

ISAT 440 Spring 2021 (Online): Cultural, Ethical, Legal Issues in Computing

Tuesday Thursday 2:40-3:55 PM
Synchronous, Zoom

This is a syllabus for Dr. Emily York's ISAT 440 Spring 2021 class. All students are responsible for reading and understanding the material on this syllabus. This syllabus is a "living document," which means that at times the professor may identify a need to modify the syllabus, either to make a correction or to respond to the needs of the students and the course as they become apparent during the course in order to best meet the learning objectives. In such a case, the professor will make an Announcement through Canvas notifying students of any changes that have been made and will upload a new syllabus document.

Communications Information

Professor Contact Information:

Dr. Emily York
yorker@jmu.edu

The best way to contact me is directly by email (and/or through Canvas). I will generally reply same day if I am contacted before 5 PM on a weekday, or by the next weekday if I am contacted after 5 PM on a weekday or on the weekend. If I have not, please send a gentle reminder. A helpful best practice is to include the course number, ISAT 171, in the subject line of your email.

Office Hours

Student hours will be conducted via Zoom, and I am using Calendly as a way for you to book a 15 minute appointment. You may schedule an appointment any time during the following regular student hours from Jan 26 – Apr 29:

Tuesdays	1-2
Wednesdays	3:30-5
Thursdays	10-11

You can schedule an appointment by going to: <https://calendly.com/yorker/student-hours?month=2021-01>

If you need to schedule a time outside of these windows, please email me.

Scheduling policy: Appointments should be scheduled at least 1 hour before office hours. Once you schedule an appointment, you are responsible for putting this appointment in your calendar. Calendly will set up the zoom link. If you need to drop by during my office hours and have not set an appointment, please email me and I will try to accommodate you.

Cancellation policy: Cancellations should be made no later than the previous day to respect both my time and other students who may be wishing to meet with me. In addition to cancelling an appointment via Calendly, please email me as a courtesy.

Expectations for Student Communication

Canvas Notifications

I usually communicate course information to students via Canvas announcements. I recommend that you have notifications turned on at least once per day.

Privacy, Property, Surveillance

All material provided as part of this course, including lectures, assignments, interactive modules, and other artifacts created by the professor, should be regarded as the property of Dr. Emily York. No course materials should be reposted online, shared, or sold to any third party.

You do not have my permission to post or share my communications as part of this course with any third party.

You do not have my permission to photograph or record audio or video of course lectures.

Course Description

Overview

This course prepares practitioners in the field of computing, broadly defined, to critically engage the social, cultural, ethical, political, and legal dimensions of their practice. Computing is deeply integrated into all aspects of society, and will continue to substantively shape everyday practices. Imagining the future, whether conceptualizing the next app or disruptive technology or envisioning the ways societies might communicate or travel or conduct war or respond to climate change, necessitates imagining the future of computing. Responsible computing requires understanding the implications of computing historically, recognizing and reasoning through ethical responsibility in the present as professionals, and anticipating the ways that novel computing technologies may pose new cultural, ethical, and legal issues to be considered.

Course Objectives

1. Understand the basic cultural, ethical, and legal issues in the discipline of computing, including their historical contexts.
2. Formulate critical questions concerning the social implications of computing and evaluate proposed answers to these questions drawing on ethical principles.
3. Anticipate the potential impact of introducing a given technological product into a given environment.
4. Apply ethical decision-making to ordinary dilemmas arising in professional practice.
5. Explore a variety of issues in relation to cultural, ethical, and legal issues, such as privacy, social media as public town squares, computing in national security, universal design and accessibility, algorithmic bias, and automation.

Requirements and Policies

Required Texts

You do not have to purchase any books for this course. All of your readings can be accessed on Canvas and/or via downloadable PDF files. Where possible, I will include a permalink to an item in the library to comply with copyright. You may need to connect with a proxy if you are off campus. For more information on that, see information here: <http://www.lib.jmu.edu/connect/>.

Attendance

This course meets synchronously. You are required to attend via Zoom. Attendance will be taken daily (at whatever time I choose), and will constitute 10% of your grade.

Submission of Assignments

All assignments must be turned in by their due date, at the due time indicated. A letter grade will be deducted for each day an assignment is late, and after three days at my discretion the assignment may not be accepted at all. Assignments will be submitted electronically through Canvas. You are

responsible for resolving any technical problems, including internet access, in order to submit assignments on time. Technical issues will not be considered a valid excuse for late submission.

Canvas

This course will make use of Canvas. All assignments, activities, readings, etc., are on Canvas and can be accessed in multiple ways. If you not familiar with Canvas, please familiarize yourself with it ASAP. The primary way to engage with assignments will be through Modules. All materials should be available here.

