

PHYSICS 100 – Spring 2010 – Presentation project

Part of the PHY100 evaluation will be a presentation project, where I will split the class into approximately **7 groups of roughly 5 students** and assign a physics topic to each group. Each group will prepare and present a **twenty minute lesson** to the class on their assigned topic. You can use any presentation tool you want: speaking, PowerPoint slides, chalkboard, demonstration, video, etc...). In twenty minutes you should be able to go into some depth in your presentation. There will only be one “presenter” in each group, to be chosen among yourselves. Other members can help and participate in the presentation if needed.

Each group will provide the class with a **review sheet** of the essential points from their presentation. This is not an “outline” or an index, but one or two pages with the main ideas synthesized. I would like to be supplied with the electronic version of that file so that I can make it available on the web. Each group will also provide me with **3 potential exam questions** based on the material from their presentation.

The goal of the presentation is NOT to impress everyone with your mathematical prowess or your ability to use scientific lingo. The point is to adapt the presentation to your audience (your fellow students, not me!) and be able to convey the essential history, necessary background, scientific significance and excitement of each topic. The rest of the class should learn something from each presentation. And each group will go through the experience of learning about the topic and organizing the presentation at the appropriate level. **Make sure you test in advance all A/V equipment to be used in Hoyt.** (Sometimes figures pasted on slides may not show up if done on a MAC, or the video not work, things like that...).

The preliminary list of topics can be found in the next page. You have until February 20 to petition me to add a topic to the list if it is of particular interest to you. I invite you to do that, and I will consider whether the topic is relevant and appropriate for the class. On February 22, I will hand out in class the topic list to each of you and request that you hand the paper back to me with your name and an ordered list of preferences. From this information I will assign topics to groups trying to satisfy preferences as much as possible.

Every member of the class will grade each presentation other than their own. Every member of each group will provide me with a rough breakdown of responsibilities in the group and give me a measure of participation for the other members inside the same group. I will use the class ranking and participation measures to assign individual grades. I will act as a safety valve in the grading, primarily so that a group that does a decent job but is rather boring does not get overly penalized. I will not adjust individual grades for participation unless there is a fairly consistent picture coming from the other members of the group.

PHYSICS 100 – Spring 2010 – Presentation topics

Name: _____

Please provide me with an ordered list of your top FIVE presentation topic choices, where 1 is the topic you would prefer the most. List the names of your teammates if you already have formed a group.

1. The discovery of neutrino oscillations
2. The making of nuclear bombs
3. The potential for controlled nuclear fusion as a source of energy
4. Microscopy
5. Astronomical observatories/telescopes
6. Global Positioning System
7. Quantum computers/computation
8. Particle accelerators: LHC
9. The discovery of the charmed quark
10. The discovery of the top quark
11. String theory
12. The search for gravity waves
13. Lasers
14. Black holes
15. Supersymmetry
16. Nuclear power – how it works and pros and cons
17. Solar system formation
18. The search for extra-terrestrial life
19. Radioactive dating techniques
20. The study of the cosmic microwave background
21. Nuclear terrorism
22. Superconductivity
23. Radiation: dangers and uses
24. Life and scientific contributions of a great physicist (such as Newton, Einstein, Plank, Bohr, Feynman, Galileo, Hubble, Schrodinger, etc.)
25. The case for comets/asteroids causing massive extinctions on earth
26. Music

PHYSICS 100 – Spring 2010 – Presentation grade for groups

Grading sheet for group: #1 _____ Date: _____

#2 _____

My name: _____ My group: _____

My signature: _____

Grade on a scale of 0-3 where:

3=superb; 2=average and acceptable; 1=poor; 0=exceedingly poor

Appropriateness of presentation for audience:

(Did it speak to you? Or was it too mathematical or more appropriate for kindergarten?)

Organization of presentation:

(Was there a coherent progression of ideas from background and motivation to conclusion?)

Clarity of presentation:

(Could you follow the presentation? Hear it? Understand the words?)

Entertainment value of the presentation:

Appropriateness of length:

Interest generated about topic in you:

Scientific significance of topic conveyed to you: _____ x2 = _____

Total (out of 24)

Comments for Prof. Garcia-Bellido (only) about this presentation:

#1	#2

Anonymous feedback for presenting group (bottom portion will be removed and shown to presenting group):

PHYSICS 100 – Spring 2010 – Presentation internal grade

Grading sheet for group: _____ Date: _____

My name: _____

My signature: _____

Grade on a scale from 0-3, where:

3=person played a leading role in the project

2=person participated in an average and acceptable fashion

1=person participated but did little to help the project/group

0=this person basically did not participate

	Name	What person did on project	My evaluation of participation
1			
2			
3			
4			
5			
6			
7			
8			

Comments or circumstances prof. Garcia-Bellido should consider in making participation adjustments to the grades: