SocGen 108: Capstone in Human Biology and Society

The HBS Way

Spring 2020, COVID19 Edition

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**Basic Info**

- **Time:** Tuesday/Thursday 2pm to 3:15pm
- **Place:** The INTERNETS (Zoom, CCLE, Slack, etc.)
- **Instructor:** Christopher Kelty (ckelty@ucla.edu)
- **Teaching Assistants:**
  - Charlotte Neary-Bremer <charlotte.nearybremer@gmail.com>
  - Stephanie Kiesow <skiesow@ucla.edu>
- **Final:** Nope.

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**Sections Spring 2020**

Sections will be held via Zoom. Like everything else.

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<tr>
<th>Instructor</th>
<th>Section 1A</th>
<th>1B: Wednesday / 1:00pm-1:50pm</th>
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<tr>
<td>Stephanie Kiesow</td>
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<th>1D: Wednesday / 3:00pm-3:50pm</th>
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<tr>
<td>Charlotte Neary-Bremer</td>
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**Introduction**

The capstone course is intended to synthesize all that you have learned in your major, share with other students who have taken different classes, and express it all in a group-based research
project. The bulk of the class is devoted to researching a contemporary controversy at the intersection of biology and society. To do this, you will have to be able to read and digest large amounts of material, make sense of both scientific concepts and social and political issues, conduct original research and present it in a clear and illustrative form of your choosing.

PROBLEMS/CONTROVERSIES AT THE INTERSECTION OF SOCIETY AND BIOLOGY

In this course you will be asked to do that thing that Human Biology and Society Majors are told over and over again is the reason for their major: **think about biology and society together, not as separate problems.** I will refer to this *ad nauseam* as “the HBS Way.” This is more than just a dream, it means asking how the two aspects of a problem intersect in the world, and how that relates to, or differs from, how we study them in universities, labs, corporations or governments. The whole point of this course is to give you a chance (and only a chance) to say something unique about a contemporary problem because you have a developed a distinctive perspective on it in your major. The project will be constant and intense, and requires attention each week of the quarter. Each week there will be different assignments, with very clear expectations about what you will produce. But in each case, you are expected to enrich your own project and follow it where it leads. By the end of the quarter you will have a clearly defined project and will know the subject in detail. Along the way you will develop various skills, ranging from the theoretical (can you identify a good problem for study) to the practical (using citation manager software or producing different kinds of media).

COURSE STRUCTURE

- This course is intended to be hands-on, face-to-face, intensively interactive. It was not designed to be a traditional lecture or seminar course, but as a course in which you would be actively involved with your group and other groups as the quarter progresses.

- COVID19 has thrown all this out the window. The fantasy that we can simply "switch over" to online teaching is particularly wrong in the case of this course. But we will do our best.

- **The flow and the structure of this course is as follows. Each week you will:**
  1. focus on the Assignment for each week. Your grade and the progress of your project depend on keeping up with the weekly assignments.
  2. check in with the instructor (via Zoom T-TH 2-315)
     - Some days these will be lectures, which will also be recorded and posted
     - Some days these will be discussion, probably scheduled with groups—sometimes one group at a time, sometimes a couple.
     - Some days these times will be reserved for you to meet with your group, or work independently ("flex time")
  3. check in with your TA (Wednesday sections via Zoom)
     - Unless instructed otherwise, plan to Zoom in for sections—most days you will be in break-out rooms with your group; other days you might all be discussing together.
- If you cannot make section or lecture, check in with other students, TAs and the Instructor to see if you missed any important instructions

4. Turn in your assignment to CCLE by the due date.
5. Begin again the next week.

Sections and Lectures are for **learning, not assessment**. You will not be graded on attendance or participation.

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**COURSE GOALS**

- **Understand and identify contemporary controversies/problems that require both scientific and social/humanistic approaches**
  - Quickly assess and know how to find the different forms of knowledge necessary to understand a controversy.
  - Learn to ask novel questions beyond those posed by existing accounts.
  - Think historically, philosophically and scientifically about a problem.

- **Learn to research a contemporary problem effectively:**
  - Know the difference between different popular and scholarly sources
  - Know how to use scholarly databases, review articles, and other search tools to learn about a problem
  - Locate information and data about a problem, assess its quality and make use of it.
  - Understand the changing ecology of knowledge production.

- **Learn to compose a resource for understanding contemporary problems**
  - Learn to compose a resource that reflects the complexity of the problem—think beyond the report/paper.
  - Learn to use digital tools and affordances creatively.
  - Frame a problem ranging from simple and broad to complex and detailed.

