

Philosophy & Emerging Technologies

PHIL 29S

Instructor: Willie Costello

Summer Quarter. 3 units. Summer Intensive: Technology & Innovation. Meetings on Tuesdays and Thursdays from 13:30 to 14:50 in Bldg 160 Rm 124. Office hours on Thursdays from 12:00 to 13:30 in Bldg 100 Rm 102M, or by appointment (email williec@stanford.edu). Course readings available from bit.ly/phil29s. Course website available through canvas.stanford.edu.

Course assistant: Nathan Hauthaler. Office hours on Tuesdays, 15:00 to 16:00, Bldg 90 Rm 92N.

Course description

Genetic engineering. Driverless cars. Geoengineering. Interactive film. These are but a few emerging technologies which will likely become commonplace within your lifetime – and which each raise new and important philosophical questions. When is it ethical to alter the genetic code of a future child? And should such technology ever be used to enhance the human species? When a driverless car injures someone, who is responsible? And when a driverless car is in a situation where it must injure someone, whom should a driverless car decide to protect? Is geoengineering doing a service to the planet in mitigating the effects of global climate change, or is it illegitimately tampering with the Earth and its environment? Can an interactive film be a work of art?

This course is an investigation into these and related questions. For each unit, we will first familiarize ourselves with a specific emerging technology, via popular readings such as magazine articles, videos, podcasts. Then, we will look at classic philosophical readings in related topics and discuss both how these philosophical discussions can help us think about the emerging technology and how the emerging technology might challenge our philosophical preconceptions. Through this course you will become sensitive to the various philosophical issues which new technologies raise, and learn how to apply existing philosophical theories and concepts to new topics and problems. No background in philosophy or familiarity with emerging technologies is required.

Course learning objectives

By the end of this course, you should be able to...

- identify philosophical questions and problems raised by various emerging technologies
- define and explain various classic philosophical ideas, arguments, and theories
- apply these philosophical ideas, arguments, and theories to the questions and problems raised by emerging technologies
- evaluate the merits of different philosophical arguments with respect to emerging technologies
- research an emerging technology of your choosing, and construct an original philosophical argument about that technology
- express your own thoughts and opinions about emerging technologies more effectively

Course contract

This course is a collaboration between me, you, and your classmates. You will be regularly called upon to actively participate in class discussions and other activities, and your contributions will directly influence what we cover in seminar. **It is not necessary that you agree with everything I or anyone else says in this class, but it is necessary that you always listen and respond with respect.** With this in mind, I put forth the following “course contract”, applying to everyone in the class (students and instructor alike):

- we have the responsibility to **contribute** to the collective learning process (which includes asking questions when we’re not understanding something)
- we have the responsibility to **be receptive** to other points of view than our own
- we have the right to **dissent or differ** from the instructor and from others in the class
- we have the responsibility to **welcome challenges** to our own opinions, and be willing to support our claims with further reasons (or be honest when we don’t have any)
- we have the right to **personal dignity**, which at no point should be infringed upon in any way by the conduct of others

Texts

All assigned readings are freely available through the course website. In addition, I highly recommend you purchase a copy of the following handbook, especially if you are new to academic philosophy. (Some copies are available for purchase at the Stanford Bookstore.)

- Julian Baggini and Peter S. Fosl, *The Philosopher’s Toolkit: A Compendium of Philosophical Concepts and Methods* (Wiley-Blackwell, 978-1405190183) – \$23.95

Evaluation

Your grade for the course will be determined by the following components: micro-assignments (informal writing exercises, done at home and submitted before each class meeting); exit tickets (informal writing exercises, done in class and submitted at the end of each class meeting); one (short) midterm paper; and one research project, consisting of an initial brainstorming assignment, a prospectus, a peer review, an in-class presentation, and an accompanying paper. The full grade breakdown is as follows:

<i>Component</i>	<i>Weight</i>	<i>Due date</i>
Micro-assignments	13%	before each class
Exit tickets	7%	during each class
Midterm paper (750 words)	15%	7/23
Research project: brainstorm	5%	7/16
Research project: prospectus (500 words)	10%	7/30
Prospectus peer review (500 words)	10%	8/6
Research project: presentation (5 minutes)	15%	8/15–17
Research project: final paper (1500 words)	25%	8/18

- » **Micro-assignments:** Before each class you are to complete an exercise relating to the day's required reading(s) – a “micro-assignment”. The purpose of these micro-assignments is: (a) to assist with your comprehension of the readings; and (b) to enhance our classroom discussions of the readings.

