

**ASTR 2401 Observational Astronomy Fall 2016**  
**Observing Project Report & Presentation**  
**Due Tuesday, December 6<sup>th</sup>, 11:59pm via email**

**Assignment:** Produce an approximately 10-page write up of your semester-long project and give a 10-minute talk to the class about your project. Your write-up should be a detailed summary of the project, including the scientific background and justification, observational techniques to be used, targets observed, equipment (telescopes, CCDs, filters, etc.) to be used, a description of how the resulting data was reduced and/or analyzed, your main results, and a discussion of how your results fit in the context of astronomy. The write-up is worth 20% of your final grade and the presentation is worth 15% of your final grade.

***Students are strongly encouraged to complete a draft early and meet with me to solicit feedback before the project due date.***

**Limits on Collaboration:** For your semester project you may work in groups of up to 2 students. You may collaborate on all aspects of the project with your partner, but each student will be expected to turn in their own write-ups independently for the final paper. I anticipate similarity, but do not copy your partner's work!

For the presentation, your allotted time will be doubled, you will also present and be evaluated together by three of your classmates.

**Format:** Letter-sized pages including references, 1-inch margins, 12-point professional-looking font (Times New Roman, Helvetica, Calibri, ..., i.e. no **Comic Sans!**) double-spaced. All images should be included in the document with captions. You should include your name as well as your partner's name if you are working as a team. **The write-up should be turned in via email as a pdf document.**

The presentation visuals should be in either Powerpoint, Keynote, or a pdf. It is your responsibility to make arrangements for a computer or any adapters you need ahead of time.

**References:** In keeping with both academic integrity and good scientific practice, you should cite all information sources you use in writing this text. You must use in-text citations and include a reference list. You may use any formatting style you want if it is consistent, however, I recommend using the style guide of the *Astrophysical Journal*. Guidelines and examples can be found at <http://journals.aas.org/authors/references.html>. **Failure to cite is academic dishonesty and it will be treated accordingly.**

## **Project Write-up Rubric**

The lab reports you have written before have been practice for this project. The format is similar, except that the sections will be longer and more detailed as is appropriate for a semester project.

### ***Title and Student(and Partner) name(s) (2pts)***

#### ***Introduction (12pts)***

This section is where you introduce, provide background, and motivate your project. You should talk about what you observed, why it is interesting, and why your project was worth doing. Note, saying it is a good learning experience is not sufficient justification for a project.

- Spelling and grammar consistent with college-level work (2pts)
- Sufficient length to completely introduce project (2pts)
- Citations are complete, are correctly formatted, and are legitimate scientific sources (2pts)
- Student demonstrates astronomical knowledge of chosen observational targets (6pts)
- Student makes a compelling argument that communicates the value of the project (2pts)

#### ***Method (18pts)***

Here describe how you took your data, reduced it, and explain what analysis techniques you used to produce your results.

- Spelling and grammar consistent with college-level work (2pts)
- Sufficient length to completely describe method (2pts)
- Citations are complete, are correctly formatted, and are legitimate scientific sources (2pts)
- Presentation of methods clear and understandable (2pts)
- Project is reproducible from information given (4pts)
- Student demonstrates technical expertise and knowledge in acquiring and analyzing astronomical data (6pts)

#### ***Results (16pts)***

This section is where you clearly describe your final result(s). This is where your final images or plots should be inserted.

- Spelling and grammar consistent with college-level work (2pts)
- Sufficient length to completely describe results (2pts)
- Citations are complete, are correctly formatted, and are legitimate scientific sources (2pts)

- Section is well organized, and results are presented clearly (2pts)
- Figures, images, and/or plots have captions that describe and summarize their content. Plots or tables are completely and clearly labeled (2pts)
- Results presented are reasonable and consistent with methods used (6pts)

### ***Discussion (14pts)***

This where you place your results in context with the rest of the field. Are your results what you were expecting and do they make sense? Were there any large/unexpected sources of error present? Note: Citing vague “human error” is never appropriate. If a mistake was made, describe what happened, how it influences your results, and how to remedy or prevent such error in the future.

- Spelling and grammar consistent with college-level work (2pts)
- Sufficient length to completely introduce project (2pts)
- Citations are complete, are correctly formatted, and are legitimate scientific sources (2pts)
- Any anomalies with the project or results are addressed (4pts)
- Student places project in the larger context with field (2pts)
- Student demonstrates sufficient astronomical/technical knowledge to understand their project (2pts)

### ***Conclusion (14pts)***

This should be a short summary that reiterates the major points of the project and connects the other sections together.

- Spelling and grammar consistent with college-level work (2pts)
- Sufficient length to tie the previous sections together (2pts)
- Citations are complete, are correctly formatted, and are legitimate scientific sources (2pts)
- Student demonstrates confidence in their knowledge and abilities (4pts)
- Conclusion is consistent with the supporting evidence used in the project (i.e. background in the introduction, the student’s specific result, etc.) (4pts)

### ***Bonus (5pts max)***

I reserve the right to add up to 5 bonus points to reward truly outstanding work or effort at my sole discretion.

### **TOTAL 76pts**

\*Note on citations: Complete means when appropriate. It is possible that some sections may need few if any citations. A good rule of thumb is if you need to look something up, it definitely should be cited. If you are unsure, ask me before you turn in the assignment.

### Presentation Rubric (30pts)

As your classmates are the intended audience of your presentation, I will not be evaluating your presentation. You will be evaluated by 3 of your peers using the following rubric. Your final score will be the average of the three reviewers.

	<b>Very Good 3</b>	<b>Satisfactory 2</b>	<b>Poor 1</b>
Gave an interesting introduction			
Presented clear explanation of topic			
Presented information in acceptable order			
Used complete sentences			
Offered a concluding summary			
Spoke clearly, correctly, distinctly and confidently			
Maintained acceptable posture			
Maintained the interest of the class			
Used visual/audio aids well			
Handled questions and comments from the class very well			
<b>Total</b>			<b>/30</b>

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It is critically important for all students to attend class on both presentation days (12/01 and 12/06). If there is any reason why you feel you cannot give a fair and impartial review to another student (ex. they are your best-bestie ever), then please let me know privately by November 28<sup>th</sup>.