

Data Ethics 407/507 Tentative Syllabus

Course Description and Objectives:

In this seminar we will explore the central ethical challenges particular to data science and related fields of computational analysis. We will do this by closely following some of the technical details that make these technologies work the way they do as well as by paying special attention to ethical concepts—such as privacy, moral responsibility and bias—that are often associated with their use.

Course Learning Objectives: By the end of this course the student will be able to:

- Identify and carefully distinguish challenges *particular* to data science and other related computational methods of analysis such as Machine Learning and Artificial Intelligence.
- Distinguish between the ethical harms particular to data science methods and those harms that emerge in virtue of the contexts in which these methods are deployed.
- To apply philosophical analysis of the implications of the use of such technologies in the sciences and in policy-making practices.
- Cohesively articulate (both orally and in writing) a critical analysis and an argumentative position regarding novel ethical and practical issues related to data science in relation to privacy, surveillance, and moral responsibility.

Required Textbook: There is no required textbook for this course. However, you may have to rent or buy access to some of the media required in this course. The cost of renting/buying these documents should be a fraction of the cost of a book.

Additional reading material will be provided digitally when available. Other times you may have to access articles through your own University of Oregon library accounts. Make sure you are familiar with how to find published articles through your library's database. *Being able to search, find and use digital material through your library's database is an integral part of your college education, make sure you become acquainted with how to do so.*

Meeting Schedule:

January 7th-March 10th

Tuesdays 4:00 PM- 6:50 PM Friendly, Room 214

Contact information: The location of my office is room 245 in Susan Campbell Hall. The best way to contact me is via email, at ralvarad@uoregon.edu. I typically respond within 24 hours. (Please note that I do not normally check my email during the weekend/late at night. If you email me during those times my reply will be delayed.)

Requirements/grading: At the end of the course, I'll give you a grade between A and F. The grades A, B, C, and D are given specific interpretations at the University of Oregon grading policy. You can find it at the registrars website in a section called "The Grading System" (<https://registrar.uoregon.edu/current-students/grading-system>), which says that an A should be given for achievement of *excellent* quality, a B for achievement of *good* quality, a C for achievement of *satisfactory* quality, and a D for achievement whose quality is less than acceptable (expected, explicitly or implicitly required from college-level work).

What letter grade I give you will depend on the final scores you get on the various assignments in the course (outlined below). I'll use the following scale to convert your final average to a letter grade.

93.50 or greater	A
90.00 through 93.49	A-
86.50 through 89.99	B+
83.50 through 86.49	B
80.00 through 83.49	B-
76.50 through 79.99	C+
73.50 through 76.49	C
70.00 through 73.49	C-
66.50 through 69.99	D+
63.50 through 66.49	D
60.00 through 63.49	D-
59.99 and below	F

Here are the factors that will determine your overall grade:

Attendance and participation	15%
Review/response of external article	15%
In-class writing assignments	10%
Presentation	20%
Research Paper 1	20%
Final Research Paper	20%

Estimated Student Workload: In this course you are expected to read assigned material before each lecture in which that material is discussed. Some of the readings are very difficult and will take you longer than you are accustomed to for some of your other classes. You must come prepared to each lecture with a question about the material.

The above workload corresponds to the following student engagement hours (estimated):

- Lectures (30 hours per term); 3 hours per week
- Assigned Readings (50 hours per term); 5 hours per week (~60-80 pages of dense material)

Attendance and Participation: You are required to attend class and your discussion sessions in order to earn the full attendance and participation grade. However, merely showing up to class/discussion session is not sufficient to earn you any attendance and participation points. In order to earn some or the full 15% of your attendance and participation grade you must also engage in a thoughtful and deliberate manner with the content of the lecture and the readings in class and in your discussion sessions. Please expect your name to be called in class and during discussion sessions as we discuss key points of the assigned readings or lecture content. While having the “right” answer is not what is expected, a willingness to engage intellectually with the question as well as a degree of familiarity with the required readings is. Not being able or willing to thoughtfully engage in an ongoing discussion when called upon will count against your overall participation grade.

Review and response: Each student is responsible for finding an article of interest, related to data ethics, that was not assigned (if you are an undergraduate you are expected to get your article from a reputable investigative journalism source: ProPublica, ICIJ, etc.; if you are a graduate student you are expected to find an academic article that was published in the last 5 years). The student must submit a review to our course’s digital platform.

If you are an undergraduate student, a review of the article should include a) a brief summary of the article, b) a paragraph connecting course material (core concepts/distinctions/theoretical frameworks) and c) a brief personal analysis concerning the ethical implications of the article’s main premise (your complete assignment *can* be worth as much as 15% of your overall grade). (<600 words)

If you are a graduate student, I expect this to be a thorough review of the article of the kind you would submit for publication or as part of a peer review process for a journal (<900 words). Wiley offers a great guide [here](#).