Micro-assignments will often include one or two questions to answer before or as you read, so **always be sure to look at the day's micro-assignment before you start the day's reading(s)**. Both of the week's micro-assignments will be posted online by the end of the week prior.

Micro-assignments must be completed and submitted on Canvas by 12:00 P.M. before each class meeting. Micro-assignments submitted after this deadline will receive no credit. **Each micro-assignment counts for 1% of your final grade, up to 13%.** You will have, in total, fourteen opportunities to submit micro-assignments over the course of the term (there will be no micro-assignments in the final week of class). This means that **you can skip one micro-assignment without penalty.** (You do not need to tell me when you're choosing not to submit a micro-assignment.) Full credit for micro-assignments is awarded when the student has made a honest attempt to complete the task; determination of this criterion is at the discretion of the instructor. Note that individual micro-assignments will often include more than one question for you to answer; **you must answer all of a micro-assignment's questions to receive full credit.**

- » **Exit tickets:** At the end of each class you will be asked to write a short reflection relating to the day's discussion – an “exit ticket”. The purpose of these exit tickets is: (a) to provide you an opportunity to review and reflect on what you've learned; and (b) to maintain a record of class attendance.

Exit tickets must be handed in to me at the end of each class meeting. You will have, in total, fifteen opportunities to hand in exit tickets over the course of the term (one for each class), and each exit ticket counts for 0.5% of your final grade, up to 7%. This means that **you can skip one exit ticket without penalty.** Full credit for exit tickets is awarded when the student has made a honest attempt to respond to the assigned prompt; determination of this criterion is at the discretion of the instructor.

- » **Research project:** The major assignment for this course is a research project. This is an opportunity for you to think about an emerging technology of your choosing and the philosophical questions it raises. The technology should be one of personal interest to you, and one which you will enjoy thinking about more deeply. Ultimately, you will present your thoughts in the form of a final paper and an in-class presentation. To help you develop your thoughts along the way, you will hand in a brainstorm and a prospectus midway through the course.
- » **Research project presentation:** In the final week of class, each of you will give an in-class presentation on your chosen technology, to me and a group of your classmates. This presentation is meant to be an opportunity for you to practice expressing philosophical ideas in a digestible and engaging manner. **The kind of presentation you give is up to you.** Most straightforwardly, it can be a slideshow presentation (in the manner of a TED Talk); alternatively, it could be a video, a short story, an animation, a skit, a song, a podcast, a comic strip, a website, a game, an app – almost anything really. Be creative!

Your presentation may be a group presentation, with up to 3 of your classmates, if all members of your group are working on the same general technology and issue for their research project. (Each group member will still have to hand in their own final paper.)

The schedule of presentations will be determined in consultation with the students.

- » **Your midterm paper, brainstorm, prospectus, prospectus peer review, and final paper must be submitted via Canvas by end of day on the day they are due** (or, for all you night owls, by 6 A.M. the following morning), in PDF format. **Late papers will be docked 5% for each 24 hour period between the due date and when they are handed in** (unless accompanied by valid medical documentation). Late papers may be submitted up to 7 days after the due date; any papers not received by this time will automatically receive a 0. Assignment instructions and formatting guidelines will be provided along with assignment prompt.

- » **In-class participation:** You are expected to be an active participant in our class meetings. One (obvious) way to be an active participant is by asking questions and sharing your thoughts with the class; but this is not the only way, nor will it necessarily be the way that works best for you. Other ways to be an active participant include: attentively listening to classroom discussions; participating in break-out discussion groups with your classmates; and/or coming to talk to me after class or during office hours.