- **Work effectively in groups, communicate effectively, and evaluate peers fairly.**
  - Understand roles and responsibilities (your own and others)
  - Learn techniques for dealing with group deadlines, and the stress of relying on other people.
  - Manage time, deadlines, and workload collectively.
GRADING STRUCTURE

Read this Carefully. This course works a bit like a game. When you enter you have exactly 0 points (an F), your goal is to collect points until you have achieved the grade you desire. You cannot lose points, and if you miss an assignment or do not score as highly as you hoped, the only recourse is to try to get more points by doing more assignments. There are more points available than you need to get an A, but not much more.

Each week there will be one (1) core assignment worth up to 100 points. Some of these will be group assignments (all group members get up to 100 points each for completing it), some will be individual, meaning only the individual student gets up to 100 points. You can always be awarded fewer points based on your performance of the task.

All grades are final. Respect this rule.

In addition, starting in week four you may turn in one (1) bonus assignment, every other week, chosen from the list of bonus assignments. You may turn in only one per week, and you may do a maximum of 3 bonus assignments. Each Bonus is worth an additional 100 (possible) points. Bonus assignments are intended to relate to your research project, not distract from it.

Total Required Points available: 1,000 (a mix of individual and group assignments)
Total Bonus Assignment points available: 300 (all individual assignments)

Grade Scale

> 1,300 = A+
950-1,295 = A
800-945 = A-
700-795 = B+
600-695 = B
500-595 = B-
400-495 = C+
350-395 = C
300-345 = C-
200-295 = D
< 200 = F

The Final

Because pandemic, there will obviously be no in-person final festival at the end of spring quarter. However, we will make the final projects available online, and we (ISG) will do our best to make it up to the class of 2020 however we can.
REQUIRED TEXTS:

All required texts will be available on the CCLE site for the class, or via the UCLA Library.

HONOR

PLEASE DO NOT PLAGIARIZE. Plagiarizing means using anyone else's work and pretending it is your own. Don't do it, because it sucks, makes work for everyone, does not improve your grade, and when we find out, the Dean of Students will make you write a humiliating letter apologizing to everyone involved. And if I can fail you, I will.

CITATIONS, REFERENCES AND SOURCES

Since you won't be plagiarizing, you must cite all sources where you find information, regardless of where or how you found it. Get into the practice of keeping good records now and it will serve you throughout the course and beyond. You may use any citation style you like as long as it is consistent and correct in any given document.

TECHNOLOGY AT HOME

If anything, I hope this quarter convinces everyone what an incredibly bad idea it is to confuse "online education" with being at a university. Hopefully we will never do it again. In the meantime, here are several ground rules:

1. We understand that you won't be able to get the tech to work all the time. You will not be graded or assessed in any way on participation via Zoom or in chat rooms, or on Slack, or anything else. These tools are to facilitate access to TAs and the instructor, and to allow you to try to work with other students and in groups. They will help you do better, but you do not need to do them well to do a great project (to get a good grade).

2. Your grade depends on your assignments, and some of those are group assignments. However, no group will be punished when the group cannot meet or someone cannot do their part. Your best effort is all we ask in each case. Clearly communicate any problems and issues with each other and with the instructors, and we will work to make the best of the situation. As everyone keeps saying, "we are all in this together"—if you find you have to help a group member cross the finish line, then that's what you have to do. It's actually kind of like normal life, in this respect.

3. More than anything, the goal of this class is for you to learn to do research on something that interests you. Eyes on the prize, everyone.
**STATEMENT ON DISABILITY**

In compliance with the Federal Rehabilitation Act of 1973, as amended (Public Law 93-112) and the Americans with Disabilities Act of 1990 (Public Law 101-336), University of California policy prohibits unlawful discrimination on the basis of disability in its programs, services, and activities. If you wish to request accommodations for a disability, please contact the Office for Students with Disabilities (OSD) as soon as possible at A255 Murphy Hall, 310.825.1501 or 310.206.6083 (telephone device for the deaf). Website: www.osd.ucla.edu. In addition to registering with OSD, please feel free to contact the professors privately.

**STATEMENT CONCERNING TITLE IX**

Title IX prohibits gender discrimination, including sexual harassment, domestic and dating violence, sexual assault, and stalking. If you have experienced sexual harassment or sexual violence, you can receive confidential support and advocacy at the CARE Advocacy Office for Sexual and Gender-Based Violence, 1st Floor Wooden Center West, CAREadvocate@aps.ucla.edu, (310) 206-2465. In addition, Counseling and Psychological Services (CAPS) provides confidential counseling to all students and can be reached 24/7 at (310) 825-0768. You can also report sexual violence or sexual harassment directly to the University’s Title IX Coordinator, 2241 Murphy Hall, titleix@conet.ucla.edu, (310) 206-3417. Reports to law enforcement can be made to UCPD at (310) 825-1491. Faculty and TAs are required under the UC Policy on Sexual Violence and Sexual Harassment to inform the Title IX Coordinator should they become aware that you or any other student has experienced sexual violence or sexual harassment.

