Physics 256, Spring 2021
Final Project assignment

1. Choose a (physics or science) topic that you would like to investigate using computational techniques.

2. Develop some code relevant to your research topic.

3. Carry out a test of your code to demonstrate that your code is operating the way you want it to!

4. Carry out a numerical exploration with your code. Make some nice figures that display your results.

5. Present your research topic and your preliminary results to the class during the last week of class: May 3 & 5, 2021.

6. Write a report on your work.

What to turn in:

1. Write a short introduction to your topic. Motivate your numerical exploration. Explain why computations or simulations could be interesting.

2. Refer to (and cite) some relevant research literature on your research topic. What has previously been done with computer simulations on your topic?

3. Write a short description of your code design and its functions.

4. Write a short description of how you tested your code.

5. Describe your numerical exploration. What is simulated? What parameters did you chose and why?

6. Describe your figures and results. What do your figures show?

7. Write a short summary of your results (if you have some!).

8. Discuss how in future you might go beyond your initial study. What types of improvements might you make in the future to your code or what additional settings might you explore?

9. Turn in (upload to blackboard) both a manuscript and a copy of your code.

You can collaborate and share code. You should mention who you are working with, and if you did not write all your own code, specify the source of each piece of software. Write your own reports!

When is the write-up due: Friday May 14 at the latest.

How long should the manuscript be? Two to three problem sets worth of effort. 5 to 10 pages of text and figures and also a few pages of code.

How long should the presentation be? 10 minutes or so.