First-Year Seminar in Physics and Astronomy

Physics 0310, University of Pittsburgh *(Fall 2020)*

Syllabus

Course Information

Credits: 1 credit. Grading will be S/NS.
Meeting Time: 1 hour/week.

Instructor Information

Michael Wood-Vasey, wmwv@pitt.edu

Course Description and Objectives:

Introduce first-year students to the field, practice, research, and opportunities in Physics and Astronomy. Students will be able to describe the variety of pursuits that physicists pursue; explain both the basic and recent topics in Physics and Astronomy to the lay-person; understand their own career interests and potential pursuit of Physics, Astronomy, and related disciplines. This is intended to be taken for a satisfactory/non-satisfactory grade.

Organization of Course Content:

In-class time will focus on discussions, interactive exercises, and quick presentations. Out-of-class time will be spent reading material and reflecting on questions about physics and astronomy and the students' plans for the future.

Weekly assignments:

Out-of-class activities will include readings and short writing assignments.

Grading policy:

25% participation
25% writing assignments (out-of-class)
25% writing exercises (in-class)
25% in-class presentation

Books and References

1. American Institute of Physics | Society of Physics Students Career Pathways Project "Careers Toolbox" https://www.spsnational.org/careerstoolbox
2. Historical study of 1-3 people or instruments in physics and astronomy. These will be short vignettes, supplemented with Wikipedia articles for broad details.
3. Popular summary of current discoveries. Provide reference material when Physics Nobel prize is announced in the fall.

Schedule

Week	Planned Material
1	What is Physics? What is Astronomy? The Big Questions in Physics and Astronomy? What is research? Process, Culture, requirements for success.
2	Intro to Department. Major and Minor options + the key courses in the program, SPS recruiting.
3	What do physicists do?. AIP Career Toolbox "Where do physics graduates go?"
4	Thinking Like a Physicist
5	Stereotype threat reduction exercises
6	Elevator speeches about you
7	AIP Career Toolbox "Section 1. Options and Opportunities". Job titles of physicists.
8	— No Class — Pitt Self-Care Day, Oct 14.
9	Guest speaker: Someone working in a non-academic job using their Physics or Astronomy degree.
10	Post Nobel talk (scheduled for mid-Oct)
11	Library skills
12	Research + teaching opportunities in Department
13	Career and Future Planning Exercise
14	Elevator speech final round