**STATEMENT ABOUT BEING AN EXCELLENT HUMAN**

Please be excellent to each other at all times. Especially in your groups.
**Assignment #1: Preparation for the Course.**

- **Individual points:** 100
- **Due:** Tuesday of Week 1

In the first week will try to focus on getting our class organized for this cray-cray quarter, but we will also look back to previous work by HBS students from Winter 2020, so you can learn what lies ahead.

**Instructions**

1. Complete the questionnaire on CCLE, under week 1 assignments.

2. Complete Assignment #0 (this is just for practice, to help us get the system working. Everyone who completes it gets an extra free 20 points.

3. Visit the website https://thehbsway.rocks/ (user: socgen108 password: hb5way)

4. Pick two projects and answer these questions and upload them to Week 1 Assignment on CCLE:
   - What were three things you learned from this project that you did not know?
   - What questions did the project raise for you, but not answer?
   - In what ways did they do a good job of **integrating** both biological and social aspects of the issue?
ASSIGNMENT #2: IDENTIFY A PROBLEM AT THE INTERSECTION OF BIOLOGY AND SOCIETY

• Individual points: 100
• Due: Wednesday of Week 2

The main goal of this course is to complete a research project on a contemporary problem or controversy that has both social and biological components. In this assignment you will (individually) research a potential topic, write 1 page about it, and turn it in. After you have turned it in, you will read the projects from other members of your group, you will debate them together, and you will collectively decide which one to pursue. Some of them may be similar, so you might choose to combine elements of both. The important thing is that the "winning" proposal has to do two things:

• It has to seem doable. Most of the research will need to be done online and using UCLA Library resources; some phone interviews perhaps. Make sure there seems to already be a fair amount of information about the project.

• It has to allow you to follow The HBS Way (i.e. to research the problem from both a biological and a socio-political angle). If it seems too biological, or if you can't figure out what "the biology" would be, then pick a different project.

Instructions

1. Write a 1 page (~250 words) project proposal. Refer to lecture slides for more guidance.
2. Turn it in by Wednesday of week 2, and share a copy with your other group members.
3. Read all the proposals in your group. Meet with your group to discuss and debate which proposal to do. (This can be in section, or at another time. It can also be done asynchronously, like via email, on a slack channel, or on a chat group).
4. Decide by Thursday night, which project description you will pursue. Keep in mind that it will change as you learn, but you need to start with a reasonably clear idea of what you are going to be researching.
5. Let your TA know which project description you have decided on.

What makes for a good idea?

Good problems and controversies for HBS research have several characteristics:

• They are unfinished: they involve uncertainty, multiple viewpoints, different interests and something unknown.

• They have multiple causes: neither the biology nor the social necessarily comes first. Sometimes they are “reflexive” – problems emerge as a result of trying to solve other problems (think: antibiotic resistance). A problem emerges at the intersection of the social, political, biological and cultural. “The University has departments, the world has problems.”
• They are not clearly defined, sometimes hard to find, and not yet solved. They are not necessarily headlines in the news. Polarization and media attention are not necessarily good indicators of an interesting problem. Often there is no clear sense of who is responsible for responding to a problem or controversy.


A few places to look for evidence of controversy:

Resources

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<tr>
<th>Discover</th>
<th>Scientific American</th>
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<tr>
<td>New Scientist*</td>
<td>The Guardian science section</td>
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<td>Seed</td>
<td>STAT</td>
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<td>JAMA</td>
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<td>New York Times science section*</td>
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<td>Nature blogs</td>
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<td>Health Affairs</td>
<td>American Scientist</td>
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<td>MIT Technology Review</td>
<td>PLoS Science Blogs</td>
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ASSIGNMENT #3: EXPLORE, READ, COLLECT, ORGANIZE

- **Individual Points**: 100
- **Due**: Friday of week 3

**GOAL: Begin your investigation.** All research starts with lots of reading, posing of questions, refinement of those questions, location of probable sources and data, and discussion about the topic. It also requires you to keep track of what you are finding out.

For this assignment, you will start a lab notebook in which you will record your daily research progress. These notes should demonstrate that you are learning more about the topic each day. Your goal is to learn enough about the topic in a short period that, together with your group, you can create a list of all the relevant parts of your topic, the open questions you have, and the materials you will need to complete it.

The following instructions give you a set of starting points—but not all projects will have all these elements, and some will have others that are unexpected! Use your judgment, but try to explore all of the suggested pathways.

**Instructions**

1. Start a lab notebook. Because so much of this project needs to be shared online, it’s best to find a system that works for you and your group. You can start with pencil and paper, but ultimately it will have to be digitized to be shared. Evernote is a very good tool for this kind of mixed media; so is Google Docs.

