

Atmospheric Science

Teams:	<u>Team Matt</u>	<u>Team not Matt</u>
	Matt R(PL)	Ashu (PL)
	Drew (SE)	Amanda (SE)
	Matt C (EM)	Jonathan (EM)
	Isaac (ED)	Raphael (ED)
	Matt L(DC)	Jay (DC)
	Alex (QC)	Jackson (QC)

Note that your grade is based 50% the group grade 25% on your individual grade 25% on team grade for you. Most important, be a team player. If you don't have much work to do on a certain day and someone else is swamped, help him/her out!

In addition, although you are in charge of a certain job, this is a group project. You guys/gals should work together and never should anyone say 'that's not my job, not my problem'. If something is screwed up it's everyone's problem.

Project Leader (PL): Coordinates tasks, main editor and go to person for the paper(s). This person is responsible for coordinating all the team members and keeping everything moving in a timely manner in order to meet the deadlines. Represents the team to me, if there are questions, problems that need to be resolved, etc. Compiles work from the others and gives me a weekly report.

Individual grade will be based on

- The final paper
- Group readiness for launch date

Works closely with

- Everyone and knows where everyone is at in their work

Software Engineer (SE): General expert on all the software used in the experiments. Specifically the DAQ, Graphical Analysis, Fathom or Origin (if necessary), Excel, and a way to put contour lines on a map for the first experiment. This person is also responsible for producing the map and/or graphs for the paper based on the information given by DC and EM.

Individual grade will be based on

- The quality and appearance of the atmospheric science graphs.
- Sketchup drawing of payload
- Helps DC with pressure sensor mini experiment (proving can be used as altimeter)
- All the Figure captions in the final paper

Works closely with

- Data Coordinator and Equipment Manager

Equipment Manager (EM): General expert on all the equipment. Must develop instruction sheets (these are short, concise with bullet points) so that other team members can easily and accurately use the equipment. EM is also in charge of designing and building a motor controlled reel in system.

Individual grade will be based on

- Your motor controlled reel in system (*hint: test it under load and duration of experiment, get load amount from ED*)
- Sketchup drawing of reel in system
- Equipment instruction sheets in appendix of the final paper (with QC)

Works closely with

- Quality Control, Data Coordinator, Experiment Designer

Quality Control (QC): Checks calibration of equipment (are the probes as accurate as they claim!), runs tests to develop a spec sheet can use for the equipment, reports on the accuracy and calibration standards of each piece of equipment to the EM. This job has a lot to do initially and not much towards the end. It is imperative that the DC helps out in the beginning and then the QC returns the favor at the end when the DC is slammed.

Individual grade will be based on

- Calibrate pressure sensor, explain your technique (see data sheet that comes with barometer probe). Determine its accuracy (these will be the main source for error on the height reading of your balloon)
- How does temperature effect pressure reading (see web and handout from Dr. Haller)
- Equipment instruction sheets in appendix of the final paper (with EM)

Works closely with

- Data controller (how to properly use the equipment) and Equipment Manager.

Data Coordinator (DC): Collects all the data from the various groups. Checks for consistency, agreement between groups and, overall, does it make sense. Converts pressure numbers into altitude numbers and produces the contour map data, which is then given to the SE to put on computer. It is imperative that the DC helps out QC in the beginning and then the QC returns the favor at the end when the DC is slammed.

Individual grade will be based on

- Evidence provided that *your* pressure sensor can be used as an altimeter
- Data tables in final paper
- Stat errors
- Systematic errors

Works closely with

- Quality Control and Software Engineer

Experiment Designer (ED): Responsible for coordinating the design of the experiment (this is, of course, a group discussion but the ED puts it down on paper and organizes). Responsible for attaching payload to 3 inch diameter key ring using a carabiner, ideally. Coordinates the data taking. Generates a protocol sheet for the experiment and data sheets for the field work (to be checked over by QC)

Individual grade will be based on

- Calculate buoyant force from the balloon and the net force on the reel in system, all to be included in final paper.
- The part of the paper that describes the experimental design, reasons for these experiments, theory behind them and procedure.
- The experiment protocol sheet(s) that are used on day of experiment(s) and included in the appendix of the main paper

Works closely with

- Project leader and Equipment Manager

Supreme Leader: That's me and I am neither benevolent nor fair. Come to me as a last resort to resolve problems, reassign people, etc. I will make an executive decision and it cannot be questioned.

Senior Scientist: Also me. I don't really do anything anymore, but I can give some advice and offer some wisdom. I will also judge your paper as being worthy or not of publishing.

Although I have assigned you certain responsibilities, you are to work as a team and help each other as a team. Please help each other at all stages. If you have nothing to do on a particular day because you are waiting on something from someone, go help that person. There is never a reason to be doing nothing. At the very least, you can always get a head start on the paper or go see the PL for a task. If I see people just sitting around, fooling around, etc. lightning bolts will rain down as not seen since the time of Zeus.

Final Note: I did the best I could to assign people and teams. They're all meant to be equal jobs and equally challenging. If you don't like your job –too bad (unless you can get a teammate to switch with you). If you feel your job is beneath you, do an amazing job, above and beyond the call of duty and show us that you are way too good for this job. If you feel your job is too hard –buck up! And seek help from your teammates.