

# ASTR 8060 FINAL PROJECT

**Due 23:59 CST December 3, 2023**

Your final project will be to write an NOIRLab observing proposal. The project/proposal submission deadline is above, but note that there are intermediate deadlines for tasks to be completed prior to this.

1. Identify a science case. You do not have to choose a unique or revolutionary science program. Instead, think of this as an exercise in practicing the components of observation and proposal writing. Therefore, the best approach will be to choose a straightforward case with clear outcomes and implementation. **(Due: 09:30 CDT October 12)**
2. Select an observatory+instrument combination from the [NOIRLab facilities](#). I recommend selecting a photometric imaging project, since we have covered those topics in lecture already and you can start work immediately. Gemini/NIRI, the SOAR/SOI, CTIO/COSMOS, or LCO are good choices. You may choose a different approach, but in that case you assume full responsibility for developing the technical aspects of the program. **(Due: 09:30 CDT October 24)**
3. You will prepare your proposal in  $\text{\LaTeX}$  using the NOIRLab and Gemini formatting. Download the style file and  $\text{\LaTeX}$  proposal template (even though NOIRLab says not to use this). Use Overleaf or  $\text{\LaTeX}$  installed on your local machine to compile the main proposal document. Ask if you are not familiar with these tools.
4. You do not have to use the NOIRLab online form or Gemini Phase I Tool (PIT) to prepare your proposals, but you should complete all sections of the  $\text{\LaTeX}$  document. Note that the proposal title is often added by either the NOIRLab or Gemini software, so you may need to include one in  $\text{\LaTeX}$  yourself.
5. You will prepare a draft of your proposal to make sure that you are on the right track before you invest a significant amount of time on calculations and writing. This draft should not be a full written document, but rather an outline of the ideas and calculations you will need to do. At this stage, you should have downloaded the  $\text{\LaTeX}$  forms and be working in them. You should have an outline that identifies your targets and gives the skeleton for the arguments you will make in the scientific and technical justification. For example, you may identify that your exposure time will be driven by the need to detect tidal tails on the outskirts of a galaxy. You will list that the target signal-to-noise ratio is the one needed to visually identify a tidal tail, that the typical surface brightness of such features is a number you will need, and that these together will drive your exposure time calculation. But you will not have found the limiting numbers that you need, run the exposure time calculation, or written that section of your proposal. **(Due: 09:30 CST November 07)**
6. We will hold a proposal review panel during the time of your scheduled final, **09:00-11:00 CST on Wednesday, December 13**. Between turning in your proposal and this panel meeting, you will be responsible for reading the other proposals and preparing a primary reviewer summary for one of them. The primary reviewer summary is a brief (1-2 minute) oral description of the proposal background, aims, and measurements.