

Ethics of Technology (PHI 3930)
Fall, 2019

Class meeting time and place: Tuesday | Periods 5 – 6 (11:45 am – 1:40 pm) and Thursday
| Period 6 (12:50 pm – 1:40 pm) in MAT 0115

Instructor: Duncan Purves

Contact: dpurves@ufl.edu

Office hours: Thursday (11:40 am – 12:40 pm, 1:55 pm – 3:55 pm, and by appointment) in
Griffin-Floyd Hall, rm. 313

COURSE DESCRIPTION

This course exposes students to important interactions between ethics, economics, and public policy in assessing the social value of emerging technologies. Students will grapple with foundational concepts in ethics, economics, and policy-making. Beginning with a brief introduction to philosophical ethics, the then course pairs theoretical discussions of the philosophical dimensions of economics and policy-making with concrete issues in emerging technologies. Discussion topics include: cost-benefit analysis, risk, markets and market failures, economic valuations of technology, justice and fairness, and property rights. We will apply these concepts in assessing emerging technologies like *autonomous cars*, *big data policing algorithms*, and *germline gene editing*, and *geo-engineering*.

COURSE OBJECTIVES

1. Identify and explain the philosophical dimensions of foundational concepts in economics and public policy as they pertain to technology.
2. Develop a basic vocabulary for discussing the ethical dimensions of technology.
3. Analyze issues and policies concerning emerging technology through the application of ethical concepts.
4. Critique public policies, social practices, and political-economic institutions that shape, and are shaped by, scientific discovery and technological design.
5. Discern the structure of arguments, representing them fairly and clearly, and evaluating them for cogency.
6. Formulate original arguments, anticipate objections, and respond in a conscientious fashion.
7. Read and discuss complex philosophical texts from both historical sources and contemporary works.

8. Speak and write clearly and persuasively about abstract and conceptually elusive matters.

GRADING SCALE

The following grade scale will be used to assign final letter grades for the course. See UF grading policies for assigning grade points at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>.

Grade Scale	Grade Value
100-93=A	A=4.0
92-90=A-	A-=3.67
89-86=B+	B+=3.33
85-82=B	B=3.00
81-79=B-	B-=2.67
78-76=C+	C+=2.33
75-72=C	C=2.00
71-69=C-	C-=1.67
68-66=D+	D+=1.33
65-62=D	D=1.00
61-60=D-	D-=0.67
59-0=E	E=0.00

Grades that fall exactly on the upper threshold are awarded the higher grade. See <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx> for more information about UF grading policies.

COURSE WEBSITE

This course is supplemented by online content in the e-Learning environment known as "Canvas." PDF readings, an electronic copy of the syllabus, and assignment submission portals can be found on the course website. To login to the e-Learning site for this course, go to <https://lss.at.ufl.edu/>, click the **e-Learning in Canvas** button, and on the next page enter your Gatorlink username and password. You can then access the course e-Learning environment by selecting PHI 3930 from the **Courses** pull-down menu at the top of the page. If you encounter any difficulties logging in or accessing any of the course content, contact the UF Computing Help Desk at (352) 392-4537 or <http://helpdesk.ufl.edu>. Do not contact the course instructor regarding computer issues (I am unlikely to be of any help!).

REQUIRED READINGS

All readings can be found on Canvas (ufl.instructure.edu) under the 'Files' tab.

COURSE REQUIREMENTS

Emerging technology case studies (500 pts): We will have six or seven in-class discussions of case studies concerning emerging technologies. Students will be assigned to discussion

groups. Each group member will provide a written analysis of the case study and will use this analysis to inform the discussion. Each group will submit the “best” written analysis at the end of the discussion. Grades for the case studies will be determined by (a) participation in the case study discussion and (b) the quality of the group’s submitted written analysis. See the Course Schedule for the dates of the case studies.

Short Paper (200 pts): (1200 – 1500 words), **due 11/26**. This short paper involves a critical assessment of a topic that we have discussed in class. I will give you a choice of two topics for this paper; I will also provide the structure that the paper must follow. One of the topics will be theoretical, addressing an argument for a particular position in ethical theory. The other topic will involve *applying* ethical concepts in order to assess a specific technology.

This paper assesses whether students have acquired:

- skill in discerning the structure of arguments, representing them fairly and clearly, and evaluating them for cogency.
- skill in formulating original arguments, anticipating objections, and responding in a conscientious fashion.
- skill in reading and discussing complex philosophical texts from both historical sources and contemporary works
- and skill in speaking and writing clearly and persuasively about abstract and conceptually elusive matters.

Short reading quizzes (200 pts): There will be irregular reading quizzes, designed to make sure that you are doing and understanding the readings, and to double-check that you are coming to class.

Class attendance and participation (100 pts): A good philosophy course requires good discussion. Good discussion requires regular attendance and healthy conduct. Therefore, attendance and conduct round out the remaining 10% of the course grade (which is good news for you, because it is *easy* to attend class!). Every unexcused, recorded absence beyond the first results in a 10% deduction from the participation/conduct grade (So, that’s 10% of 10% of your course grade). Students may be removed from the class roster for frequent absences. A 10% deduction may also occur for transgressions such as disruptive behavior, falling asleep, sending text messages, or surfing the internet.

