

(30 pts) Approx. 4 days

The last part of this unit is all about giving you the time and freedom to work with your fellow Aerospace students to create a long-distance glider using your knowledge of AERY, airfoils, and different building materials we have here in the lab. This part of the unit will require some good communication, brainstorming, and perseverance if you want it to be successful! In addition, this part of the unit will be very time intensive as you work through the following:

1. Take the Unit 2 Quiz: Gliders on or before the deadline of **September 20!** The link is on our class website!
2. Watch the video *Long Distance Glider Challenge* with your Aerospace team.
3. Talk to your team about how to design your glider. Consider different materials and methods of construction available.
4. Research different ideas online, brainstorm different solutions, and talk with Benshoof about any ideas he has.
5. BUILD YOUR GLIDER! You can build your glider with any materials we have in the lab, and using any tools we have that might be useful.
6. Trim your glider! It's going to have to fly very straight down the hallway – that doesn't give much room left/right for the flight to drift. Trim carefully, and consider control surfaces.
7. Get your glider flying 100 feet. This is the big challenge, but I have personally seen student-built gliders made of balsa wood and foam travel more than 175 feet down very similar hallways. I know it's tough, but it's definitely doable.
8. Make sure you write notes in your engineering notebook about your design and build process!

Part 3: Tasks	10-9 points	8-5 points	4-0 points
 Take Unit 2 Gliders Quiz	+ You took the Unit 2 Quiz on the website by the Quiz Due Date + Grade is based on number correct	N/A	(0 pts) You did not take the Unit 2 Quiz
	5 points	4-3 points	2-1-0 points
 Design Glider	+ You and your team have an actual (written) plan for construction + Your plan applies some of the information from our last few weeks	- Your plan is not well thought out - Your plan does not incorporate ideas from the last few weeks	- No plan - Plan not recorded in notebook
 Build Glider	+ You and your team work together to build your glider + Your construction is appropriately precise + You at least considered control surfaces (even if you chose not to use any)	- Your glider build is sloppy, but we can tell it's a glider	- You did not build a glider
 Glider Flight	+ Trim your glider to fly straight + Get your glider flying 100 feet down the hallway	- Your glider only makes it 75 feet down the hallway	- Your glider makes it less than 75 feet down the hallway
 Document Your Process	+ You have at least 2 pages of notes in your engineering notebook about your long distance glider + Your notes include brainstorming + Your notes include pictures + Your notes include occasional progress updates on the build + Your notes include your construction plan	- Your notes are missing some of the elements listed on the left - Your notes are less than 2 pages long	- Your notes are significantly lacking - Your notes are less than 1 page long

