

Impact of Materials on Society Final Project Guidelines

To synthesize what you have learned throughout this course you will create a professional poster that answers the question:

How does a specific material impact your life?

This project is an opportunity for you to reflect upon your own personal learning about the ways that you see the humanities, social sciences, and engineering connect. Throughout the course, we have been exploring the major social impacts of different materials, which have fundamentally shaped human societies and cultures. We've also been discussing the ways in which the social and cultural context of engineering has shaped how we perceive and engineer materials. And we introduced the Impact Paradigm, and need to draw from our course modules to add questions to it, to document the many ways to investigate the connections between materials and society. You should be able to process this learning by integrating the perspectives on materials that we get from different disciplines in a study of one particular material in your own life. Select photos that are meaningful to you to best integrate the course content with your personal experiences.

The Final Poster Should:

- cover a specific material that that is new to the rest of the class or a specific application of a material that was covered in class
- communicate about the connections between your personal experience with a material and how that material has impacted society at large
- reflect your learning in the course about the social impact of materials engineering/science
- inform other citizens about materials that have or may change our world and how
- elaborate on how society will deal with the degradation or loss of this material if applicable

Selection of a Topic

Draw on your personal experiences to select a topic that falls in one of the following two categories:

1. A material that was not covered in class. For example, silicon and aluminum were discussed in detail and would not be appropriate topics. Instead, choose a new material and teach your peers something about it.
2. A single, specific application of a material that was discussed in class. For example, if you enjoy cooking, you could discuss Teflon coatings or cast iron skillets. No matter your topic, make sure that you are presenting some information that was obtained outside of the class.

In either case, your poster should present new information to your peers about a unique topic that is personally meaningful to you. Consider your hobbies, treasured possessions, and individual history.

What role do materials play in your personal story? To spark your imagination, we've collected examples of creative topics from previous poster sessions in a separate document.

Poster Presentation Sections

- 1. Introduction:** Identify the specific material you've chosen and describe its property-processing-structure relationship. e.g. How is it made, what are its properties and how does the structure contribute to these properties. You may search wherever you like (the news, the class materials, periodicals, etc.) Choose something that is of particular interest to you so that you will feel passionate about talking about it. Also, be sure to include your name prominently on your poster.
- 2. Main Section:** Explain the significance of this material in your life, and explore how this material has come to be significant to you and perhaps others.
 - I.** Use a combination of images and short descriptive texts to illustrate this point. You may choose to draw on activities from the course, such as drawing a tanglegram, creating Granta charts, or making an ad campaign, to illustrate your points. (Each image should have a small descriptive caption: what is this an image of, and where did you find it?)
 - II.** To explain the ways in which this material has impacted your life, select four questions from the impact paradigm (or create new ones to be more specific) that trace the means through which this material has come to impact your life. Write 1 short paragraph of text to reflect upon *each* question to explore why this question is significant in understanding the material's impact for you, and accompany with images as appropriate. Given what we know about this material, what are the most important physical, social, historical, and technological processes to consider when describing its potential impacts in your life?
- 3. Concluding Thoughts:** This section of your presentation should offer some concluding thoughts that tie together the materials science, humanities, and social science lessons from the course. *This conclusion should not summarize your poster findings about your life, but rather it should analyze them to offer a conclusion about how materials and society relate in general (based on your personal reflections).* If we were to take away one thing from this poster to reveal the impact of materials on society, what would that be? (If you're having trouble, think deeply about (a) *What do materials allow you to do?* and (b) *What do you do with them?*)

Submission Considerations

The poster presentations date and time are December 5 and 6 from 6:15-8PM in the classroom (Pugh 170). To make your poster you should use PowerPoint and change the page size to 44" by 36". Place everything on the 1 page (images paragraphs etc.) and then print it out in CSE or Architecture.

Each person will discuss their own poster with at least 5 other people on one evening and judge 5 others posters on the other evening (specific questions on an evaluation sheet will be provided.). On the first night everyone with a last name starting with A through L will present their poster. Everyone else (last name M through Z) will be required to review 5 posters. As your poster is judged place a mark in the upper right hand corner for each time you are reviewed. If someone already has 5 reviews find someone who doesn't. On the second night we will flip and everyone with a last name starting with M through Z will present while A through L will judge them. You will be graded on both how well your poster is judged and how well you judged other posters, so both nights are important.

The posters will be hung on the wall around the classroom so get cozy to make room for everyone. Your final poster will be due as a PDF through the Canvas Website by midnight December 7. (You are welcome to edit your poster based on the feedback that you receive during the poster review but its not required.)

Points = 100