Technology in the classroom

Though the irony of this policy does not escape me, **use of portable electronic devices (laptops, smartphones, tablets, etc.) is not allowed in this class.** Even if you're not actively using your device, you may not have it out in front of you. Keep it in your bag; or even better, don't even bring it with you to class. Everyone's attention should be focused on what's happening in class, and use of electronic devices can be distracting to those around you. You should, however, **bring a notebook and a writing implement with you every day to class,** for taking notes and to facilitate with in-class activities.

Honor Code

One of the aims of this (and really, *any* university-level) course is to develop your ability to express yourself intelligently and responsibly. Part of what expressing yourself intelligently and responsibly involves is situating your own views in relation to others'. Plagiarizing others' views, or failing to acknowledge views you are responding to, runs counter to this aim. Because of this, plagiarism and all other forms of academic dishonesty will be treated with the greatest severity in this course. You should make yourself familiar with the University's Honor Code; see communitystandards.stanford.edu.

Academic Resources

The Summer Academic Resource Center offers academic support services to visiting and matriculated Stanford students enrolled in Stanford's Summer Quarter. The Summer Tutor Program offers free tutoring and academic skills coaching, and Academic Advising offers free assistance with course selection and requirements, etc.

- Summer Tutor Program: sarc.stanford.edu/tutoring
- Academic Advising: sarc.stanford.edu/advising

Accessibility

Students with diverse learning styles and needs are welcome in this course. Students who may need an academic accommodation based on the impact of a disability must initiate the request with the Office of Accessible Education (OAE). Professional staff will evaluate the request with required documentation, recommend reasonable accommodations, and prepare an Accommodation Letter for faculty dated in the current quarter in which the request is being made. Students should contact the OAE as soon as possible since timely notice is needed to coordinate accommodations. The OAE is located at 563 Salvatierra Walk (650-723-1066, studentaffairs.stanford.edu/oea).

Email

Questions should ideally be brought to me in person, either at lecture or during my office hours. But if you would prefer to correspond via email, my email address is williec@stanford.edu. I will respond to emails within two business days.

And feel encouraged to forward me links to articles and videos you come across that seem related to our discussions! The issues we will be talking about are of more than just academic interest, and one of the goals of this course is to help you see how these issues relate to and arise in our everyday lives.

Basic Schedule

DATE(S)	EMERGING TECHNOLOGY	BRANCH OF PHILOSOPHY
6/27-29	Driverless cars	Ethics
7/4-6	Genetic engineering	Bioethics
7/11-13	Engineering the environment	Environmental ethics
7/18-20	Machine learning	Philosophy of mind
7/25-27	State-of-the-art surveillance	Philosophy of law
8/1-3	Workplace automation	Political philosophy
8/8-10	Interactive film	Aesthetics
8/15-17	In-class presentations & wrap-up	

Detailed Schedule with Readings

Each day's readings are sorted into the following four categories:

- » **REQUIRED:** You have to read it! The main reading we will be discussing in class
- **RECOMMENDED:** You will benefit from reading it! Supplements the required reading; I may make reference to its ideas in class
- **BACKGROUND:** Totally optional. Typically an older reading that provides some historical perspective on the required reading
- ★ **EXTRA:** Also totally optional, for when you're really interested in the day's topic. An additional reading which delves into a related issue, which isn't explicitly covered in the required reading.

Reminder: All the readings listed below can be accessed from bit.ly/phil29s, except for audio/video files, which can be found at the provided links.

