, comparative philosophy, cultural neuroscience, artificial intelligence, natural langauge processing, societal implications of technology, free will, and morality. Thinkers we'll discuss include Kant, Confucius, Wittgenstein, Xunzi, Hofstadter, Hugo, Lakoff, Peng, Aaronson, and Do-ol. The theme of the course is the relation between poetry and computer science, or, in other words, the relation between the "subjective" and the "objective". By the end of the course, you will walk out with a more nuanced view of that relation than is commonly assumed, and a project showcasing such a view.

2 Schedule

This schedule is subject to change at the facilitator's discretion.

(Meeting 0) January 30th: Introductions, Icebreaker: *30 Questions to Fall in Love*

(Meeting 1) February 1st: Class canceled

(Meeting 2) February 6th: Class policies and logistics

(Meeting 3) February 8th: Special meeting at Howison Philosophy Library with the Berkeley Philosophy Forum: Uncomputability and Free Will

(Meeting 4) February 13th: Discussion of *The Triggering Town*

(Meeting 5) February 15th: Syntax, Semantics, and Poetry

(Meeting 6) February 20th: Conceptual Metaphor Theory

(Meeting 7) February 22nd: *Where Mathematics Comes From*

(Meeting 8) February 27th: Incompleteness, Uncomputability, Complexity, Culture

(Meeting 9) March 1st: Incompleteness, Uncomputability, Complexity, Culture

(Meeting 10) March 6th: Incompleteness, Uncomputability, Complexity, Culture

(Meeting 11) March 8th: Incompleteness, Uncomputability, Complexity, Culture

(Meeting 12) March 13th: Theology of technology

(Meeting 13) March 15th: Overview of moral philosophies

(Meeting 14) March 20th: Kant and Confucius

(Meeting 15) March 22nd: Kant and Confucius (2)

(Meeting 16) April 3rd: Culture and computational complexity

(Meeting 17) April 5th: Culture and computaional complexity (2)

(Meeting 18) April 10th: Wittgenstein

(Meeting 19) April 12th: Do-ol

(Meeting 20) April 17th: Societal implications: AI Ethics

(Meeting 21) April 19th: Societal implications: Everyday Life

(Meeting 22) April 24th: Project presentations

(Meeting 23) April 26th: Project presentations

3 Logistics and Grading

All majors and grade levels are welcome in the course, and no background knowledge is assumed. This course is worth 2 units. We meet Tuesdays and Thursdays from 6:10PM to 7:00PM in 229 Dwinelle. Office hours are Fridays 12:10PM to 2PM at Cafe Strada, and by appointment.

To pass the course, a student must come to class, actively participate, do the reading assignments, and turn in a final project. This is a reading-intensive course; over the course of the semester, you will read no less than 500 pages, and may be expected to read more than that. You will have to purchase no more than two books. You may borrow books from the facilitator. Each week, you will write a short essay (250-500 words) responding to the readings. The class will culminate in a final project presentation, for which you can choose one: (1) write a collection of poems about computer science, or (2) a program that writes poetry, or (3) a long (1500-2000 word) essay about an open research question.

3.1 Grade Breakdown

(1) Attendance/participation: 34%

(2) Weekly assignments: 33%. 11 assignments each worth 3%.

(3) Final project: 33%

To pass the course, a student must fulfill at least 71% of the above.

3.2 Grading Policy

You will get a perfect score on your assignments as long as you show a genuine engagement with the topic—thoughtfulness in your words, openness toward others, and a willingness to fully participate. We are always available through email or office hours to answer questions, discuss difficult concepts, and address any other concerns.

Late work can be turned in for half credit up to 48 hours after the assignment's due date. Please contact the facilitator via email or in person to excuse an absence. If you miss more than two weeks of instruction, you may fail the course. If you miss more than three weeks of instruction, there is a good chance you will fail the course, unless your assignments and/or final project are unreasonably outstanding. Phones and laptops are not allowed in class, and if you are clearly engaged with them more than with your classmates, you may not receive full attendance pooints. Plagiarism will be dealt with in accordance with UC Berkeley's plagiarism policy.

Please refer to Campus Policies and Guidelines regarding religious, extracurricular, and emergency conflicts with academics. Please communicate with the facilitator regarding DSP accommodations. Disclosure is not necessary, but please let us fulfill your needs in any computable or uncomputable way.

3.3 Resources

Piazza: piazza.com/class/jdf1ibhhu4545d
Textbook for fall 2017: www.ocf.berkeley.edu/~jjbaek/pocab_book.pdf
Assignments and readings for fall 2017: pocab.wordpress.com/decal

Contact Information

Email at pocabdecal@gmail.com; Website at pocab.org
Office Hours: Fridays 12:10-2PM at Cafe Strada, and by appointment
This course is offered by Philosophy of Computation at Berkeley, an ASUC-sponsored student org.