As part of this assignment, you must also independently submit a thoughtful response to a classmate’s article review. This response should be a single paragraph and should thoughtfully engage with the content of your peer’s review. You should respond to articles that do not already have responses to them.

In-Class Writing Assignments: Every class period you will have to write a short but thorough answer to a question related to the readings for the day or the discussion taking place during lecture. The answers should be from 1 to 3 paragraphs and should fully address the contents of the question. That is, if the question has two or more components you should make sure each and every one of them is clearly and directly addressed. These answers should be genuinely thoughtful responses, even if not thoroughly technical, and should include references to relevant course material and concepts when applicable. No late in-class writing assignments will be accepted.

Coauthored Presentations: An important part of your grade is an end-of-term research presentation. You and a coauthor (TBD) should prepare to present on a specific topic (TBD) for 10-15 minutes and be ready to take on questions from the audience (your classmates and myself). The presentation should include 1) a clear and concise description of a *philosophical* problem within data ethics regarding a related technology of your choice, 2) an overview of the specific implications for ethical deliberation (preferably based on covered literature) with an applied example, and 3) a philosophical analysis of the issue.

Research Papers: All written work must be submitted electronically through the class' Canvas site. *Papers 1 and 2 shall be between 1400-1800 words.* All online paper submissions must be turned in using .doc or .docx formats. *Papers are automatically compared to web materials and to other papers submitted.* This means that any text borrowed from another source will be flagged, and any plagiarized work will be brought to the attention of your professor. The rubric for assignments will be explained in detail in a separate document.

Policy on late papers and Canvas assignments: Late papers will be accepted with a penalty of 1/3 of a grade for each day or partial day late (e.g., a B becomes a B- if the paper is between a partial and a full day late, a C+ if it is more than one full day but less than two full days late, etc.). In the event of a **documented** illness or emergency, the student will be granted an extension and a new due date for the paper will be determined by the instructor. The late paper penalty will then be applied if the paper is turned in after the new due date. Since this class takes place over a shortened period of time, it is essential that all students continue progressing through the material as a group. The only exception to this will be in the event of a **documented** illness or emergency.

Academic misconduct: I take academic misconduct, especially cheating on papers, extremely seriously, and am generally disposed to impose the harshest available penalties when it occurs.

Please be mindful and respectful of other people's time and voices. You can ensure an equitable and productive lecture/discussion session by making sure you signal your desire to engage before you speak, waiting your turn, and by trying not to interrupt your professor and/or others. If the point you are trying to make or the question you are raising is of substantial complexity/length please consider pursuing it/continuing it after class or during office hours with me. This will ensure that your classmates do not miss out on other important aspects of the lecture/discussion.

No-Screen Policy: This class offers you the chance to learn about and discuss, for a mere 3 ½ hours per week, some of the most profound and old questions humans have had to deal with. You should take this chance as a privileged opportunity of uninterrupted dialectic contemplation. In order to enable such an opportunity, I have a **no-screen policy in the classroom**. This means no smartphones, no tablets, no laptops, no wearables, no e-readers and definitely no etch-a-sketch devices during class time. Usage of screens during class/discussion session will automatically have a negative impact in your attendance and participation grade.

By the time you attend lectures you should already have read the assigned readings, so you do not need a screen. This is not just what is best for you, but also what is best for those next to you

[1]. Using a phone in class is highly distracting for your brain, even if you think you are good at multitasking [2]. Furthermore, while taking notes is actually not the best way to benefit from a lecture/discussion, if you must do it, writing them by hand is in fact better for memory retention [3]. You can find more information about this from the following sources:

1. <https://www.sciencedirect.com/science/article/pii/S0360131512002254?via%3Dihub>
2. <https://www.tandfonline.com/doi/abs/10.1080/03634523.2013.767917>
3. <https://journals.sagepub.com/doi/abs/10.1177/0956797614524581>

(If you are a *designated* note taker or if you require special accommodation to use a screen please send me an email/talk to me early in the term and/or make sure you contact the Accessible Education Center to request a letter as soon as school starts or before).

Disability accommodation: If you have a disability for which you may be requesting special services or accommodations for this course, be sure to contact <https://aec.uoregon.edu/request-accommodations> and provide a letter from that office documenting the accommodations to which you are entitled. Please also contact me privately, at your earliest convenience, so that I can be aware of your situation and can begin to prepare the appropriate accommodations in advance of receiving the letter from the Accessible Education Center. A list of required course technology is below – please contact Student Access Services and myself if you know you will encounter difficulties with a specific technology listed.

