PHIL 3127 Science, Technology, and Human Values - Syllabus, Spring 2018

Dr. Michael Hoffmann, m.hoffmann@gatech.edu

General Information

Description

This class addresses two different ethical problems that are crucial in a world determined by science and technology: first, the problem of becoming aware of possible ethical implications of one's actions and, second, so-called wicked problems. A wicked problem is a problem that can be framed in a number of different ways, depending on varying interests, world-views, values, or differences regarding the scale on which people think the problem should be addressed. Decisions on wicked problems often lead to unethical results when people who are affected by these decisions are overlooked; to confusion when people do not understand that others look at the same problem from a completely different point of view; or to serious conflicts among stakeholders.

In this class, you will work in a team of 4 over the entire semester on a wicked problem that is related to the design of an emerging technology. The lecture-part of the class provides the theoretical and methodological background for this work—philosophical methods such as argument construction and assessment, research on wicked problems, methods to build consensus, and ethical theories. An important component of the lectures will be class discussions about these issues. You need to prepare these discussions at home, and you need to do your own research about the wicked problem.

Learning Goals

Ethics

- Learn about the theories of ethics and how to use them to justify ethical decisions or principles
- Develop sensitivity for ethical challenges in your professional life
- Become aware that not taking into account—as it often happens when we are facing wicked problems—is a crucial challenge for ethical behavior

Wicked problems:

- Defining the concept of a wicked problem
- Understanding that the complexity of wicked problems results from the fact that they can be framed in a number of different ways
- Understanding how wicked problems should be approached: Based on a stakeholder analysis and on collaborative efforts to develop a consensus (reflective consensus building)

Learning by collaborating:

- How to work together (team skills)
- Self-regulated learning (defining learning goals; developing a workplan)
- Integration of different types of knowledge
- Effective communication
- The ability to criticize others
- The ability to learn from criticism by improving things
- Perseverance and resilience

Reflection:

- The ability and willingness to reflect critically on representations of one’s own reasoning
- The ability and willingness to engage in substantial revisions of one’s own reasoning based on
  - Serious engagement with positions one does not share and understanding their legitimacy
  - Identification of weaknesses of one’s reasoning
  - Objections by others

Philosophical precision

- How to define concepts
- How to construct strong and convincing arguments
- How to assess the quality of arguments

GenEd: How to describe relationships among languages, philosophies, cultures, literature, ethics, or the arts

Course Materials

Required Books

Ibo van de Poel and Lambèr Royakkers, *Ethics, Technology, and Engineering : An Introduction* (Malden, Mass.: Wiley-Blackwell, 2011). In the Schedule = **ETE.** I strongly recommend that you buy the printed book and print all the other readings, and that you highlight things for better recollection, orientation, and the preparation of the test.

Roger Fisher, William Ury, and Bruce Patton, *Getting to Yes : Negotiating Agreement without Giving In* (New York: Penguin, 2011, 3rd ed.).

Required Readings

Everything that is listed in the course schedule below. All readings are on http://canvas.gatech.edu/

Required Tools

- All work related to your project, including assignments, will be done on the Reflect! platform: http://reflect.gatech.edu
  - Note: You are required to post results of your work on the Reflect! Platform. This material will be accessible to your instructor, your teaching assistant, and to the other members of your team.
  - Since the Reflect! platform is still in development, save documents and materials also on other devices
  - Bring a laptop to each class meeting on Wednesday. There should be at least two laptops in each team. We trust you that you use these devices only for course-related activities.
- For the projects, we will use collaborative argument visualization software. Depending on the section of the class you are signed up for, you will use either AGORA-net (http://agora.gatech.edu/) or MindMup (https://www.mindmup.com/tutorials/argument-visualization.html).

Course Schedule

Please note that there might be changes. If so, I will inform you by email about updates. The final version is always on Canvas. **Assignment due dates** are only in Canvas. Check the "**Calendar**" in Canvas! "R" means: Revision allowed (revisions need to be submitted extra; see "components of your final grade")

Week	Monday lecture	Wednesday break-out sections
Jan 8	Campus closed	Introduction: Ethical sensitive *versus* ethical reasoning
Jan 15	**MLK Holiday**	Campus closed
Jan 22	Wicked problems and the Reflect! approach to wicked problems (R): Rittel, H. W. J., & Webber, M. M. (1973). Dilemmas in a general theory of planning. *Policy Sciences*, 4, 155-169.	Pre-SecRA. Discuss your answers to the "ethical trigger" question
Jan 29	Overlooking stakeholders and stakeholder analysis (R): Zimbardo, P. G. (2007). Revisiting the Stanford Prison Experiment: a Lesson in the Power of Situation. *The Chronicle Review*, 53.	1st team meeting: Working on trust and commitments, preparing work on the project
Feb 5	Framing and reframing (R): Bryan, T. A., & Wondolleck, J. M. (2003). When Irresolvable Becomes Resolvable: The Quincy Library Group Conflict. In R. J. Lewicki, B. Gray & M. Elliott (Eds.), Making Sense of Intractable Environmental Conflicts. Concepts and Cases (pp. 63-89). Washington - Covelo - London: Island Press.	2nd team meeting: Problem formulation and stakeholder analysis
Feb 12	How to develop a symphysis proposal (R): Fisher, R., Ury, W., & Patton, B. (2011). *Getting to yes : negotiating agreement without giving in* (3rd ed.: pp. 42-81). New York: Penguin;	3rd team meeting