ADDITIONAL INFORMATION

Academic Honesty

See <http://www.dso.ufl.edu/studentguide/studentrights.php> and <http://www.registrar.ufl.edu/catalog/policies/students.html#honesty>. You should expect the minimum penalty for academic dishonesty to be a grade of E for the class (not just the

assignment). All incidents of academic dishonesty will be reported to Student Judicial Affairs. Repeat offenders may be penalized by suspension or expulsion from the university.

All sources and assistance used in preparing your papers and presentations must be precisely and explicitly acknowledged. The web creates special risks here. Cutting and pasting even a few words from a web page or paraphrasing material without a reference constitutes plagiarism. If you are not sure how to refer to something you find on the internet, you can always give the URL.

Students with Disabilities

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, www.dso.ufl.edu/drc/) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Classroom Conduct

Students and faculty each have responsibility for maintaining an appropriate learning environment. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender, gender variance, and nationalities. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records.

Technology

Laptop and cellphone use is prohibited in this class. Turn off your phone as soon as you enter the classroom. First-time violations will receive a verbal warning. Subsequent violations will yield a loss of participation points. Though I see the irony in prohibiting technology in a class on the ethics of technology, there are reasons for this: (1) students tend to misuse their laptops; (2) [students learn worse on laptops](#), even when they use them the "right" way. Either way, [students who use laptops seem to receive worse grades than those who use paper and pen](#).*

*If you think that you really do need to use a laptop in this class, come speak to me. I will post my lecture notes soon after each class period, so don't worry about missing some notes.

Attendance, Illness, Religious Holidays, and Twelve Day Rule

Requirements for class attendance, religious holidays, and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

Excerpt from the statement on absences:

*Absences count from the first class meeting. In general, acceptable reasons for absence from or failure to participate in class include illness, serious family emergencies, special curricular requirements (e.g., judging trips, field trips, professional conferences), military obligation, severe weather conditions, religious holidays, and participation in official university activities such as music performances, athletic competition or debate. Absences from class for court-imposed legal obligations (e.g., jury duty or subpoena) must be excused. Other reasons also may be approved.***

****If you think you have an acceptable reason to be excused for your absence, you must contact the [Dean of Students Office](#) to receive an excuse letter. This prevents me from having to make difficult discriminations between excuses, and it provides you with something you can use for all of your missed classes.**

Course evaluation process

“Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.”

Counseling and wellness/Emergencies

<http://www.counseling.ufl.edu/cwc/Default.aspx>, 392-1575;

The University Police Department: 392-1111 or 9-1-1 for emergencies.

Email

The best way to reach me is by email (dpurves@ufl.edu). Although I typically check my email numerous times per day, you shouldn't expect me to reply to an email before the next business day. In particular, please plan ahead if you have questions before major assignments are due. I am happy to answer whatever questions you have over email, so long as they are the kinds of questions that can be answered in just a few sentences. I would prefer that you ask more involved questions during my office hours.

**I will occasionally email the class list with important information, like changes in the reading, discussion questions, or modifications for assignments. Therefore, please check your email regularly.*

COURSE SCHEDULE (subject to change)

<i>Date</i>	<i>Topic</i>	<i>Reading</i>
Week 1	<i>Introductions, syllabus, Technology and Society</i>	
<i>Tues., 8/20</i>	Introductions/Syllabus	
<i>Thurs., 8/22</i>	Technology and Society	Langdon Winner, "Technologies as Forms of Life"
	Technology: What is it?	Stanford Encyclopedia of Philosophy, "Philosophy of Technology" (Section 2.5)
Week 2		
<i>Tues., 8/27</i>	Technology and Society: In Sickness and in Health	Emmanuel Mesthene, "The Role of Technology in Society"
<i>Thurs., 8/29</i>	<i>Background: Ethical Theory</i> Philosophy, Metaethics, Normative Ethics, and Applied Ethics	Shelley Kagan (1998) "Preliminaries" (1 – 22)
Week 3	<i>Technology and Ethics</i>	
<i>Tues., 9/3</i>	Normative Ethics: Utilitarianism	John Stuart Mill, <i>Utilitarianism</i> , ch. 2 Feldman, "Utilitarianism: Pro and Con"
<i>Thurs., 9/5</i>	Technology and moral side constraints: The Case of	Robert Nozick, "Moral Constraints and Moral Goals" (83-89) Anscombe, "Mr. Truman's Degree"

	Nuclear Weapons	
Week 4	Technology and Property	
Tues., 9/10	Property Rights	John Locke, "Of Property" David Hume, "Of Justice and Property"
Thurs., 9/12	Technology and Intellectual Property	Edwin Hettinger, "Justifying Intellectual Property" Adam Moore and Ken Himma, "Intellectual Property" (Stanford Encyclopedia of Philosophy)
Week 5	Property, algorithms and interpretability	
Tues., 9/17	Case Study: Technology and Intellectual Property Rights	"These Stunning AI Tools are about to Change the Art World (Slate)" "AI System 'should be recognized as inventor'" (BBC News). "The AI-Art Gold Rush Is Here" (The Atlantic)
Thurs., 9/19	Interpreting machine learning	Kilian Weinberger, Cornell: Interpretable Machine Learning: What are the limits and is it necessary? "Making Intelligence Intelligible" (Interview)
Week 6		
Tues., 9/24	Interpreting machine learning	Vredenburg, "Is there a right to explanation?"