The University of Oregon is working to create inclusive learning environments. Please notify me if there are aspects of the instruction or design of this course that result in disability-related barriers to your participation. You are also encouraged to contact the Accessible Education Center in 360 Oregon Hall at 541-346-1155 or uoac@uoregon.edu .

Required technology: In order to complete this course, you will need to have or have access to:

- A computer with a modern internet browser and sufficiently fast internet access to stream video content.
- Microsoft Word: This software is used for creating documents (i.e., your paper assignments).
- A PDF reader: This software is used for reading some of the course's documents. If you do not already have this software installed on your computer, the free official Adobe Acrobat Reader software may be downloaded at <https://get.adobe.com/reader/>.
- Video streaming capability: This class requires you to watch a few videos which have been posted online.

Technical support: If you experience technical difficulties using Canvas or having access to any digitally distributed material for this class, email me as soon as possible. You can also contact UO's Information Technology at:

<https://service.uoregon.edu/TDClient/KB/ArticleDet?ID=31879>

Telephone support is available Monday through Friday, 8am to 5pm. Phone number is 541-346-HELP (541-346-4357). During the fall, winter, and spring, extended hours are offered for phone and service portal ticket support: 8am-7pm, M-F.

Tentative Class schedule:
(This schedule is subject to change)

Reading time estimates: (*) = 30 min, (^) = 1hr, (^*) = 1hr 30 min

(keep in mind that in philosophy the number of pages is not a good indicator of reading time)

Week 1 Introduction

01/07] Introduction to Data Ethics	
	Do: 1. In-class writing assignment

Week 2 What is ethics?

01/14 The three major theories	Read: 1. “The search for a ‘New Ethic’ Winner (p.130-134) (*) 2. “The lay of the Land” Shafer-Landau (p.1-19) (^) 3. “Ethics & Big Data” Herschel and Miori (^)
	Do: 1. In-class writing assignment

Week 3 What is data science?

01/21 Big data Machine Learning AI	Read: 1.“Big data, new epistemologies and paradigm shifts” R. Kitchin (^*) 2.“Critical Questions for Big Data” Crawford and boyd (^)
	Listen: 99% Invisible Episode “On Average”
	Do: 1. In-class writing assignment

Week 4 The model

<p>01/28</p> <p>Predictive algorithms Risk assessment</p>	<p>Read:</p> <ol style="list-style-type: none">1. “Security and the Incalculable” L. Amooore (^)2. “Data Derivatives” (L.Amoore) (^) <p>Watch: “Surveillance Capitalism and our Democracy” Zuboff (^)</p> <hr/> <p>Do:</p> <ol style="list-style-type: none">1. In-class writing assignment
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Week 5 Data Technology and Ethics

<p>02/04</p>	<p>Read:</p> <ol style="list-style-type: none">1. “Milestones in the History of Information and Computer Ethics” Bynum (^)2. “What is data ethics?” Floridi and Taddeo (^) <hr/> <p>Do:</p> <ol style="list-style-type: none">1. In-class writing assignment2. Research Paper 1 due
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Week 6 You and Metadata

<p>02/11</p> <p>Data exchanges Data centers Data aggregation</p>	<p>Read:</p> <ol style="list-style-type: none">1. “Knowing us better than we know ourselves” Nissenbaum (p.35-50) (^)2. “12 Million Phones, One Data Set, Zero Privacy” NY Times <p>Watch: CitizenFour</p> <hr/> <p>Do:</p> <ol style="list-style-type: none">1. In-class writing assignment
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Week 7 Responsibility.

02/18	Read: 1. “Algorithmic accountability” Caplan et al. (^*) 2. “Accountability in a computerized society” Nissenbaum (^*) 3. Responsibility SEP (^) Do: 1. In-class writing assignment
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Week 8 Privacy

02/25 What is Privacy?	Read: 1. “Locating the Value in Privacy” Nissenbaum (p.67-88) (^) 2. “The Right to Privacy” Judith Jarvis Thomson (p.272-289) (^) Do: 1. In-class writing assignment 2. Review of external article due
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Week 9 Agency and Autonomy

03/03 What does technology have to do with being free?	Read: 1. Virtue Ethics, Technology and Human Flourishing” Shannon Vallor (**) 2. SEP Agency/ Autonomy Do: 1. In-class writing assignment 2. Response to peer’s review of external article
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Week 10 Opacity and Data

03/10 Opacity and data Student presentations	Read: 1. “Hidden Technical Debt in ML Systems” Sculley et al. (^^) 2. “How the machine thinks” J. Burrell (^*)
	Do: 1. In-class writing assignment 2. Group presentations are due

Week 11 Finals

03/17 Final Paper Due
