

Physics 114 - Spring 2006 - Poster/presentation Project

Physics touches many, many parts of your lives. I want you to think about that in a mode that isn't accompanied with the stress of analytical test-taking. And I want you to have some fun doing it.

The poster/presentation project:

The class will divide into groups. The default grouping is by assigned workshop section. The minimum group size is 6 and the maximum is 12. Workshop sections with many students can divide into two groups. Different groupings are allowed, provided the size constraints are satisfied.

Each group will agree on a topic. The topic should have something to do with the physics we are studying this semester. Ideally, the topic is something of interest to the group, but not necessarily something mentioned in the lecture, text, problems, etc.

Each group will prepare a single presentation on their chosen topic. The presentation may be a poster or video, a short skit, a demonstration, etc. It can be interactive or not, funny or not. But, it should be informative and relevant. It should not be more than 7 minutes long if it is a demo, video, or skit. Your grade does not hinge on your mode of presentation.

Each group will make their presentation to the class as a whole. Groups doing posters (and demos easily done in such a venue) will present their work in a poster session in Hirst Lounge on April 7 from 3-5 pm. Groups wishing to make a presentation in class will be given slots of time during the classes close to April 7 on the calendar.

The class will do the grading. Each student will evaluate each of the projects. Within each project group, members of the group will provide me with a measure of the relative contribution of each member. Assuming these evaluations are reasonable and consistent, I will translate them into a grade. In cases where the evaluations are not reasonable or consistent, the workshop leaders and I will step in and do the evaluation. If you choose not to give me a spread in your project or group scores, you are basically throwing away your vote because it treats everyone evenly. That means the votes of other people who choose to give me a spread in evaluation scores count more.

Example topics:

The physics of electrocardiograms, NMR, IR spectrophotometry, household electrical safety, transistors, uses of nuclear isotopes in medicine and biological research, the optics of the eye, the effect of the atmosphere on radio transmissions, communication with submarines, optical fibers, the functioning of a basic radio or television or VCR or CD player, the physics of CCD chips that lie at the heart of digital cameras, the physics of stars, how to make a nuclear bomb, the functioning of nuclear reactors, the state of research into controlled nuclear fusion, the technology of arms control verification, adaptive optics, eyeglasses, etc. There's no end to the possibilities!! I've even had a group do the physics of sex, though that was for P113 rather than P114.

EXAMPLE PROJECT EVALUATION SHEET

Your name _____ Your signature _____

P114 Spring 2003 - project evaluation

Below you will find a list of each of the P114 projects this semester. Please evaluate each project according to the given scheme as best you can. If you are unable to evaluate one or more of the projects, for whatever reason, leave the evaluation spaces blank. Evaluate primarily for relevance, accuracy and execution. Interest (to you) and entertainment are secondary in the evaluation.

5 - exceptional, over and above the call of duty (these people probably need to get a life), great execution, relevant, at least somewhat interesting

4 - above average, well prepared and executed, somewhat interesting

3 - average, more or less what was requested, acceptable execution, somewhat interesting

2 - below average, a little weak, preparation or execution a bit shoddy or not very relevant

1 - "What project?" - Or - "This is really very poor.", no show or not relevant at all or very poor execution

- Group 1: Aurora borealis _____
- Group 2: Radio transmitter _____
- Group 3: Lasers/tattoo removal _____
- Group 4: Heart I _____
- Group 5: maglev trains _____
- Group 6: Laser surgery/human eye _____
- Group 7: Polygraphs _____
- Group 8: Neurons _____
- Group 9: Aurora and planets _____
- Group 10: Electrocutation _____
- Group 11: Heart: defibrillators and EKGs _____
- Group 12: Generators _____
- Group 13: Stars _____
- Group 14: Forever flashlight _____
- Group 15: Radar guns _____
- Group 16: Polarization of light _____
- Group 17: RC circuits and body _____
- Group 18: Heart II _____
- Group 19: electrolocation _____

EXAMPLE GROUP EVALUATION SHEET

Your name _____ Your signature _____

Your project group number _____ Your project topic _____

P114 Fall 2003 - project, evaluation of individual contributions

Please list of all members of your project group (neatly) below. Beside each name, please put the number that best describes that individual's contribution to the project in your opinion. Don't forget to evaluate yourself!

- 6, excellent, really drove the concept and/or design and/or execution of the project, carried more than his/her fair share of the load
- 5, very good, consistently did what he/she agreed to do, well prepared and cooperative
- 4, satisfactory contribution, usually did what he/she was supposed to do, acceptably prepared and cooperative
- 3, ordinary contribution, below average contribution
- 2, marginal contribution, sometimes/often failed to show up or complete assigned tasks, rarely prepared
- 1, No contribution to your knowledge, "This person is in my group?"

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