A note about Canvas: It is possible that you will find a discrepancy in Canvas, for example there is no link to submit your file, or a file seems to be unpublished and therefore unavailable. **If you have a question, or if there is a discrepancy, or something doesn't make sense to you, please email me.** Once I have addressed the issue, I will send an announcement to the class clarifying the issue. Do not wait until after something is due to inform me that you were not able to find or submit something on Canvas.

Participation

This course requires participation and discussion, and you are expected to be an engaged participant even though it is an online course. You should assume that you will turn on your camera, so please plan for that.

Zoom Recording

This class will use Zoom, and recording of the sessions will occur to facilitate accessibility but will not be posted publicly or broadly available to the class unless specific request is made. Most recordings will be deleted after the course ends. The only exception may include saving clips that the professor would incorporate into her tenure and promotion packet, to be shared only with the appropriate JMU faculty connected to tenure and promotion.

Zoom Camera Policy and In Class Participation

Synchronous, online class is significantly more engaging and interactive when our cameras are turned on. Additionally, seeing my students helps me to learn their names, respond to visual cues, and (I think) to be more engaging myself, as it lessens the feeling that I'm talking to myself. That said, I recognize that being on camera all the time can be challenging for a variety of reasons. **It will be this class policy to require you to turn on your cameras on days that your group is presenting (whether you are a presenter or a discussant) or leading an activity (approximately 3 times over the semester) and when we have a guest speaker (approximately 4 class periods over the semester).** Please make any arrangements necessary to ensure that you can turn on your camera during these times (including if necessary to plan to connect to Zoom on your phone if you are having connectivity or camera issues). Other than that, I recommend you to turn on your camera as much as you can, but will not require it. There may be times when I ask if folks will turn on the camera for a minute to say hello, and/or you may choose to turn on the camera when you are making a comment, or at other limited times. This is all recommended, but not required.

I will frequently ask you to engage in activities, and to post to Mentimeters with your name—these will help me to evaluate your overall participation. I will take attendance at any point in the class that is convenient for me. If you are not in class when I take attendance, I will mark you absent. If you are having internet issues, you may additionally connect with your phone.

Communications and Announcements

I will communicate to you about any course updates, clarifications, or reminders via Canvas announcements. You are responsible for setting up your Canvas settings to notify you regularly.

Technology

You will need to have access to the internet, and will also be recording audio and/or video for presentations. You should have a web camera. You will need to create an account in Zoom using your jmu email address, and an account with [MURAL](#) using your jmu email address.

Grading

This class requires regular engagement. The grading is divided into the groups as follows. Please note that if you add up the points, the percentages are off by a little—I modified the percentages to have even numbers, and this is the way that Canvas will weight these three buckets.

Quizzes and Case Studies: 20%

Reading Quizzes (12)	43 points
Case Studies (24)	30 points
TOTAL	67 points

Discussions and Group Activity: 30%

Discussion Lead	30 points
Discussion Respondent	15 points
Group Case Study/Activity	30 points
TOTAL	75 points

Attendance and Participation: 10%

Attendance	20 points
In Class Participation	10 points
TOTAL	30 points

Exams: 40%

Midterm	50 points
Exam	60 points
TOTAL	110 points
TOTAL	282 points

Letter Grade Calculation

A: 94 to 100

A-: 90 to 93

B+: 87 to 89

B: 84 to 86

B-: 80 to 83

C+: 77 to 79

C: 74 to 76

C-: 70 to 73

D+: 67 to 69

D: 60 to 66

F: 0 to 59

Academic Honesty

Please review the JMU Honor Code policies for Academic Honesty. Plagiarism is a serious offence and is taken seriously by the University. To avoid issues of plagiarism, make sure you are properly citing your work and giving credit when you are using the ideas and writing of others. The JMU Honor Code defines the act of plagiarism as follows: “copying information, ideas, or phrasing of another person without proper acknowledgment of the true source; writing or presenting as if it is your own information, ideas, or phrasing without proper acknowledgment of the true source.” The JMU Honor Code can be found here: <http://www.jmu.edu/honor/II-code.shtml>

Accessibility Accommodations

JMU abides by Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act, which mandate reasonable accommodations be provided for students with documented disabilities. If you have a disability and may require some type of instructional and/or examination accommodations, please contact me early in the semester so that I can provide or facilitate provision of accommodations you may need. If you have not already done so, you will need to register with the Office of Disability Services, the designated office on campus to provide services for students with disabilities. The office is located in Wilson Hall, Room 107 and you may call 540-568-6705 for more information.