Week	Monday lecture	Wednesday break-out sections
	http://reflect.gatech.edu/guidance-for-work-on-the-symphysis-proposal/	
Feb 19	Argument mapping	4th team meeting
Feb 26	Argument mapping	Presentation of team projects
Mar 5	Assessing the quality of argument maps	5th team meeting
Mar 12	Assessing the quality of argument maps	6th team meeting
Mar 19	**Spring Break**	**Spring Break**
Mar 26	Test: Argument mapping and assessment	7th Team meeting
Apr 2	Ethical justifications: Introduction and utilitarian justifications (R): **ETE** 65-89	Presentation of team projects
Apr 9	Deontological justifications (R): **ETE** 89-95 and Kant, I. (1994 <1797>). On a Supposed Right to Lie from Altruistic Motives. In P. Singer (Ed.), *Ethics* (pp. 280-281): Oxford UP.	Presentation of team projects
Apr 16	Virtue and care ethical justifications (R): **ETE** 95-105; Schick, T., & Vaughn, L. (2013). *Doing Philosophy: An Introduction Through Thought Experiments*. Boston: McGraw-Hill, pp. 388-390; Hoffmann, M.H.G. (2017), The main strategies of ethical argumentation; http://reflect.gatech.edu/general-ethical-concerns/.	Prepare your final team submission
Apr 23	Post-SecRA in class. Preparation of final based on homework	**No class**

Grading

Assignments

All lecture-related assignments need to be submitted in Canvas before the deadline. All project-related assignments need to be submitted through the Reflect! platform before the deadlines that are listed in the Reflect! workplan and additionally in Canvas. It is crucial that you keep copies of your assignments some place else. Since Reflect! is still in development, we cannot yet guarantee that everything you submit is stored in the system.

Peer-evaluation for teamwork

Your contributions to your project are crucial for the success of your team. We use CATME to perform two peer-evaluations. The results will be sent to you so that you can see how your teammates assess your performance and engagement in your team. The assessment will not affect your grade, but if your score is below 75% you need to come to my office hours for some serious talk.

Components of your final grade

Description	%
Participation in discussions (lecture and break-out sessions)	5
Essay on the Ethical Trigger Question	6
Individual, lecture-related homework submissions. Due 10 minutes before class starts. Will not be evaluated but you have to answer all questions or do all tasks. There are 12 of those; we will count only 10 to give you some flexibility. Each is worth 2 points. You will only get full points if your submission is	20

Description	%
complete and reasonable. You need to write at least half a page overall.	
Revisions of lecture-related homework submissions. Among the individual homework submissions, there are 7 that allow a revision (marked with an “R” in the Schedule). Select 4 from those that you submitted before class. Revise them substantially based on what you have learned in class. Submit in Canvas as assignments “Revision 1,” “2,” “3,” and “4.” Your revisions will be evaluated based on the following criteria. Clarity; precision; structure; improvements in comparison with the first version regarding clarity, structure, and new arguments; explicit references to the class discussion and to the readings. Please note that an improvement is not necessarily longer than the original version. You are supposed to re-write your answers, not simply adding stuff. You can get a maximum of 5 points for each of these revisions. We count the 3 best. Check the feedback from your TA to improve them. There 4 deadlines for revisions specified in Canvas. But you need to submit each of them **within 12 days** after the respective class discussion, so you will need to submit some them long before the deadlines. Start early working on these.	15
First and second individual project homework submission. Submit **both** in Canvas and Reflect! 1st = 6pts, 2nd = 3pts.	9
Group submissions for the project: G-1 = 2pts; G-2 = 4pts; G-3 = 10pts. Criteria for G-3: http://reflect.gatech.edu/guidance-for-work-on-the-symphysis-proposal/	16
Argument mapping test	5
Team presentations in class. Each 3 points. Criteria: Inclusion of all parts that are required according to the Reflect! instructions; clarity; organization of information; appropriate and clear response to questions and comments; equal participation of team members	6
For doing the Team-formation-survey (S-1) and two peer-evaluations (S-2 and S-3): One point for each	3
Notebook. Give it to your TA on Apr. 4 for grading. Criteria: Your name, your project's name, your contact info and your team members' contact info are recorded on the cover or inside of the cover; each page is numbered, dated and signed; readability and structure; detailed notes from class and team discussions throughout the semester; meeting notes that include check-boxes for items for which you are responsible and deadlines for your team	3
Learning Journals (LS-1 and LS-2): Provide feedback if there are problems with your team and for software improvement. Not evaluated. Each is 1 point.	2
Final	10
You will get 1 pt. extra credit if you participate in the Self-correcting Reasoning Assessment (SecRA) and a short survey both in the beginning and the end of the semester. Alternatively, you can write a short essay each time to get this point	

Grading system

At the end, all your points will be transformed in letter grades according to the following scheme:
100-90 = A; 89-80 = B; 79-70 = C; 69-60 = D; 59-0 = F. To pass the class for pass/fail, you need at least 60 points.

Academic Honor Code

Based on GT’s Honor Advisory Council recommendation I would like to clarify the following points: For individual submissions, you are allowed (and encouraged) to work together with other students on homework, as long as you write up and turn in your own solutions. Submitting any work other than your own is a violation of the Academic Honor Code. Quoting other authors, of course, is common scientific practice. However, you have to distinguish clearly between your own formulations and those of others. You can quote the texts of our seminar in short form (e.g. “van de Poel and

Royakkers, p. 52”). Other sources have to be listed as “References.” Plagiarism will be dealt with according to the GT Academic Honor Code. Note that plagiarizing is defined by Webster’s as “to steal and pass off (the ideas or words of another) as one's own: use (another's production) without crediting the source.”

For any questions involving these or any other Academic Honor Code issues, please consult me or www.honor.gatech.edu.

Enjoy the class! Let us know if you have any questions.