2. Beginning by Friday of Week 2, and continuing **everyday** until Thursday of Week 3, make notes and write about your research progress in your lab notebook. **Each group member is responsible for their own lab notebook, but you may and should begin to coordinate and share material.**

3. In your lab notebook, make sections for each of the following (see "What to Read For" below for definitions):
   - Arguments (classifications) and scientific concepts (knowledge)
   - Institutions and experts (including non-science experts)
   - People affected
   - Technologies, things, and/or nonhumans
   - Ethical problems, concerns, or concepts
   - Legal issues
   - Popular or Cultural representations
   - “How is this an HBS issue?”

4. Each day, do the following:
• Find 2-3 new articles about your topic. Don’t take the first one you find, but scan as many as you can find. You may have to look at 10 or 20 before you find the ones worth reading. Make notes as you go, keep track of what you have already discarded or decided not to read. Look for: journalistic articles, textbooks, scholarly articles, interviews, audio documentaries, etc. Use the library and librarians if necessary. https://www.library.ucla.edu/

• Read them (or watch/listen) carefully and take notes in your notebook. Be especially attentive to things you find confusing or need more information to understand—maybe you can do that tomorrow!

• As you read, fill in the sections above, with names, descriptions, and other info (URLs to relevant websites or social media accounts, articles you think may be important, documents, media, etc.)

5. During week three share your lab notes with your group. You can do this in any number of ways: synchronously by meeting in Zoom (time will be provided during section); or by sharing and commenting via another application, like comments in Google Docs, a Slack channel, or via Evernote. Ask each other questions, clarify, and most of all ask: are we all working with the same definition of the project? If not, where do we diverge and why?

6. Each individual turns in their lab notebook. Most likely this will require exporting a PDF of your notes and uploading it to CCLE. Contact your TA if you need help sharing your notes via another system.

What to read for:

1. Arguments, Classifications, and Knowledge

   • What is at the core of the controversy? What claims about the world, about causality, about responsibility are being made? Are people or other entities being classified, and how does this matter?

   • Is there a specific dispute over theories, experiments, data, politics, harm, representations in the media, or about something else? Are the arguments about logic, about evidence, about methods, about professional identity, about ethics, about politics or about something else?

   • Is there general dispute over the course of research, its goals or outcomes, or the ethics or politics associated with contemporary science and technology?

   • What is the history or timeline of this controversy, what are the key events from the past that matter?

   • Example: In the controversy over GMO foods, one argument is that GMOs are “against nature” or “frankenfoods” because they are not natural. A counter argument is that “we have always been genetically engineering food, ever since we domesticated corn.” Each argument is made by different people. Furthermore, what counts as a GMO (how it is classified) depends on different institutions and scientific tests and theories. Does your example have a similar problem?

2. Institutions and experts
• Who are the people **actively** involved in the controversy? Who are the major players and who are the minor players?
• Who are the specific **named** people (scientists, politicians, businesspeople, famous people, ordinary people)?
• *Who are the classes or collectives* of people (races, classes, ethnicities, socio-economic groups, political collectivities, nationalities, or social movements)?
• Are the actors **organized** in groups, or are they **individualized** (as consumers or voters)?
• What are the main institutions involved? Corporations? Governments? Social Movements? Non-profits? Churches?
• What kind of power do these institutions have? What kind of economic role do they play?

3. People affected
• Who are the people more or less **passively** involved in this story? What is happening to them? Are they aware or not of this issue? If so, how are they responding?
• What forms of power do the affected people have (or lack)?

4. Technologies, Things and/or nonhumans
• What are the technologies involved in the story?
• Biotechnologies, material technologies, computer technologies, big infrastructure, agricultural tech?
• What things are important (chemicals, materials, everyday objects, nonhuman animals, microbes, plants, drugs, etc.)?
• How are these things represented (new, old, scary, normal)?

5. Ethical problems, concerns, or concepts
6. What ethical concerns are raised or are being investigated? How are these concerns stated? What “frame” of ethics is being used (practical, philosophical, bioethical?)
• Are alternatives being proposed?
• Are future scenarios or warnings being discussed and by whom?

7. Legal issues
• What court cases, laws, legal analyses are part of the story?
• If there are lawsuits or cases, have they been decided and what is the outcome?
• If there are laws or legislation pending, what is it, and what status does it have (proposed, enacted, contested)?

8. Popular or Cultural representations
• How are aspects of your controversy represented in popular media like news, film, television, games, magazines?
• Is the problem well known? Unknown? Polarized? Novel?

9. “**How is this an HBS issue?**”
• At the end of each day, reflect a bit on how your project looks from the viewpoint of an HBS major: have you learned something about the biology that makes you wonder about, for example, a legal question; or have you learned something about the ethics that makes you curious about some aspect of the biology? Can you formulate a question?
ASSIGNMENT #4: THE B. INVESTIGATING THE BIOLOGY OF YOUR PROJECT

- **Group Points:** 100
- **Due:** Friday of Week 4

In order to know the HBS way, one must first know the B. This week is science week, and your goal is to demonstrate your deep, technical knowledge of the science involved in your project. Your goal will be to create an annotated bibliography and a “science primer” that will help an educated person learn the details of the science.

