

Final project: Case study

This assignment is designed to let you apply multiple concepts from this course to evaluating a controversial environmental or scientific issue. This will be a group project. You will pitch a topic to the class, and I will select the final 4-5 topics and create the groups. You will be assigned to a group based on your ranking of your interest in each topic. Your topic must relate to science, must be covered in the popular press, must be controversial in some way (that is, people disagree on the science or the policy implications of the topic). If you cannot clearly articulate the controversy and why it matters, you have not chosen an appropriate topic. It also must be complex enough to require substantial research to fully unpack (not just a simple fact check).

Part 1: The pitch (10 points) Due Oct 11

- You have 3 minutes to pitch a topic to the class (and to your professor) as a topic you would like to pursue for this assignment. You will pitch on Flipgrid and can use any additional tools or visual aids you like, as long as it can be completed in 3 minutes.
- Your pitch must include:
 - The question(s) you would like to address
 - Identify the controversy or disagreement over the issue
 - How science contributes to understanding the issue
 - How different values or priorities might contribute to the disagreement
 - Any other relevant information on why this is a good topic to pursue and why your fellow students should join you.
- Topics should be broad enough to allow for substantial investigation into the science and disagreement, and narrow enough to be reasonably covered in a one semester class project. Following your pitch and the selection of topics, I will help you refine your topic to be of the appropriate scope. I have provided some resources for a few potential topics on [Google Drive](#). See below for examples of the appropriate scope of example topics. Feel free to vet these with me in advance.

Too broad	Too narrow	Just right
What is happening with COVID-19?	Does drinking bleach cure COVID-19?	What is the state of the science surrounding the efficacy of wearing cloth masks to prevent Covid-19? What do we know about the potential negative effects of mask wearing?
Solving climate change	Should I turn off the lights when I leave a room?	What is the role of wind power in addressing carbon emissions, and what are the downsides of wind power?
How do we solve the earth's biodiversity crisis?	What is the status of endangered devil's hole pupfish?	What are the trade-offs between water rights and conserving endangered devil's hole pupfish?

How can we stop wildfires?	What started the wildfires currently burning in the Western US?	How can the National Forest service manage forests to minimize catastrophic wildfires while maintaining ecosystem and provisional services in a changing climate?
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Part 2: The outline (20 points) Due Nov 15

As a group, you will submit an outline of your main points you would like to cover in your final presentation, a list of sources you have found to date, and your proposed medium for presenting. Any format is fair game - video, audio, text, web tool, traditional presentation - as long as you cover the items listed below. Make sure to include a thorough assessment of the science and the controversy, and identify disagreements related to science and those related to values. Also identify if specific groups (racial, socioeconomic, regional, etc) are more likely to experience the negative outcomes of a given decision on your topic. This outline should be complete enough for me to assess whether your presentation is on the right track and I will provide feedback to improve your final product. If you have content created already, you may include it. This outline will be in written format with a source list.

Part 3: The final product (70 points) Due Dec 17

Each team will research a controversial environmental issue and present their results to me using whatever media they choose. Your project must contain all of the elements listed below and will be submitted just to me (not presented in class). You can write a paper, record a powerpoint presentation, make a video, make an interactive website, make a podcast, or use other media that you believe will be effective in presenting the scientific evidence, the controversy, and your conclusions. Your presentation should draw upon scientific articles as well as popular press and social media reports.

You are expected to conduct a significant amount of research on your own for this project. Your final project should represent the state of the science and how it is covered in the media and perceived by the public. This will require locating, reading, and synthesizing the content and implications of a large number of research papers and primary press articles. This is a group assignment in part to allow you to collectively cover more resources than you could do on your own.

You must demonstrate critical thinking in various aspects of the project to get full credit. I expect you to show evidence that you have researched and thought about this issue beyond a surface level to get to the deep, complicated questions that do not have easy answers.

Your final product is expected to include:

- A summary of the issue.
- Identify areas of disagreement and controversy. Who is on each side?
- Clearly identify which aspects of the controversy are related to science and evidence.
- Identify areas of scientific uncertainty and how they relate to the controversy

- A comprehensive review of the scientific evidence and arguments presented in support of various viewpoints;
- A summary of media coverage of the issue;
- Identification of potential biases associated with differing viewpoints;
- Review the ways in which certain groups (racial, socioeconomic, geographic, etc) disproportionately experience either the benefits or costs related to the controversy and its policy implications.
- Your group's evaluation of the strength of evidence for both sides and final conclusions.
- A bibliography of sources, including at a minimum 10 peer reviewed research articles and popular press articles.

You are being asked to do this as a team to allow you to draw on the experience and expertise of your classmates, making the project more manageable than it would be if you had to do it by yourself. Furthermore, professionals in many fields work as part of a team. This experience will provide you with a realistic experience of working in a team that can help develop your teamwork skills for the future. You will be asked to anonymously assess the contributions of your team members and this assessment will contribute to your final grade.

Rubric is provided on Canvas. Make sure you read the rubric when putting your presentation together!