

Astro101 Final Project: Defend Your Telescope

The final project for this class asks you to synthesize information from the semester and apply it. You are part of a committee trying to convince Congress to fund your telescope. A Congressional subcommittee has asked that you submit a 7-10 page brief outlining why your project should be funded. In addition, you need to present a poster to the subcommittee in person.

The Congressional subcommittee is interested in the following items when determining funding:

- Feasibility
- Cost
- Location
- U.S. Involvement
- Science Payoff
 - Hopefully your telescope will make many different science contributions. You should focus on three key science areas where this telescope will offer breakthroughs.

Your team consists of six people:

- Project Lead: This person is responsible for making sure the entire project is completed and that every team member fulfills their responsibilities.
- Project Scientist: This person is responsible for arguing the science case for the telescope – they should lead the science research.
- Project Engineer: This person is responsible for the logistics of the telescope and justifying them, including cost. They should compile that information for your report.
- Writer: This person is responsible for compiling your written report.
- Artist: This person is responsible for the figures that are part of the report and poster.
- Public Relations: This person is responsible for the outward face of your team, including presenting the poster.

The Congressional subcommittee will be ranking your report and poster on the following criteria. The criteria are divided into three sections. The first two sections, content and written report, apply to the written report. The last criteria applies to your poster and oral presentation. The higher your overall ranking, the more likely your project is to be funded.

Content Criteria

Area	1	2	3
The telescope	The telescope is only partially described.	The telescope is fully described but the description is not linked to the science goals of the telescope.	The telescope is fully described and the description of the telescope includes an explanation of how the telescope design helps achieve the science goals.
Telescope Logistics: Cost, Location, Staffing, other concerns	The telescope logistics are only partially described.	The telescope logistics are fully described but no or limited justification is offered for the choices made.	The telescope logistics are fully described and justification is offered for all the choices.
Science Area #1: Explanation	The science area is partially or poorly explained.	The science explanation is incomplete or poorly explained in a few areas.	The science explanation is complete and clear.
Science Area #1: Context & Importance	The context and importance of the science area are not included.	The relation of the science area to the field is included but the importance of the specific science area is not emphasized.	The importance of exploring this science area for advancing the field of astronomy is well-justified.
Science Area #1: Role of the Telescope	The role of the telescope in exploring this science area is not included.	The role of the telescope in this area is included but the uniqueness of the facility is not emphasized.	The role and unique capabilities of the telescope in exploring this science area are highlighted.
Science Area #2: Explanation	The science area is partially or poorly explained.	The science explanation is incomplete or poorly explained in a few areas.	The science explanation is complete and clear.
Science Area #2: Context & Importance	The context and importance of the science area are not included.	The relation of the science area to the field is included but the importance of the specific science area is not emphasized.	The importance of exploring this science area for advancing the field of astronomy is well-justified.
Science Area #2: Role of the Telescope	The role of the telescope in exploring this science area is not included.	The role of the telescope in this area is included but the uniqueness of the facility is not emphasized.	The role and unique capabilities of the telescope in exploring this science area are highlighted.

Science Area #3: Explanation	The science area is partially or poorly explained.	The science explanation is incomplete or poorly explained in a few areas.	The science explanation is complete and clear.
Science Area #3: Context & Importance	The context and importance of the science area are not included.	The relation of the science area to the field is included but the importance of the specific science area is not emphasized.	The importance of exploring this science area for advancing the field of astronomy is well-justified.
Science Area #3: Role of the Telescope	The role of the telescope in exploring this science area is not included.	The role of the telescope in this area is included but the uniqueness of the facility is not emphasized.	The role and unique capabilities of the telescope in exploring this science area are highlighted.
Figures	Less than 5 figures are included or the figures included are not relevant.	There are 5 or more figures included and they are relevant to the report. They are not well linked to the text of the report or have poor captions.	The 5+ figures are relevant, have informational captions and are referenced appropriately in the text of the report.

Written Report Criteria

Area	1	2	3
Written Report	The report is poorly organized and it is difficult to find or understand information.	The report is mostly organized but has a few sections where it is difficult to find information or poorly written.	The report is extremely well organized and well written.
Figures	Less than 5 figures are included or the figures included are not relevant.	There are 5 or more figures included and they are relevant to the report. They are not well linked to the text of the report or have poor captions.	The 5+ figures are relevant, have informational captions and are referenced appropriately in the text of the report.
References	Non-authoritative references of fewer than 3 references	3 or more references, properly included at the end but not always properly cited in the body of the work.	3 or more references, properly cited throughout

Argument	The argument to fund this telescope is poorly made	The argument to fund this telescope is made but is weak in some areas	The argument to fund this telescope is strong.
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Poster Presentation Criteria

Area	1	2	3
Figures	Less than 3 figures are included or the figures included are not relevant.	There are 3 or more figures included and they are relevant to the report. They are not well linked to the text of the report or have poor captions.	The 3+ figures are relevant, have informational captions and are referenced appropriately in the text of the poster.
Poster	The poster is confusing and difficult to follow.	The poster is mostly organized but has a few sections that are poorly placed.	The poster is well organized and visually attractive.
Oral Presentation	Clear lack of understanding or poor explanation throughout the presentation	Lack of understanding or poor explanation in one or two areas during the presentation	Clear understanding and explanation of the material throughout
Argument	The argument to fund this telescope is poorly made	The argument to fund this telescope is made but is weak in some areas	The argument to fund this telescope is strong.