**Instructions**

1. Identify the domains of biology that you will need to understand for your project. There may be many different areas, so you will have to prioritize. Coordinate with your team to **write a paragraph describing your goals for this annotated bibliography and what it will cover.** As part of this exercise, make a list of key “search terms” and concepts to help guide you.

2. Use relevant databases to locate your scientific literature (start here: [http://guides.library.ucla.edu/databases-by-subject](http://guides.library.ucla.edu/databases-by-subject))

3. **Each team member** will collect three kinds of resources:
   - **Textbook** information about the basics of the science (**1-2 resources**).
   - **Review articles** that cover the field(s) you deem important (**at least 2**).
   - **Current recent research articles** that represents where the field stands and any disagreements (**at least 3**).

   **NB:** Each team member can (probably should) take on a different area of the relevant science(s), rather than separate the three areas above.

4. Read the resources, take notes, consult with friends, instructors, or others if you don’t think you understand the material. Help each other.

5. Create an annotated bibliography of the resources you collected (see examples on next page). These are not just summaries, but should indicate how the source will fit into the research project, what particular information it provides (background, some data, theory, review of the field).

6. Coordinate with your team to create a full bibliography—**Expand and rewrite the paragraph from (1) above to indicate what your bibliography covers, to provide a “primer” of what science you have reviewed.**

7. Upload your bibliography and primer to CCLE by the due date. Your group should also compile all the sources into a shared document that everyone can view.
Examples

Each entry should look something like this (but more detail is better!):

  
  – This textbook explains how opioids work including basic brain physiology, psychological theories of dependence, how Mu pain receptors work, and how they were discovered and characterized. Chapter 5 is particularly useful because it gives a detailed explanation of MOR-1 and its role as a protein in the biochemistry of opiate addiction. This is all information we will need in order to explain in our project how opiate biology can affect the social consequence of addiction [Annotation by Alyssa P. Hacker].

  
  – This review covers 10 clinical trials of the overdose treatment drug Naloxone, and summarizes the results of each in a nice table. We will use this review to help understand when naloxone works and when it doesn’t, and how that might be related to social issues like incarceration, socio-economic status, or race. [Annotation by Angelica Finder]

  
  – This paper is a recent study of an intervention in two prisons where researchers studied two treatment groups and found that prisoners who were treated like humans and given things to do had less opiate addiction and morbidity than those who were kept in solitary and beaten regularly by racist guards. It seems to be a relatively obvious finding, but it is controversial because it is being used in the reform efforts we are studying. [Annotation by Joseph Searcher]
ASSIGNMENT #5: THE S. INVESTIGATING THE SOCIAL SIDE

• **Group Points**: 100

• **Due**: Friday of Week 5

In order to know the HBS way, one must also know the S. This week is society week, and your goal is to demonstrate your deep, interpretive, relational, intersectional knowledge of the social, political and legal issues involved in your project. Your goal will be to create an annotated bibliography and a “social issues primer” that will help contextualize your project, and identify the latest social science or humanities research on the topic.

**Instructions**

1. Identify the relevant **legal, ethical or political, and cultural** features of your project that you intend to investigate. There may be many different areas, so you will have to prioritize. Coordinate with your team to **write a paragraph describing your goals for this annotated bibliography and what it will cover**. As part of this exercise, make a list of key “search terms” and concepts to help guide you.

2. Use relevant databases to locate your scientific literature (start here: [http://guides.library.ucla.edu/databases-by-subject](http://guides.library.ucla.edu/databases-by-subject))

3. **Each team member** will collect three kinds of resources:
   - **Legal Information**: relevant laws, court cases, legal review articles, or regulations. (at least 2 documents that provide detail)
   - **Social, political, or ethical research**: ethical issues, political disputes. (This includes both scholarly articles about an issue, as well as other kinds of documents such as reports, whitepapers, or proposals).
   - **Cultural material**: novels, poetry, film, audio, or other materials that represent your controversy and case, plus your interpretation of them.

4. In each of these cases you will read (or view) the materials, take notes, and if possible discuss with your group and/or the TAs and Instructors as you go.

5. Create an annotated bibliography of the resources you collected (see examples on next page). These are not just summaries, but should indicate how the source will fit into the research project, and maybe how it makes you think differently about the project.

6. Coordinate with your team to create a full bibliography—**Expand and rewrite the paragraph from (1) above to indicate what your bibliography covers, to provide a “primer” of the social issues you have reviewed**.

