

Astronomy: ASTR 350 Stellar Astrophysics (face-to-face) (Fall 2022)

Assignment: Student will submit a literature review and report on a topic of choice. The final paper must include the following sections:

- Abstract
- Title
- Introduction (What is the significance of the ideas you researched within the field of stellar astrophysics? Make sure that the reader can answer this question after reading this section)
- Description of the Problem (Describe in detail the problem you have identified. Here is where you would write the equations, derivations, present data, plots, i.e. any motivated evidence would come here. Describe the best model backed up by data that addresses the problem.
- Discussion: Describe the best explanation of the problem you are addressing. You may also present other models or data that expand or contradict the explanation you presented. Any final remarks are placed here.

Methodology: Two readers external to the department served as evaluators and read seven ($n = 7$) papers using the [Written Communication Rubric](#). Scoring follows.

Note: This course is. Requirement for Astronomy and an elective for Physics.

ASTR 350 Fall 2022	Line of Reasoning	Organization and Structure	Content	Language/Prose/ Syntax
Paper #1				
Rater 1	3	4	3	4
Rater 2	3	3	3	3
	3.00	3.50	3.00	3.50
Rater 2 Comments: The paper had a good line of reasoning. In terms of organization and structure, it could have benefitted from a conclusion. The content was also good and understandable by someone outside of Physics. In terms of language, there were some strange choices, e.g. Large and cold are not antonyms.				
Paper #2				
Rater 1	3	3	4	4
Rater 2	3	3	3	3
	3.00	3.00	3.50	3.50
Rater 2 Comments: This paper would assume some background in Physics that I don't currently have. It would have been nice to have the line of reasoning progress from an overview to the details. Furthermore, the abstract could have been extended a bit. Minor language issues such as it's being used as a possessive.				
Paper #3				
Rater 1	4	4	4	4
Rater 2	4	3	4	4
	4.00	3.50	4.00	4.00
Rater 2 Comments: Excellent layout. I'm guessing the author used LaTeX or possesses some major skill with MS Word. The author does an excellent job with the abstract in terms of explaining the overall phenomenon being explored. The abstract should have some of the findings included in it. The mathematical derivation is logical and easy to follow. Excellent use of language and prose.				
Paper #4				
Rater 1	4	3	3	4
Rater 2	3	3	4	4
	3.50	3.00	3.50	4.00
Rater 2 Comments: I love the honesty of the title: "11 th Hour Hail Mary Paper". There are some aspects that are not finished and the author leaves in some scaffolding. In spite of its rushed nature, the paper has really good content that relates				

abstract concepts to locally familiar objects (e.g. the size of a neutron star to locally familiar objects such as Hilo Bay.). The paper wasn't structured as well as some of the others				
Paper #5				
Rater 1	3	3	3	3
Rater 2	3	2	3	3
	3.00	2.50	3.00	3.00
Rater 2 Comments: This one is definitely LaTeX. It says so on the tin. This paper was less easy to follow than the others. The paper ended with a graphic rather than a conclusion. While this is sometimes a consequence of the text layout program, this should have been proofed. For language, there were some issues with parallel structure.				
Paper #6				
Rater 1	4	4	4	4
Rater 2	3	4	4	3
	3.50	4.00	4.00	3.50
Rater 2 Comments: There were some sentence fragments and unusual sentence structures in this paper that made the paper a bit more difficult to read. The material was presented in a way that balanced the technical aspects with information that would be of interest to the lay person. The layout of the equations could have also been improved.				
Paper #7				
Rater 1	4	4	4	4
Rater 2	4	4	4	3
	4.00	4.00	4.00	3.50
Rater 2 Comments: It's actually refreshing to see something that utilizes a lot of the tools from Numerical Analysis. I particularly liked the use of Monte Carlo methods for computing average position and positional error. I wasn't too clear on the use of the # as notation. There was a strange transition to first person language in this paper, but it was great otherwise. As with the others, it would have been good to have a conclusion.				
AVERAGE <i>n</i> = 7	3.42 R1: 3.57 R2: 3.28	3.35 R1: 3.57 R2: 3.14	3.57 R1: 3.57 R2: 3.57	3.57 R1: 3.85 R2: 3.28
Inter-Rater	71%	57%	71%	42%

Comments by Evaluators: Both reviewers felt this batch of papers were largely well-done, although there were some that seemed to have incomplete abstracts. One reader also offered feedback for each paper.

Response by Program (closing the loop): As part of the WI GE requirements, the Department faculty advisors have encouraged the majors in B.S. in Astronomy and B.A. in Physics to take the course ENG 225: Writing for Sci & Technology. This class has had a very positive impact and the Department will move ahead to discuss if this course should be a requirement for the major. The discussion will be informed with data gathered from other activities, such as reports students have submitted in other courses and whether those who have taken ENG 225 perform better.