6/27–29 Driverless cars

Ethics

TUESDAY

- » **REQUIRED:** MIT's Moral Machine, moralmachine.mit.edu
- **RECOMMENDED:** "The Social Dilemma of Driverless Cars", Iyad Rahwan, TEDxCambridge (November 28, 2016): [youtube.com/watch?v=nhCh1pBsS8o](https://www.youtube.com/watch?v=nhCh1pBsS8o)
- **BACKGROUND:** "'The Nut Behind the Wheel' to 'Moral Machines': A Brief History of Auto Safety", Neil Mahotra, Ken Shotts, & Sheila Melvin, *Stanford Graduate School of Business* case no. ETH-04 (November 13, 2014)
- ★ **EXTRA:** Greene, J. D., 2016. "Our driverless dilemma." *Science* 352(6293): 1514–1515
- ★ **EXTRA:** "Teaching robots right from wrong", Simon Parkin, *1843* (June/July 2017): 1843magazine.com/features/teaching-robots-right-from-wrong

THURSDAY

- » **REQUIRED:** Thomson, J. J., 2008. "Turning the Trolley." *Philosophy & Public Affairs* 36(4): 359–374
- **BACKGROUND:** Foot, P., 1967. "The Problem of Abortion and the Doctrine of the Double Effect." *Oxford Review* 5: 5–15
- **BACKGROUND:** Thomson, J. J., 1976. "Killing, Letting Die, and The Trolley Problem." *The Monist* 59(2): 204–217
- **BACKGROUND:** Thomson, J. J., 1985. "The Trolley Problem." *The Yale Law Journal* 94(6): 1395–1415
- ★ **EXTRA:** Marcus, R. B., 1980. "Moral Dilemmas and Consistency." *The Journal of Philosophy* 77(3): 121–136

TUESDAY

- » **REMINDER:** NO CLASS! BUT MICRO-ASSIGNMENT STILL DUE BY NOON ON WEDNESDAY
- » **REQUIRED:** “Update: CRISPR”, *Radiolab*, WNYC (February 24, 2017):
radiolab.org/story/update-crispr/Radiolab
- ★ **EXTRA:** “Rewriting the Code of Life”, Michael Specter, *The New Yorker* (January 2, 2017):
newyorker.com/magazine/2017/01/02/rewriting-the-code-of-life
- ★ **EXTRA:** “Humans 2.0”, Michael Specter, *The New Yorker* (November 16, 2015):
newyorker.com/magazine/2015/11/16/the-gene-hackers

THURSDAY

- » **REQUIRED:** Savulescu, J., 2001. “Procreative beneficence: why we should select the best children.” *Bioethics* 15(5-6): 413-426
- **RECOMMENDED:** Sandel, M. J., 2004. “The case against perfection.” *The Atlantic Monthly* 293(3): 51-62
- **BACKGROUND:** Parens, E., 1998. “Is Better Always Good?: The Enhancement Project.” *Hastings Center Report* 28(1): S1-S17
- ★ **EXTRA:** Shiffrin, S. V., 1999. “Wrongful life, procreative responsibility, and the significance of harm.” *Legal Theory* 5(02): 117-148
- ★ **EXTRA:** Sparrow, R., 2005. “Defending Deaf Culture: The Case of Cochlear Implants.” *Journal of Political Philosophy* 13(2): 135-152

TUESDAY

- » **REQUIRED:** “The Growing Case for Geoengineering”, James Temple, *MIT Technology Review* (April 18, 2017): technologyreview.com/s/604081/the-growing-case-for-geoengineering
- » **REQUIRED:** “Why We Will Need Genetically Modified Foods”, David Rotman, *MIT Technology Review* (December 17, 2013):
technologyreview.com/s/522596/why-we-will-need-genetically-modified-foods
- **RECOMMENDED:** “Three Slightly Crazy Plans Geoengineers Have to Save the World From Global Warming”, Andrew Bouvé and Jacob Brogan, *Future Tense* (January 27, 2016):
slate.com/blogs/future_tense/2016/01/27/what_is_geoengineering_this_video_explains_the_basics.html
- **RECOMMENDED:** “GMO debate grows over golden rice in the Philippines”, PBS NewsHour (September 17, 2014): youtube.com/watch?v=Ayv_EYi43E8