7. Upload your bibliography and primer to CCLE by the due date. Your group should also compile all the sources into a shared document that everyone can view.
Examples

Each entry should look something like this (but more detail is better!):

- **HBS Student Groups vs. Christopher Kelty** [1890 U.S. 1198, 164 (2019)] This court case concerns the unfair grading practices of Professor Kelty, and went all the way to the supreme court. Students unhappy with their A- grades formed a class action lawsuit in which they proved that Kelty systematically and with malice refused to take into account that Assignment #7 happened during the Senior trip to Las Vegas (!), which everyone knows is a week when students just can't complete, like, 100 pages of reading or whatever, and so this totally unfair behavior was challenged. Kelty was sentenced to teach Calculus I classes without any TA help for 10 years. [Annotation by Alyssa P. Hacker].

- **Kant, Immanuel.** (1788). *The Critique of Practical Reason*. Cambridge University Press: Cambridge, U.K. Translated and edited by Mary Gregor. Kant's third critique covers the philosophy of prudence and the problems of dealing with practical action in the world. It discusses the difference between principles, rules and laws for making correct practical choices. It is relevant to our case because we are interested in how people react to genetically modified food and why some people think it should be a personal choice and others think it should be a legal issue. Etc. [Annotation by Georg Hegel].

- **Rodenberry, Gene dir.** (1967). *Star Trek (Episode: The Trouble with Tribbles)*. Television Program. This episode of *Star Trek* is a great example of the ethical problems that our project confronts in dealing with the genetic modification of household pets. It shows human emotion and relations to animals in a different context. Our project might be able to make use of this as a good example for talking about the consequences of human choices in science. [Annotation by James Tiberius Kirk].
ASSIGNMENT #6: THE BS! FINDING THE INTERSECTION AND MAKING A PLAN

• Group Points: 100
• Due: Friday of Week 6

To know the HBS way, you must first know the BS! In this exercise you will think about the intersection between biology and society by re-evaluating, connecting, and comparing your research so far. In section and during class time on Thursday, you will collaborate to produce a map, storyboard, an outline, or a plan for the final project. Using Assignment #3 (Your Lab Notebook), Assignment #4 (The B) and Assignment #5 (The S), you will establish the BS! Brainstorm with your group possible final projects and decide on the right form. Try to talk through the ideas and come up either with a good idea, or a short list.

Two questions guide you this week:

• Now that you understand (some of) the details about the B (biology) of your project, how does that challenge or re-orient your assumptions about the S (social, ethical, legal and cultural) of the project? What new information do you want to find out as a result?

• Now that you understand (some of) the details about the S (social, ethical, legal and cultural) of your project, how does that challenge or re-orient your assumptions about the B (biology) of your project? What new information do you want to find out about as a result?

Now take it to the next level: these two questions may not be symmetrical—indeed they probably are not. We know that biology doesn’t determine everything, but it is definitely a crucial constraint on the social or ethical. How will you describe this relationship? What will you emphasize about the BS to really articulate the relationship between them? You will inevitably find that you need to do more research because The HBS Way is a long and winding path, not a straight and narrow one.

Instructions

• Return to your lab notebook. Now that you know the B and the S, take an hour or two (individually) to fill in more details in the different sections of your notebook. What more can you say now about the different actors and elements? How has your understanding changed? Keep track of what YOU have learned, because it will help you explain it to others.

• Make a new section labeled ‘Stories and Ideas’. Sketch out 2 or more different stories (or outlines, or arguments—see lecture) that allow you to make sense of the material while guiding the reader through it all. Your project may have more than one story or argument.

• Meet with your group this week to brainstorm and share these stories. During the meeting (either via Zoom, or it can happen via chat/email, each person proposes one of their stories, and the others discuss and build on it. Does the story allow you to use elements of both the B and the S? Does it help make the story easy to follow or compelling in a new way? What information is missing now, and could you find out more about it?

• Decide on a final form: Magazine, Podcast (Zoomcast!), Game, or something else?
• As a group: Draft a plan (e.g. outline, storyboard, schematic, map). Try to see the *whole thing in outline. Work together to come up with the stories or ideas that everyone in the group agrees, and how you think the details will fit in. You will start with a big picture and try to work towards it. Make it as detailed as you can given the time constraints; Revise it once if you can.

• Turn in this plan to your TA by the due date, and begin working on your first draft of it.

Notes for planning

Who is your audience? Your audience is you: smart undergrads who may not know a lot about an issue, but want something more than is in the mainstream media and want to be challenged to think about it in a new way. Your project must be exciting to you, and it must challenge you and your peers to think about a pressing issue in a new way.

The following are the projects you may choose to pursue:

1. Magazine. A magazine can be a good way to present heterogeneous research. It allows you to include material of different depth and complexity, to include imagery, informational graphics and tables, as well as to have fun with things like advertisements, inserts, or other material. Your magazine must have a theme and an identity– who is the audience for this magazine, and what is the theme of this "special issue"? Start by drafting 1 or 2 main articles (aim for 3K-7K words) that ask hard HBS Way questions— something that allows you to address both the biology and the social aspects at the same time, while you answer the question. These longer articles can, in turn, refer to shorter articles, infographics, timelines, games, advertisements etc. which can give more detail, basic science, hot takes, or just take the question in a new direction.