I am committed to making this course accessible to every student. If there are things I can say or do that will enable you to fully engage this course, please let me know. If there are things I have said or done that have excluded you, please let me know.

Religious Observation Accommodations

All faculty are required to give reasonable and appropriate accommodations to students requesting them on grounds of religious observation. The faculty member determines what accommodations are appropriate for his/her course. Students should notify the faculty by no later than the end of the Drop-Add period the first week of the semester of potential scheduled absences and determine with the instructor if mutually acceptable alternative methods exist for completing the missed classroom time, lab or activity.

Inclusion, Diversity, Respect

Every student is welcome in this class. Please treat each other with respect and dignity. If you have an experience in this classroom that makes you feel unwelcome or excluded, please communicate with me so that I can address it.

General Topic Overview (See Canvas for Details and Exact Due Dates) (Note that links will only work if you are authorized on the Canvas site)

- Week 1** Introduction
Readings: 1. Read Martha Nussbaum, "The Central Capabilities" **only from page 32 (starting with "Considering the various areas..." to the bottom of page 41.**
This chapter outlines a framework for considering what would constitute a flourishing society.
2. Read the 8 Key Questions overview: [8KQ-Handbook-Web-1.pdf](#)
- Week 2** Historical Dimensions of Predictive Analytics
Read the introduction and the chapter "Artificial Intelligence" from the new book *If Them* by historian Jill Lepore
as well as a few pages from the chapter "The IBM President" and "Billion Dollar Brain" pages 116-126
Also watch the trailer for the context [Netflix documentary "The Great Hack" \(Links to an](#)



[external site.\)](#)

Optional: If you have Netflix, I highly recommend you watch the full documentary. I am also sharing this neutral/critical review of the documentary: [The Great Hack Review.pdf](#)

- Week 3** Algorithmic Bias
- 1) Read this short article by Ruja Benjamin on algorithmic bias in healthcare:
[ruha benjamin _assessing risk.pdf](#) [download](#)
Benjamin, Ruha. "Assessing Risk, Automating Racism." *Science* 366, no. 6464 (October 25, 2019): 421–22. <https://doi.org/10.1126/science.aaz3873>.
- 2) Watch this short video of Safiya Umoja Noble describing her book *Algorithms of Bias* NYU Press. "Algorithms of Oppression." Accessed May 19, 2021.
<https://nyupress.org/9781479837243/algorithms-of-oppression>.

[Algorithms of Oppression: Safiya Umoja Noble \(Links to an external site.\)](#)



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- 3) Read this article on "Critical Questions for Big Data" by danah boyd & Kate Crawford (2012): [Critical Questions for Big Data.pdf](#)
danah boyd & Kate Crawford (2012) CRITICAL QUESTIONS FOR BIG DATA, *Information, Communication & Society*, 15:5, 662-679, DOI:

Week 4

First Amendment, Free Speech, and Social Media

Read this article on the First Amendment in relation to social media spaces: [You can't block me When social media spaces are public forums.pdf](#)

Pamela L. Morris & Susan H. Sarapin (2020) You can't block me:

When social media spaces are public forums, First Amendment Studies, 54:1, 52-70,

DOI:

10.1080/21689725.2020.1742760

Please read/skim this collection of "in the news" articles about social media bans in January. I've tried to bring together items from different sources that provide some basis for our discussion on Thursday. The articles are short. Sources include The Washington Post, Twitter, NPR, Fox Business, Pew Research Center, and The Guardian. The first one from The Washington Post I mainly selected because it provides a good synopsis of each of the different platform's actions. I selected the Twitter blog and policy to help us dig into what a social media company is saying about its own policy (these can definitely be skimmed). The NPR and Fox Business stories get into the Amazon-Parler story and lawsuit. The Pew Research Center data shows how opinions about all of this are politicized (also easy to skim). And The Guardian is a brief synopsis of some of the For and Against (pros and cons) of different experts about the action social media companies took in banning Trump.

1. This article in the Washington Post has an overview of the ways that different platforms have banned Trump and his allies:
<https://www.washingtonpost.com/technology/2021/01/11/trump-banned-social-media/> (Links to an external site.)
2. Here you can see Twitters [blog post about their policy](#) (Links to an external site.), and their [civic integrity policy](#) (Links to an external site.).
3. Here is an [NPR story](#) (Links to an external site.) about the Parler and Amazon, and a [Fox Business](#) (Links to an external site.) story about Parler's lawsuit and Amazon's response.
4. Here is [data from the Pew Research Center](#) (Links to an external site.) about how Republicans and Democrats are at odds of social media companies banning Trump
5. Finally, a short recap of For and Againsts from The Guardian:
<https://www.theguardian.com/us-news/2021/jan/11/opinion-divided-over-trump-being-banned-from-social-media> (Links to an external site.)

