

## **Term Paper Rubric (“Movie Analysis”)**

Your term paper should be around 10 pages in length and will be worth 80 points. You will select one of the approved scientific movies listed on the Class Website as the focus of your project.

For your project, you will explain the laws of physics that matter for this topic, describe which laws have been violated, and explain the consequences of the violations. You will conclude by explaining why we have yet to be able to travel to other exoplanets and the challenges of space travel.

### **Grading Breakdown:**

85% Content

10% Formatting and Figures

5% Spelling and Grammar

### **Formatting:**

You should format your paper the same as a scientific paper:

Title

Author

Abstract

Introduction

Which laws of physics that I’ve learned matter for this topic?

Which laws are violated in the movie?

What are the consequences of the violated laws?

Why haven’t we been to other exoplanets, or why hasn’t ET been here?

References

Appendix

**Abstract:** Summary of the contents and brief presentation of the results

**Introduction:** Introduce any necessary background information

Which laws of physics that I've learned matter for this topic?: Introduce the physics that you have learned during the semester and how it matters in the context of the movie

Which laws are violated in the movie?: Explain which laws have been violated in the movie and use equations from Ryden and/or lecture notes where applicable

What are the consequences of the violated laws?: Explain what would happen in reality if the laws were violated

Why haven't we been to other exoplanets, or why hasn't ET been here?: Using what you have learned, explain why we have yet to be able to visit other planets or why ET hasn't visited. What makes space travel so challenging?

Conclusion: Brief Summary of your project

References: Citations (Cite the scientific movie you picked and any other relevant sources you used such as Ryden's book)

Appendix: Extraneous figures/tables or other source images you find that back your findings

The projects primary goals are to demonstrate your understanding of cosmological laws within a scientific movie and to show your knowledge of how these laws are inaccurately portrayed for entertainment purposes. We prefer that you confirm some results from the movie by recreating some of the laws violated and try showing a way for the law to be valid and what implications that might have on the movie plot. Also, show the importance of these laws.