(30 pts) Approx. 2 days

This second part of the unit is all about math. If you're in (or have completed) Algebra 2, then these topics won't be too challenging. Here we'll learn which equations get used to calculate lift and drag when aerospace engineers are designing their aircraft. We'll need to use some unit conversions along with the appropriate equations to investigate the physics of aerodynamics. In this part of the unit, you'll need to focus on some notetaking as you do the following:

1. Watch the *Aerospace Mathematics Overview* video and the *Atmospherics* presentation. Take a full page of careful notes on these videos. Be sure to focus on the equations presented in *Atmospherics*, including a clear description of how each equation should be used, what units are needed, and what each variable stands for.
2. Watch the *Aerodynamic Forces* presentation and take another full page of good notes. Again, make sure your notes include details about which equations are relevant, what units are needed, and what each variable stands for.
   ** As a help, the equations can be viewed on our webpage on the "Aerospace Formula Sheet". Feel free to print this sheet and tape it into your engineering notebook!
3. Complete the Physics of Aerodynamics Calculations Assignment. This math assignment is definitely challenging, and might take some actual time to finish. If you get stuck, review the *Calculation Help* video which walks through a few problems step by step.
4. Finally, take our first quiz: Unit 1 Quiz *Aerodynamics*! This quiz is accessed through our class website and is a simple Google Form. You only get one chance to take it, and while you CAN use your engineering notebook, you CANNOT use other resources like the internet or your friends. You will only get one attempt at the quiz, and it will be graded for correctness.

Late quizzes will receive half credit!

Part 2: Tasks	*5 points*	*4-3 points*	*2-1-0 points*
☐ Atmospheric Pressure Notes	+ Watch the Atmospherics presentation carefully. + Take 1 page of good notes in your engineering notebook, focusing on the equations!	- Less than a full page of Atmospherics notes.	- Very brief or no notes.
☐ Aerodynamic Forces Notes	+ Watch the Aerodynamic Forces presentation carefully + Take 1 page of good notes in your engineering notebook, focusing on the equations!	- Less than a full page of Aerodynamic Forces notes.	- Very brief or no notes.
	10 points	*5 points*	*0 points*
☐ Calculations Assignment	+ Complete the assignment showing all your work + Check your assignment and make any corrections as needed.	- Assignment not complete or mistakes not corrected.	- Assignment not done.
☑ Unit 1 Quiz **(Sept 3)**	+ You took the quiz by the due date! + Your grade on the quiz will be based on the number of questions you get right	N/A	- You did not take the quiz on or before the deadline.