This is not required reading, but you might find this very current report from an NYU analysis interesting in part to consider how data analytics might help us to navigate competing claims. It claims that Social Media companies have not shown bias against

conservatives: [NYU+False+Accusation_2.pdf](#) [download](#)

Week 5

Artificial Intelligence

Read this policy document on Explainable AI: [AI-and-interpretability-policy-briefing-1.pdf](#) [download](#)

("Explainable AI | Royal Society." Accessed May 19, 2021. <https://royalsociety.org/topics-policy/projects/explainable-ai/>.

You don't have to read the Annex at the end)

These are not required, but recommended for different perspectives on AI:

[Artificial Intelligence The Park Rangers of the Anthropocene - The Atlantic.pdf](#) download

[Automation May Take Jobs—but AI Will Create Them WIRED.pdf](#) download
[Ethical concerns mount as AI takes bigger decision-making role – Harvard Gazette.pdf](#)

Week 6 National Security

We will have a guest speaker, Dr. Kathleen Moore, from Intelligence Analysis, to speak about her research project where she is using qualitative research approaches to identify linguistic markers in the manifestos of mass shooters.

She has asked us to do the following reading to prepare:

1. <https://www.prnewswire.com/news-releases/qanon-is-two-different-people-shows-machine-learning-analysis-from-orphanalytics-301192981.html> (Links to an external site.)

2. "Page 149 (actual) which is 138 in the text, to 155 (actual) but reads as 144. It covers Interpretations of results, Limitations, Recommendations, Conclusions, Implications" in this

document: [Common Psycholinguistic Themes in Mass Murderer Manifestos.pdf](#) download

Week 7 Gender and Computing

This chapter is recommended but not required. It serves the basis of the [extra credit quiz](#).

Read this chapter from The Cultural Studies of Technology on technological determinism and

cultural determinism: [Determinism.pdf](#)

(Jennifer Daryl Slack & J. Macgregor, 2014)

Read this concise history of women in computing in the New York Times. Here is the link:

<https://www.nytimes.com/2019/02/13/magazine/women-coding-computer-programming.html?referringSource=articleShare> (Links to an external site.)

Here is a printout version: [The Secret History of Women in Coding - The New York Times.pdf](#)

Read the prologue and a chapter about the "Paypal Mafia" from the book Brotopia by Emily Chang: [Chang_Brotopia.pdf](#)

PenguinRandomhouse.com. "Brotopia by Emily Chang: 9780525540175 |

PenguinRandomHouse.Com: Books." Accessed May 19, 2021.

<https://www.penguinrandomhouse.com/books/547571/brotopia-by-emily-chang/>.

Week 8 Midterm

Week 9 Accessible and Universal Design

Read these two chapters from Gilbert's *Inclusive Design For a Digital World*:

[Gilbert - 1 Designing with accessibility in mind.pdf](#) download

[Gilbert -3 If it's annoying it's probably not accessible.pdf](#) download

"Inclusive Design for a Digital World - Designing with Accessibility in Mind | Regine Gilbert | Apress." Accessed May 19, 2021.

<https://www.apress.com/gp/book/9781484250150>.

Recommended but not required additional resources:

<https://www.washington.edu/doit/universal-design-process-principles-and-applications> (Links to an external site.)

<https://www.washington.edu/doit/designing-software-accessible-individuals-disabilities>

Week 10 Robot Ethics

Read a short news article about dancing robots, followed by a scholarly article about the ethics of robot companions nudging humans:

1) <https://medium.com/swlh/why-the-dancing-robots-are-a-really-really-big-problem-4faa22c7f899> (Links to an external site.)

and :

2) <https://www.nytimes.com/2020/11/22/science/artificial-intelligence-robots-racism-police.html> (Links to an external site.)

3) [Robotic Nudges- The Ethics of Engineering a More Socially Just Human Being.pdf](#)

Week 11 Speculative Futures of a Computational World

Read:

<https://www.wired.com/story/minecraft-dream-smp-political-drama/> (Links to an external site.)

and

[NYT - Virtual Reality Companies Look to Science Fiction for Their Next Play - The New York Times.pdf](#)

Week 12 Analyzing Case Studies

Week 13 Teamwork Developing a Case Study

Week 14 Team Led Activity

Week 15 Team Led Activity

Week 16 FINAL EXAM