   • Advantages: The magazine is a familiar form for most people, and it allows you to do a more or less conventional paper at the center of it, but to have fun illustrating and organizing your material. It allows (requires!) that you think about visual presentation and design, and about how different parts can work together without all having to be in one paper.

   • Disadvantages: You will need to clearly design the central article in such a way that it is accessible and achieves the goals for your project, which can be challenging; you may also want a group member with some experience with design software (like Illustrator, inDesign or similar).

2. Game. Create a complete playable game (board game, role playing, card drafting, etc.) with instructions, necessary pieces and an explanation of what players will learn in the course of playing. Games allow users to experience a scenario as a participant (rather than as themselves) and to see an issue through the eyes of different actors in a complex situation. Games also rely on competition and/or cooperation, and a good game design takes advantage of this. Be aware that most educational games only communicate the simplest information. You can assume that your game should be pretty complex and communicate lots of information, even if that means it is not "fun" to play. Examples: Pandemic and Pandemic Legacy (Z-Man Games); Wingspan; Evolution; previous HBS games.
• **Advantages:** challenges users to become directly involved in an issue. A good strategy game can force players to understand an issue in detail and think about how to solve it in reality. Also, Fun.

• **Disadvantages:** Creating a playable game is not easy—lots of testing is necessary. Figuring out how you will communicate the **substance** as well as the form of the game to players in a concise set of rules is a difficult challenge.

3. **Documentary** (10-30 minutes). The documentary must clearly demonstrate the key points of the controversy or problem either through the use of existing footage and interviews, or through staged conversations that are based on real research and issues. Audio documentaries are great for allowing different actors to speak about an issue in their own words. Because there is no visual component, storytelling, editing, music play a central role, and it is necessary to have a keen understanding of what a listener can hear and remember over the course of your documentary. **Your group must also include:** supplementary material, interview transcripts, promotional/explanatory material, questions for discussion, annotated bibliography and/or other material that can be used to enrich listening. Examples: *Radiolab, This American Life, Serial.*

• COVID19 **Note:** One possibility for a documentary/podcast is to do a "Zoomcast" or a Zoom documentary. Since you will all be experts at using this technology, the challenge will be to get creative with it, and use its capacities to tell a good story. Perhaps a series of 10 minute pieces or an hour long conversation—scripted and planned of course. You be the judge!

• **Advantages:** Engaging and compelling when people tell good stories. Easy to record interviews by phone or Skype. Challenges you to write well to communicate without images. **Music** is key, but can get in the way.

• **Disadvantages:** can make listeners passive recipients of a story. Difficult to write well, but not too complex for a listener to follow. Also, requires **skills in using microphones, recording calls, editing and or mixing sound files.**
ASSIGNMENT #7: THE PREANTEPENULTIMATE DRAFT.

- **Individual points**: 100
- **Due**: Friday of Week 7

For the next 2-3 weeks, you are to be hard at work on your final project. You will need to iterate. This means starting on the construction of your final project, determining what parts of your initial idea need refinement, finding more relevant sources as necessary (including interviews, footage, explanations of the science, etc. as necessary).

**Instructions**

- This week **each group member** will turn in their **own 1-page progress report**. It should detail the work you have completed, and the work you think you (and your group) have yet to do.

- **You may also, if you wish, use this opportunity to communicate confidentially with your TA or the instructor about your experience of working in the group, and/or document any problems or challenges that you think are affecting your ability to make the project great.** These progress reports are **scored individually** and will be used only to gauge whether you are achieving the goals you set for yourselves. They will not be shared with the group.
ASSIGNMENT #8: ANTEPENULTIMATE DRAFT

• **Group points:** 100
• **Due:** Sunday of Week 8

A draft of your project, suitable for peer review by another group must be **finished** by Sunday night of week eight.

**Instructions**

• At the end of week 8 you will be assigned a peer review group to partner with.
• When you have a draft by Sunday night, you will need to turn in a **copy to your TA, AND ALSO get a copy to your peer reviewing group.**
• Make sure this is a COMPLETE draft— it has to make sense to the peer reviewing group!!
ASSIGNMENT #9: PEER REVIEW

- **Group Points**: 100
- **Due**: Thursday of Week 9

**Goal**: Each group will be assigned another controversy to read, view, listen to, play, critique and/or improve. The function of peer review is twofold: 1) to assess the claims and evidence given in a work. Are they believable? Do they have proper evidence supporting them, is the conclusion valid, and based on your own experience, does the work convince you of its argument or demonstrate what it sets out to demonstrate? 2) to improve the work. How would you do it better, what is clear, and what remains murky or unfinished or hard to understand? What would you do to make it better and what suggestions do you have to improve it?

