

## **Lab Logistics P195**

**Please arrive to the Lab session prepared with your lab exercise once read through.**

Except for Lab #2 Straight-line Kinematics (which is a two-week lab) all of the other labs this semester will be due one week later at the beginning of your lab session. Please attach your graphs and **Results** page as the last pages of your lab.

Please write neatly and be organized. I will not accept sloppy and careless work. Please write horizontally on the paper. You must show all of your work, including units and their proper cancellation. You are encouraged to use pencil to make your work more presentable.


Since it is always handy to have a sharp pencil, I encourage you to use a 0.5mm size mechanical pencil for all work done in this class. They are always sharp and last for years.

**For repeated calculations** (say you need to calculate  $K = \frac{1}{2}mv^2$  seven times for a set of data) you may choose to show just one of these calculation to save space. However, if you decide not to write the other six on your paper, and you make a calculation error, it may not be easy to identify your mistake when checking your work.

**Please make sure that everything you turn in is your own work.** Do not copy from your lab partner. Please refer to our course syllabus on Mesa College's Policy on Academic Integrity.

I expect you to work with your lab partners, however, please do all of your own calculations. In fact, you may even want to verify all measurements and calculations during the lab. If one lab partner measures the mass of the glider to be 196.05 grams, and then tells the group its 156.09 grams, and everyone writes that mass down, then the entire group's data will have errors. In addition, do not rely on one lab partner to do the group's calculations on their calculator. Again, as a future scientist or engineer, now is the time to practice these skills on your own.

*"Trust, but Verify" – Pres. Ronald Reagan*

Please work in your lab groups as a team, allowing each group member to participate in the lab exercise. You can rotate responsibilities of 'who gets to touch what', but every group member should have a hand  in the process.

**GRAPHING:** There are a number of computer programs that can analyze a graph for you. However, you can gain a wealth of insight into your data (and physics!) if you know how to create and analyze your data without the use of a computer. There may be times in your career when you will be asked to either create or interpret a graph in the field (or on an exam) by hand. For these reasons, you will be asked to plot and interpret all graphs by hand this semester. Aside: While you are acquiring data during the lab sessions, you may use you calculator to plot your data and find the slope in order to check if your results are reasonable before you graph it by hand.  
**CHECKLIST:** Before turning in your lab each week, here is a brief checklist that will help you to avoid losing points on your lab for careless mistakes.

A. Refer to the '**How to Draw a Graph**' guide. This will remind you to label your axes, include proper units, and show your work in calculating slopes.

- B. Be sure to show your calculations, including proper units and their cancellation.
- C. Check for spelling and grammatical errors.
- D. Think about the purpose of the lab. Briefly discuss in your conclusion how your numerical results validate the physical principles investigated in the lab.
- E. Before turning in your lab report, ask yourself, “Is *all* of this *my* original work (calculations and sentences)?” You will not have your lab partner with you for your first series of engineering job interviews, so you do not want to rely solely on your lab partner *now* for lab calculations and written explanations.

**You are the only one who can decide how much you want to learn in your engineering & science courses.**

Eventually, upon graduation from college, your depth of knowledge and your work habits will determine your standard of living for you and your (future) family. For some students it is difficult to see that the academic decisions you make *today* and in the coming college years will profoundly affect your quality of life and standard of living 5 to 30 years from now.

I want to thank you in advance for turning in neat and organized work. Have a great semester!