Thurs., 9/26	Case Study: Intellectual property rights v. the right to explanation	Burrell, "How the machine 'thinks': Understanding opacity in machine learning algorithms"
Week 7	Technology and the Market	
Tues., 10/1	Public goods and market failures	Tyler Cowen, " Public Goods " Jonathan Anomaly, "Public Goods and Government Action"
Thurs., 10/3	Technology, public goods, and government intervention	Robert E. McGinn, "Technology, Demography, and the Anachronism of Traditional Rights"
Week 8		
Tues., 10/8	Case study: Facebook, democracy, and market failures	Russian content on Facebook, Google and Twitter reached far more users than companies first disclosed (WashPo) Why Fake News Spreads like Wildfire on Facebook (Chicago Tribune)
Thurs., 10/10	Risk Small probabilities of great harm	Kristin Shrader-Frechette, "Technological Risk and Small Probabilities" (skip section 2.23 "A rejoinder" on pp. 437 – 438; and last paragraph of p. 440 until beginning of 2.4) HuffPo, " Managing Risks in Public Policy: Impact vs. Probability? "
Week 9		
Tues., 10/15	Cost-benefit analysis v. the	Sunstein, "Cost-benefit analysis and the environment" (pp. 351 – 354)

	precautionary principle	Stephen Gardiner, "A Core Precautionary Principle" (Sections I – III and VII to the end)
Thurs., 10/17	Case study: Superintelligence and existential risk	Bostrom, <i>Superintelligence</i> (140 – 149)
Week 10	Technology and Work	
Tues., 10/22	The Machine v. the Laborer	In class: "Humans Need not Apply" Marx, <i>Capital</i>, ch. 15, sections 5 and 6 Lenman, "On becoming redundant or what computers shouldn't do"
Thurs., 10/24	Distributive Justice: Egalitarianism	Rawls, "Justice as Fairness"
Week 11		
Tues., 10/29	Distributive Justice: The Right to Work	Kavka, "Disability and the Right to Work" (pp. 262 – 282) Nozick, "Distributive Justice" (45 – 60)
Thurs., 10/31	Case Study: Technological Unemployment	"Robots could replace 1.7 million American truckers in the next decade" (LA Times) Vardi, "What the industrial revolution really tells us about the future of automation and work" (The Conversation) Vardi, "Humans, Machines, and Work: The Future is Now" (First 45 minutes of Lecture)

Week 12	Killing machines	
Tues., 11/5	Killing by Machine: The Ethics of Autonomous Weapons	Optional: “Attack of the Killer Robots” (Buzzfeed) Bradley Strawser, “Moral Predators”
Thurs., 11/7	Killing by Machine: The Ethics of Autonomous Weapons	Purves, Jenkins, Strawser, “Autonomous Weapons, Moral Judgment, and Acting for the Right Reasons”
Week 13	Surveillance and privacy	
Tues., 11/12		Screening of <i>Citizenfour</i>
Thurs., 11/14	Surveillance and big data policing	Doyle, “Privacy and Perfect Voyerism” Rachels, “Why Privacy is Important” (326 – 331) House passes NSA spying bill after Trump tweets cause confusion (Reuters)
Week 14		
Tues., 11/19	Why does Privacy Matter?	Calo, “The Boundaries of Privacy Harm” Moxie Marlinspike, “Why ‘I’ve got nothing to hide’ is the Wrong Way to Think about Surveillance
	Case Study: Surreptitious	

Thurs., 11/21	Surveillance on the Internet	
Week 15 Tues., 11/26	TBD Short Paper Due	
Thurs., 11/28	No Class- Thanksgiving	
Week 16 Tues., 12/3	Fairness in Machine Learning	<p>Readings TBD.</p> <p>Potential readings:</p> <p>Binns: "Fairness in Machine Learning: Lessons from Political Philosophy"</p> <p>Ferguson, <i>The Rise of Big Data Policing</i> (86 – 101)</p> <p>Ferguson, <i>The Rise of Big Data Policing</i> (62 – 83)</p> <p>Kleinberg lecture: https://www.youtube.com/watch?v=4X3Z7FPwkA8 </p> <p>Kleinberg, "Inherent Tradeoffs in the Fair Determination of Risk Scores" https://www.theguardian.com/technology/2017/apr/13/ai-programs-exhibit-racist-and-sexist-biases-research-reveals?CMP=Share_iOSApp_Other </p> <p>Sap et al, "The Risk of Racial Bias in Hate Speech Detection"</p>