THURSDAY

- » **REQUIRED:** Shrader-Frechette, K., 1996. "Individualism, holism, and environmental ethics." *Ethics and the Environment* 1(1): 55–69
- **RECOMMENDED:** O'Neill, J., 1992. "The Varieties of Intrinsic Value." *The Monist* 75(2): 119–137
- **BACKGROUND:** Routley, R., 1973. "Is There a Need for a New, an Environmental, Ethic?" *Proceedings of the XVth World Congress of Philosophy* 1: 205–210
- **BACKGROUND:** Hardin, G., 1968. "The Tragedy of the Commons." *Science* 162(3859): 1243–1248
- ★ **EXTRA:** Gardiner, S. M., 2001. "The Real Tragedy of the Commons." *Philosophy & Public Affairs* 30(4): 387–416
- ★ **EXTRA:** Sinnott-Armstrong, W., 2005. "It's Not My Fault: Global Warming and Individual Moral Obligations." In W. Sinnott-Armstrong and R. Howarth (eds.) "Perspectives on Climate Change: Science, Economics, Politics, Ethics," 221–253. Elsevier

7/16 **RESEARCH PROJECT BRAINSTORM DUE!**

7/18–20 Machine learning Philosophy of mind

TUESDAY

- » **REQUIRED:** "The Great A.I. Awakening", Gideon Lewis-Kraus, *The New York Times Magazine* (December 14, 2016): [nytimes.com/2016/12/14/magazine/the-great-ai-awakening.html](https://www.nytimes.com/2016/12/14/magazine/the-great-ai-awakening.html)
- **RECOMMENDED:** Mitsuku chatbot, created by Steve Worswick (2005–present): mitsuku.com
- **BACKGROUND:** ELIZA chatbot, created by Joseph Weizenbaum (1964–66): masswerk.at/eliza
- ★ **EXTRA:** insomnobot-3000, created by Casper: insomnobot3000.com

THURSDAY

- » **REQUIRED:** Searle, J. R., 1980. "Minds, brains, and programs." *The Behavioral and Brain Sciences* 3: 417–57

7/23 **MIDTERM PAPER DUE!**

TUESDAY

- » **REQUIRED:** “Secret Cameras Record Baltimore’s Every Move From Above”, Monte Reel, *Bloomberg Businessweek* (August 23, 2016): bloomberg.com/features/2016-baltimore-secret-surveillance
- » **REQUIRED:** “Edward Snowden: the whistleblower behind the NSA surveillance revelations”, Glenn Greenwald, Ewen MacAskill, & Laura Poitras, *The Guardian* (June 11, 2013): theguardian.com/world/2013/jun/09/edward-snowden-nsa-whistleblower-surveillance
- » **REQUIRED:** “Everything We Know About What Data Brokers Know About You”, Lois Beckett, *ProPublica* (June 13, 2014): propublica.org/article/everything-we-know-about-what-data-brokers-know-about-you
- **RECOMMENDED:** *Citizenfour*, dir. Laura Poitras (2014): youtube.com/watch?v=oKkF-X4QLB4 (\$2.99)
- ★ **EXTRA:** “Eye in the Sky”, *Note To Self*, WNYC (April 27, 2016): wnyc.org/story/conspiracy-theorist-radiolab-surveillance
- ★ **EXTRA:** “A Death in the Database”, Amy Merrick, *The New Yorker* (January 23, 2014): newyorker.com/business/currency/a-death-in-the-database
- ★ **EXTRA:** Pasquale, F., 2015. *The Black Box Society: The Secret Algorithms that Control Money and Information*. Cambridge: Harvard University Press

THURSDAY

- » **REQUIRED:** Rachels, J., 1975. “Why Privacy is Important.” *Philosophy & Public Affairs* 4(4): 323–333
- » **REQUIRED:** Kupfer, J., 1987. “Privacy, Autonomy, and Self-Concept.” *American Philosophical Quarterly* 24(1): 81–89
- **RECOMMENDED:** Nagel, T., 1998. “Concealment and Exposure.” *Philosophy & Public Affairs* 27(1): 3–30
- **BACKGROUND:** Warren, S. D. and Brandeis, L. D., 1890. “The Right to Privacy.” *Harvard Law Review* 4(5): 193–220
- ★ **EXTRA:** Glancy, D. J., 1979. “The Invention of the Right to Privacy.” *Arizona Law Review* 21(1): 1–40

