

Small Group Analysis Summary and Instructor Thoughts UNIV 3275

This is Helen and Doug's summary of the CfT's (Heather's) Small Group Analysis summary for us, together with our thoughts on it and ways that we have responded to it.

Executive summary: we address course focus; positives you identified; and suggestions you had on the synthesis exam, project, absence policy, small group discussion, and accommodating different backgrounds. We also address in-class use of devices -- there will be none from hereon.

1. Quickly identify what your group sees as the primary objective of this course.

All 6 groups came back with accurate, concise statements about what the course is about. We would like to highlight the fact that this is primarily a course on the ETHICS of artificial intelligence, which includes reflections on the implications of AI (how could we otherwise consider pros and cons, the values generally, of AI for society); it's not an AI course per se, except that we believe that ethics should be baked into every technology course.

As a matter of interest, computer science curricula (though this course is not part of the Vanderbilt CS curriculum) are regularly assessed using guidelines from professional organizations, notably ABET. The main tenets of an ABET accreditation are given here:

<https://www.abet.org/accreditation/accreditation-criteria/criteria-for-accrediting-engineering-programs-2018-2019/>

We think that several ABET tenets are related to a student's learning in computing, and AI specifically, but this tenet is most on point:

“the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context”

Our design of the course was motivated by our desire to share this knowledge to all University students -- not just those in the sciences and engineering, but any Vanderbilt student, irrespective of their major or background. We understand that what one deems to be an optimum balance between humanistic, social, behavioral, and technical approaches will vary depending the student's background and interest; our hope is that the course structure offers sufficient opportunities for you all to customize the experience.

2. What aspects of this course and/or the instruction would you identify as most helpful to your learning? How are these aspects helping you to learn in this course?

We mention what seemed to be consensus positives, and then address your suggestions.

- *In-class discussions, notably of benefitting from multiple perspectives, and including guest faculty discussants*
- *Small group work on technical assignments*
- *Virtual Forum posts, again with an emphasis on the benefits of multiple perspectives*
- *Readings as interesting and relevant*

3. What modifications to this course do you believe would help you to learn more effectively? Why do you believe these changes would improve your learning?

- *Less, more targeted reading*
 - *suggestion for tech focused readings; newspaper/popular readings*

This is a reasonable suggestion, and although we cut back a substantial amount of reading in the latter part of the semester (which you have not yet experienced) to make time for the synthesis exam and the group project, **we have implemented more cuts in required reading/viewing in response to the SGA.** We expect the changes to be conspicuous. At the same time, because of a secondary suggestion for tech focused readings and popular readings, **we have added some tech-focused and popular readings/viewing as *optional* in response to the SGA,** in addition to those we already had. Be aware of these new additions (of optional readings), and please contact us if you want further input or reading suggestions.

- *Smaller discussion groups; “more interesting” discussion structure;*
- *Utilize tech people in class*

We think that both are great ideas. In response to the SGA, **we have added small group discussions to the remaining weeks** (i.e., Thursdays), in each case followed by plenary discussion. We have identified these small group discussions and the plenary discussions as **opportunities for folks with a science/tech background to contribute their knowledge and expertise in a more proactive manner.**

Up until Spring break we had split Thursdays, with Doug conducting “Under the Hood” and Helen moderating a plenary discussion. Both these components addressed the week’s material. We had hoped that UtH would be more interactive, but this fell into a “lecture” mode almost immediately. The “splitting” of these two components also may have contributed to a perception that tech was less relevant in the plenary discussion. With the addition of small group discussions, we hope that both the smaller groups and the follow up plenary **discussion will show how the tech side and the humanities are not separate but is and always have been intermingled.** Doug and Helen will also extend added effort to highlight this aspect.

We also believe that the **final group projects are a great place to address the humanities/tech integration,** and to let each student bring their strengths to the fore. We’d like to see you work as a group that encourages interdisciplinarity under one umbrella.

We will not be splitting the tech and humanities groups, as suggested by one or more in the SGA. Let’s remember that this is a University Course, the main objective of which is to promote trans-institutional (college) and interdisciplinary work - exposure to this kind of diversity is not only crucial but also intellectually and affectively productive, and we believe that most of you think so as well, based on the SGA responses.

The next point is also related to the tech/humanities integration.

- *Address more technical aspects of AI (in discussion?)*

“*Under the Hood*” is intended to do this, as are *Technical Assignments*, but again with a goal of giving everyone a little bit of tech, rather than giving those with computing backgrounds still more (side note: this coming semester there is an increase in AI-related courses, even more than the CS program has been offering previously; there is no shortage of opportunities to increase your AI tech expertise, but we feel it is likely that *explicitly connecting* AI expertise with ethical considerations will continue to be something that the CS faculty and students will grapple with. This is why we hope that the pressing need to connect tech and ethics will be ever present in the minds of the tech folks in this course).

