

Donald P. Shiley School of Engineering
EGR 491/591 Telescope Design, Fall 2019
Assignment 3 – Design Project, Plus TED Talks

- 1) Watch the following TED talks, and write a few sentences about the main things you learned.
 - a) https://www.ted.com/talks/roy_gould_and_curtis_wong_preview_the_worldwide_ted_scope
After watching (a) – The WorldWide Telescope TED talk, explore the WorldWide Telescope at: <http://www.worldwidetelescope.org/webclient/> Scroll along the ecliptic (the blue dashed lines) until you find Sagittarius (it's the “teapot” you’ve been sketching it). Spend a few minutes exploring – zoom in on things that interest you (perhaps there is some fuzzy area). Scroll through the Milky Way – you’ll find interesting things. There are small photos along the bottom of the screen showing objects that are within the screen area. Place your cursor over one of the small pictures and notice a circle appears on the main screen area – that is the location of that object. Zoom in...have fun.
 - b) https://www.ted.com/talks/patricia_burchat_leads_a_search_for_dark_energy
 - c) https://www.ted.com/talks/ani_ananthaswamy

Design Project Status: As a class, we have created a problem statement and identified several important design criteria. We have also identified several “Key” Decisions for the telescope (they may not be “Key” decisions, but decisions nonetheless). You have been assigned teams (2 students per team); each team is responsible for designing 1 part of the telescope...but no team is an island. You may need information that some other team has (or will have). Other teams may need information you have (or will have).

- 2) Meet with your design partner to develop a problem statement and identify about 3 to 6 design criteria for your part of the telescope. Put this into a Word document with a properly formatted complete design criteria table (includes priority, etc.). For help, you may want to look at two links on the “ME Student Reference Page” (<https://faculty.up.edu/lulay/MEStudentPage/ME-Student-Page.htm>):
Evaluating alternatives, developing criteria
Design Considerations (from which criteria may be developed)
- 3) Using blue post-it notes and a black marker, identify “Key” Decisions for your part of the telescope.
- 4) Put them in order (like was done in class for the mouse-trap car). Number them.
- 5) Identify which of your decisions are “Key” (significant impact, high uncertainty). Put an asterisk (*) on Key Decision post-it notes.
- 6) Using yellow post-it notes, identify Knowledge Gaps (at least 1 per Key Decision). Put an asterisk (*) on the post-it if the Knowledge Gap would likely be filled by another group.

Bring all of this to class on Tuesday (9/17).