**Instructions**

- Each group will be assigned another project to peer review by Monday of Week 9. All group members should review the whole of the assigned project. **Take notes and draft ideas** for what you think works, what you understand or don’t, and what can be improved.

- Meet or coordinate with your group to discuss how to integrate your feedback into one coherent set of instructions for you reviewing group, write this up clearly as a letter addressed to the group you reviewed.

- A final letter must be returned to the peer reviewed group leader by Thursday of Week 9 (with a copy uploaded to CCLE). It should be a coherent, clearly written letter summarizing the main issues, advice or problems that the peer reviewing group discussed on Wed. It is up to the group to fairly determine who should write the final letter.

- On Thursday of this week, we will attempt to meet between the groups, so you can share your feedback and discuss with the group that reviewed you.

**What is peer review?**

- **Summarize**: Very briefly summarize what the project tries to communicate—does it communicate this simply and clearly? How could it do it better? Is it too complicated? Too simple? Be specific about how and where you were confused.

- **Evaluate**: Does the evidence presented support the narrative and/or argument or narrative? Where could the authors add more support from other literature or sources? Where could they add more detail to clarify the argument? Where do they need less detail?

- **Form**: Is it well organized? Can you suggest **concrete** changes that you think would improve it. (Think **concrete**—don’t suggest something unless you think you yourself could do it).

- **Substance**: Is it interesting and thought-provoking? Did you learn from it? Why or why not?
ASSIGNMENT #10: FINAL PROJECT DUE

- **Group Points**: 100
- **Due**: End of Quarter.

Final means final. Determine ahead of time how you will get a copy to your TA in a reasonable manner, and prepare a version for presentation at the final festival.
BONUS ASSIGNMENTS

- **Individual points:** 100 each
- **Due:** Saturdays of Weeks 4-9

All of these assignments are INDIVIDUAL assignments, and all of them are worth 100 points each. You may turn in **only one each week** (beginning in week 4), for a **maximum of three** (3) bonus assignments, throughout the quarter (300 pts max). **It is recommended that you start with OpSocGen 1**

**OpSocGen 1:** The goal of this assignment is to test your ability to apply general knowledge (related to the HBS major) to the specific controversy project at hand. It tests your ability to make connections and think creatively about concepts, research and data that you have already learned in other settings, by asking you to apply it in this case. Creatively transforming ideas from one area to another is a skill like any others, and it improves with practice.

**Step 1.** Identify an article (or a book) that exemplifies a particular way of thinking about, researching or analyzing an issue related to your project. This will almost certainly be a scholarly article or book, but can come from social science, humanities or the bio/medical sciences. Maybe you read it in another HBS or UCLA class!

**Step 2.** Read it and extract from it something specific—this might be a concept (“biopower”) or an experimental technique (randomized clinical trial, toxicity assay), or a style of research (statistical data analysis, ethnographic method, archival research).

**Step 3.** Apply this idea or tool to your project: how will it help you think differently, analyze or better understand the controversy? Be imaginative but specific; speculate about how one might conduct detailed research on your controversy, using this equipment (you obviously can’t actually do some kinds of research, so in some cases this might be more like crafting a proposal for research).

**Step 4.** Write ~500 words summarizing the steps above, and add the source and your notes to your annotated bibliography.

**OpSocgen 2:** Identify and interview an expert. Record it on audio or video. You must have permission from the person to use it for a class project, and you must respect anything they tell you not to use. **Summarize the conversation in~500 words, and explain how it connects to your project.** Your TA may ask to see the video/audio as well.

**OpSocgen 3:** Interview someone (potentially or actually) affected in your case or controversy. Record it on audio or video. You must have permission from the person to use it for a class project, and you must respect anything they tell you not to use. **Summarize the conversation in~500 words, and explain how it connects to your project.** Your TA may ask to see the video/audio as well.

**OpSocGen 4:** Locate a **publicly available data set** about something relevant to your project. Summarize what it contains, suggest possible uses for it, turn in a ~500 word summary as with OpSocGen 1 above. Be aware that data comes in many different forms, most often it is already processed (i.e. turned into graphs, tables or otherwise presented). You are looking for data in its most unprocessed state—and your summary should explain what the data is, who produced or collected it, and how it is accessed, in addition to what difference it might make to your project.
OpSocGen 5: Locate an artwork, or art exhibit that is directly related to your project in some way, either because it is topically similar, or because it seeks to explain or critique something related to your project. Summarize it, explain how it relates to your project. Turn in ~500 word summary as with OpSocGen1 above. Include images or links as necessary so we can see the work for ourselves. If you visit an exhibit in LA that you want to use, get a brochure or take some pictures of yourself there.

OpSocGen X: Propose another bonus assignment to the Instructor not listed here. You must get approval before doing it. It will indubitably involve a ~500 word summary as with OpSocGen1 above.