A brief retrospective of the course to date will demonstrate that there are a number of tech topics that we discussed. Please keep note of them, revisit the TAs and VFs (we have these assignments so that you could readily visit your work for reference anytime, note that they are available for all of us to access), so that you can fold into class discussions. And of course, you are more than welcome to talk with us to learn more:

- cognitive architectures
 - social AIs, including agent based modeling
 - sensors and robotics
 - computational creativity
 - AI as an exploration (search) of alternatives and exploitation of what is learned
 - AI problem solving
 - AI story telling
 - Supervised machine learning and evaluation
 - human and machine categorization
 - collective intelligence (of AIs and humans)
 - intelligent tutoring
 - optimization
 - computational sustainability (to include optimization, ML, sensing, robotics)
 - uncertainty in AI reasoning (at several junctures)
 - adversarial AI
 - drones (aerial robotics) coming up
 - AI diagnosis (with machine learning) coming up
- *More preparation for large assignments*
 - *preface about midterm synthesis?? It was very sudden/ large/ overwhelming*
 - *Suggestion: have 3 midterm essays throughout the semester, we would also get feedback/ improvement this way*
 - *2/3 essay questions this year*
 - *Additional clarity on the final project—we’re not sure what a project could be*

All good points. The suggestion of three essays across the semester is something that we will consider in future iterations of the course since we’re already past that point.

The SGA indicated that students were surprised by the [synthesis exam](#). We were initially surprised by this, but we reminded ourselves that we had changed the language and the details of the exam component of the course sometime after the start of the semester. Motivations for changing from a final exam to a take-home exam in advance of the final exam period was (a) to focus what you had to study for, as opposed to the open-endedness of studying for a final exam; (b) we wanted you to finish the exam component so that you could better dedicate the final weeks of your time to the group projects, and (c) so that you could better dedicate your time to your final exams in other courses. Additionally, our sense from Heather (Center for Teaching consultant) was that you didn't object to the synthesis exam per se, just that its format and delivery timing struck some of you by surprise.

In response to the SGA, we are

- **extending the deadline for the synthesis exam** submission (see course schedule),
 - allowing you to turn in a draft of your essays (by a given date - see course schedule) so that **we can give you feedback before the submission deadline**, and
 - requiring you to **submit essays for TWO OUT OF THE THREE** questions we provided (namely, 2 of your choice).
- *Additional clarity on the final project—we're not sure what a project could be*

We think that the class session of elevator pitches/brainstorm sessions with Helen, the class members, and Professor Kunda as a guest addressed this concern, as it was intended. Also, both our doors are open to talk about the group projects at any stage.

- *Attendance policy*

The gist of the attendance policy from the start was that you take a significant hit on missing the first class (unexcused), followed by diminishing hits for missing subsequent classes (unexcused) -- so the message is don't miss class, because we want and need your participation to maximize class value. Arguably, its a policy that's worked because the vast majority of you have perfect attendance (and we would hope so anyways, but we can't really know). We are open to excusing absences in advance - our intention is not to penalize you for missing classes per se, but making sure that you would be conscious of the extent to which your presence matters, not only for you but also for the other class members who would be missing out on the contributions you would be making. You would have experienced, first-hand, how open we are to excusing absences as long as you let us know why and when. Yet again, we are open to incorporating your suggestions, which is why we will be making further amendments to the attendance policy: stay tuned, but note that **the old policy has a strikethrough** on the [Course Organization page](#). The truth is that all of you have very good attendance by the standards that we see across campus, and goodness knows, we missed classes as students too.

- *Device use*

There will be no device use in class by students, and auditors from here on in. We've promulgated our thinking on this before, though the complete elimination of in-class device use is a significant step in the policy.

There were some other suggestions that intrigued us, such as a suggestion that we separate the implications of AI from ethics, but note that one of the key points of the class itself is that these CANNOT be separated, and in fact ARE NOT separate - they never have been. Let's remember our conversation about ethics in the beginning - ethics concerns "VALUES," not just decisions and judgements that pertain to right and wrong, good or bad. The word AI itself already carries and representations value (Artificial + intelligence). We are curious to learn more about the context of this suggestion, however, and see it as a possible discussion point.

Thank you for sharing your time and thoughts about the class in such detail - also for your innovative suggestions. We are thrilled to be working with such a vibrant group, and hope that the course experience would inspire new approaches, ideas, and thoughts in a lasting manner for you all - not just within the confines of the semester but as something you could take away and keep mulling on, even after.

Doug and Helen