

# First-Year Seminar in Physics and Astronomy

Physics 0310, University of Pittsburgh (*Fall 2017*)

## Syllabus

### Course Information

Credits: 1 credit. Grading will be S/NS.

Meeting Time: Wed 12:00-12:50. OEH 300.

### Instructor Information

Michael Wood-Vasey, [wmwv@pitt.edu](mailto:wmwv@pitt.edu)

Allen Hall 320

Office Hours: Mon, Wed 2:00-3:00pm

### 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.

### 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/careerstoobox>
2. “Six Easy Pieces”, Richard P. Feynman  
<https://www.amazon.com/Six-Easy-Pieces-Essentials-Explained/dp/0465025277>
3. Historical study of 1-3 people in physics and astronomy. These will be short vignettes, supplemented with Wikipedia articles for broad details.
4. Popular summary of current discoveries. Provide reference material when Physics Nobel prize is announced in the fall.

## Schedule

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Week	Planned Material
1	What is Physics? What is Astronomy? The Big Questions.
2	Intro to Department. Major and Minor options + the key courses. SPS.
3	What do physicists do? AIP Career Toolbox “Where do physics graduates go?”
4	Thinking Like a Physicist
5	AIP Career Toolbox “Section 1. Options and Opportunities”. Job titles of physicists.
6	Guest speaker in a non-academic job using their Physics or Astronomy degree.
7	What is research? Process, Culture, requirements for success.
8	Stereotype threat reduction exercises
9	Elevator speeches
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

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