7/30 **RESEARCH PROJECT PROSPECTUS DUE!**

TUESDAY

- » **REQUIRED:** “Our Automated Future”, Elizabeth Kolbert, *The New Yorker* (December 19 & 26, 2016): newyorker.com/magazine/2016/12/19/our-automated-future
- » **REQUIRED:** Kaplan, J., 2015. *Humans need not apply: A guide to wealth and work in the age of artificial intelligence*. Yale University Press [Chapter 8, pp. 131–152]
- **RECOMMENDED:** “When Robots Take Bad Jobs”, Alana Semuels, *The Atlantic* (February 27, 2017): theatlantic.com/business/archive/2017/02/when-robots-take-bad-jobs/517953

THURSDAY

- » **REQUIRED:** Russell, B., 1932. “In Praise of Idleness.” *Harper’s Magazine* 165: 552–559
- » **REQUIRED:** Anderson, E., 2015. “Liberty, Equality, and Private Government.” *The Tanner Lectures on Human Values* 63–122 [Lecture II, pp. 94–118]
- ★ **EXTRA:** “The Abolition of Work”, Bob Black (1985)

8/6 PROSPECTUS PEER REVIEW DUE!

TUESDAY

- » **REQUIRED:** *Possibilia*, dir. DANIELS (2016): helloeko.com/v/possibilia
- » **REQUIRED:** *{THE AND}*, dir. Topaz Adizes (2015): theand.us
- » **REQUIRED:** *Open Your Eyes To Hate*, Upstanding Neighbourhoods (2017): openyoureyestohate.com
- **RECOMMENDED:** “The Movie with a Thousand Plotlines”, Raffi Khatchadourian, *The New Yorker* (January 30, 2017): newyorker.com/magazine/2017/01/30/alternate-endings
- **BACKGROUND:** “Dim Future for Interactive Film”, Roger Ebert (June 12, 1994): rogerebert.com/rogers-journal/dim-future-for-interactive-film
- ★ **EXTRA:** *Do Not Track*, dir. Brett Gaylor (2015): donottrack-doc.com
- ★ **EXTRA:** “3 Dreams of Black”, dir. Chris Milk (2011): ro.me/film

- ★ EXTRA: “Virtual Reality: The Wearable Movie?”, Ave Carrillo & Rhiannon Corby, *The New Yorker Radio Hour*, WNYC (May 13, 2016): wnyc.org/story/virtual-reality-wearable-movie-rerun

THURSDAY

- » **REQUIRED:** Battin, M. P., Fisher, J., Moore, R., and Silvers, A., 1989. *Puzzles About Art: An Aesthetics Casebook*. New York: St. Martin’s Press [Chapter 1]
- **RECOMMENDED:** Adajian, T., 2016. “The Definition of Art.” In E. N. Zalta (ed.) “The Stanford Encyclopedia of Philosophy,” Metaphysics Research Lab, Stanford University, summer 2016 edn
- **BACKGROUND:** Danto, A., 1964. “The Artworld.” *Journal of Philosophy* 61(19): 571–584
- ★ EXTRA: Levinson, J., 1980. “What a Musical Work Is.” *The Journal of Philosophy* 77(1): 5–28
- ★ EXTRA: Davies, S., 1997. “John Cage’s 4’33”: Is It Music?” *Australasian Journal of Philosophy* 75(4): 448–462

8/15–17 In-class presentations & wrap-up

TUESDAY

- » **No required readings!** Research project presentations to be presented in class (schedule TBA)

THURSDAY

- » **No required readings!** Research project presentations to be presented in class (schedule TBA)
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8/18 **RESEARCH PROJECT FINAL PAPER DUE!**
