

Physics 2204 Alternate Projects 2016 - Due Date: March 21

Students must complete one of the following projects. Options 1 and 2 must be done alone, but options 3 and 4 can be done with a partner, but you would have to do two topics rather than one. Completing the projects with a partner will not result in less work, but just an extra pair of hands to help out.

(1) Photojournal

- Using a slideshow program (such as powerpoint), students must make a show using ten (10) digital pictures they have taken themselves (not searched for online) that depict a different concept from the physics course. In addition, you must include any physics formulas that are involved in the topic. You can go outside the 2204 curriculum into more advanced topics as long as you research them. Finally, simple constant motion (distance, speed, time etc) cannot be included. This was completed in detail in science 1206, and is too simple for this journal. A maximum of 2 slides can come from unit 1. You must include on the slide an explanation of how the picture depicts the concept and link it back to the curriculum. This explanation must be at least a paragraph in length - no one line explanations. The explanation must use proper scientific terms as well. Additionally, at least **two** the pictures must have you in them. A detailed rubric stating exactly what must be included in your presentation is on my website. Be sure to consult it in order to receive full credit.

(2) Scientific Concept Poster

https://www.ted.com/talks/how_simple_ideas_lead_to_scientific_discoveries

- Watch the above video about how observations can lead to new discoveries and measurements. The interesting thing about this video is how the context surrounding an issue leads to problem solving and a solution. Your project involves choosing a scientific discovery and creating a display that illustrates the context behind the problem and the solution developed by the scientists. However, since this is a display you cannot use excessive text. Other than the title, each picture in your display can only have three or four words to label the picture. You need to show the problem solving through pictures. These pictures can be hand drawings, or printed. You can include scientific instruments, pictures of scientists, or anything else you think you need in order to tell the story behind the discovery. References for the project must be written on the back of the display board.

(3) Time-lapse Sample Problem Videos

<https://www.youtube.com/watch?v=M8xCj2VPHas>

- using an app (for example iMotion), make a video completing two sample problems of increasing difficulty for a given topic. A setting of one picture every second with a 6-8 frame rate is usually good for this type of video. When the video is complete, import it into a video-editing program (iMovie or Movie Maker work well) and record a voice over explaining what you have done in the problem. This may take some trial and error in your video as you will need to pause your writing in order to have time for your audio explanation. If you need any help with this, please ask me and I will see what I can do. Remember, if you want, you can work with a partner, but you would need four problems from two different topics. In addition, if you choose this topic, you need to sign up for the topic you want as I only want one project for any given topic. First come first serve.

(4) Ebook Notes

- This project involves using an app (example Book Creator) to create ebook notes for a section of the course. Similar to option 3 above, you can work with a partner, but must create two books on two topics, or one book on a more involved topic. You also have to sign up for your topic in this option as well since I do not want repeats. Book Creator is available for iPad or Windows, but is free and easier to use on Windows as the majority of what you will be doing is pasting in pictures or videos from your topic. You must include illustrations and text on each page to explain the topic just like a textbook would include. These can be pictures of your own illustrations, or copied from the internet. However, you must include a list of references at the end of the book that will include a link for any picture that you use in the book. The ebook can take many forms only limited by your own imagination. If you have any questions regarding this project, please ask me.