

## Assignment Summary—Spring 2021 PHYS 598 PEN

**Writing Workshop Assignments (120 pts).** The purpose of the Writing Workshop (WW) assignments – which can be completed during Writing Workshop or after class as a homework assignment – is to help you improve your critical reading and rhetorical skills. These assignments will not be graded, but 10 points will be given for a completed WW assignment. Each Writing Workshop assignment should take no more than 30-45 minutes to complete. Suggested solutions to the Writing Workshop assignments will be posted on the course website roughly a week after a particular assignment is due.

**Assignment 1: Research Topic (50 pts).** Write a ~ 1 page paper describing your selected research topic, emphasizing the goals of and motivation for the research.

**Assignment 2: Journal Club Presentation + Referee Report (130 pts).** Give a ~15-minute oral presentation (100 pts) discussing a short scientific paper in your field, but not written by you or someone in your group. It is preferred that you select a short unpublished paper from the arXiv (<http://arxiv.org/>), but a recent paper published in Physical Review Letters, Science, or Nature may also be used. You will also write a referee report on this paper (30 pts).

**Assignment 3: Research Topic Abstract and Introduction w/ references (100 pts).** Write an abstract and introduction for your research topic, including references to the relevant literature.

**Assignment 4: Research Topic Methods and Results w/ Figures (100 pts).** Write methods and results sections for your research topic. Include at least two figures with figure captions.

**Assignment 5: Research Topic Presentation (150 pts).** Give a ~25-minute oral presentation describing your research topic.

**Assignment 6: Research Proposal (150 pts).** Using material from your selected research topic, write a proposal to request funds for your research. You will also review 2-3 proposals that others in the class have written, and you will evaluate these proposals as part of an NSF-style panel review.

**Assignment 7: Final Research Paper (200 pts).** Write a *Physical Review Letters* style paper on your research topic, including all elements of a good scientific paper: an introduction, methods and results sections, conclusions, an abstract, acknowledgments, references, and at least 3 figures with figure captions.