Team #1 – Ozone Express
Dear future students of Gateway to Space,

This class can be very tedious but it will be one of the most rewarding classes you have ever taken if you dedicate your time wisely. Only in this class can you build something and send it into space. Most engineering majors do not get this experience so take this class seriously but at the same time have fun. This class was not only about your BalloonSat, along the way, your professor will teach you all about space and aerospace history and all about different types of rockets and space vehicles. We also spend lots of time learning technical skills, such as soldering and coding which all come into use not only for your BalloonSat but for your future as an engineer.

As a group, when you make deadlines for yourself, stay on top of them or you will be scrambling to get things done quickly and that will lead to mistakes. Also keep in contact with your group, make it so that all of you can reach each other at all times; our group made a group text message so that we could all communicate to each other at the same time. Lastly, for your BalloonSat keep your wiring neat, there were a few teams this year that did not have a functioning BalloonSat because of faulty wiring. Even we had problems with wiring which made us do some desperate last minute fixes. All in all this class requires dedication and a lot of work, but the reward of having a successful BalloonSat flight makes up for it.

Best of Luck,

Ozone Express (Team 1; SP2015)

Team #2 – Icarus
Dear future ASEN 1400 students,

If you want a great memory as a freshman, this class is the best choice you can ever make. Be warned that as much fun you would get from this class, the time and effort you need to spend is much greater. You will learn the importance of teamwork and time management. Make sure that you follow your schedule to build the project. Take account of all the problems that could happen and always have plan B ready for action. Also, take serious consideration on what Chris says about your project. This class is also the path of your preparation of learning to write proposals and giving presentations. Lastly, don't be afraid to take the challenge because in this class you will learn that failure is not distorted.

Team #3 – Big Gamma
Get started early. Plan to complete your BalloonSat a week or two before launch, as it will be very useful to have extra time when unexpected problems come up. Thorough testing will be helpful to assure a
successful mission without any failures. The BalloonSat will weigh more than you expect. If weight becomes an issue think about using lithium ion batteries to save weight, and to prevent having issues with cold temperatures. Only drawback to using lithium ion batteries is a lot of time is required to recharge them (so make sure they are fully charged well before launch). Larger sized payloads will become an issue with heating and weight so try minimizing the size as much as possible. If using Geiger counters, use extreme caution when handling the Geiger tubes. They are very fragile and can easily break. Do your research and know your systems very well. There are many helpful people around and resources to use to help you along the way. Also, on recovery be prepared to drive faster than five miles over the speed limit despite what professor Koehler may tell you. Good luck!

**Team #4 – Team Asteria**
While the work time required outside of class can be tough academically, emotionally, and mentally (as well as hard on getting your work for other classes done), this course is well worth the commitment. It gives great insight into how a real world project runs as–well as providing cool presentations and applicable skill workshops. It’s a lot of work, but once completed, gives you a wonderful sense of satisfaction. Never put off work until the last minute, and plan for disruptions in a schedule such as midterms, systems malfunctions, or sickness. Get ahead and stay ahead. You will learn about a lot of things you never thought you would learn about. Even if you’re not an aerospace major, a lot of this will really interest you and it’ll all be worth it. Attend lectures–while I imagine you were already planning to, they really are worth your time and you will enjoy them immensely.

**Team #5 – Team High Five**
There are many different things to keep in mind while thinking about what you want to do in your Gateway To Space class. One of the most, if not the most, important thing in this class is to have a great team dynamic. It is important to be understanding that everyone is coming to the group with a different skill set and a different point-of-view toward every situation. Team chemistry is what determines to a certain extent how much time is going to be spent on this class. A good team dynamic will equate to work going faster and the project being done more efficiently, and the opposite will occur for a team with bad chemistry. If there is an issue in the group, work it out. Nothing productive comes from complaining to anyone else.

The next most important thing is the act of picking the project to pursue. It is very important to research the topic in question before deciding on that topic. There are a lot of little things that will come up during the course of building that will be of much heartbreak to the team and will cause a lot more work than was initially anticipated. Make sure to completely understand every aspect of a topic before it is chosen as the project to pursue. It will save a ton of work in the long run. Also, if Chris says that the project is too much work for one team, know that he has been doing this class for a long time, and knows when someone as attempted something before and it turned out to be too much work for one team. Heed his warning.

Finally, do not procrastinate. Procrastination will cause things to pile up, and this class throws so many different papers, presentations, and home works at whoever is taking it that if procrastination to any degree is observed, there is almost no way to get out of that slump. Even without any procrastination, there is still going to be a ton of work that needs to be done and there will be long nights and all-nighters without regard to how well time has been managed.
Overall, this class requires a lot of work, and make sure that every move that is made has been thoroughly researched and understood, or else this class will become more work that was ever initially anticipated.

Team #6 – H2S
Dear Future Students of Gateway to Space,

Congratulations, this class is pretty cool. It’s a little bit of work but we’re sure that you’ll do fine. First of all, never use the wires included with the Arduino. They will frequently break and cause unnecessary hassle. Instead, use the wires in the Gateway Store. They are significantly stronger. If you’re worried about not being able to plug into the Arduino, don’t be; you can just solder the free end into one solid mass and plug that in. Second, Geiger counters aren’t that difficult to implement, but be careful with the tubes, and if you run into trouble, just look at our code and model yours after it. Also, please make your meetings towards the beginning of the semester productive. It will make your time in this class much less stressful if you do. Thanks and have good semester!

With our dearest love,

Guy, Matt, John, Nick, Sean, and Brian

Team #7 – 007
Dear new Gateway to Space students,

Here are Team Skyfall’s recommendations for what worked: Schedule multiple regular weekly meetings (5-6 hours per week) to make sure all work gets done in a timely manner and there are no late nights or all-nighters. Finish all tests well before launch so there’s time to make corrections.

Have a unique and feasible idea for science payload to make sure the whole team is invested; it makes the project more fun. Create a google calendar with everyone’s schedules to help with scheduling and a shared Google Drive folder for all documents, pictures, presentations, and videos.

...And how to fix what didn’t: Test any corrections or changes, no matter how minor, so that each component is less likely to fail during flight. Have a group Facebook message; it would have worked better than group text because it shows who has seen the messages. Downloading documents from Google Drive to .docx was problematic because the formatting was different. Using a Mac (without Microsoft Word) created discrepancies in formatting and difficulty converting to the required formats; check all documents and presentations after downloading before turning in. Do well on each assignment because it creates less work for future revisions.
Team #8 – Guardians of the Stratosphere

What makes Gateway to space such a nice class is that it fosters an environment of learning through both success and failure. Before entering the class, the team did not know much about BalloonSats at all, but since Chris was so supportive (or intimidating some might say), the team really wanted to produce the best project possible. Anyone taking the class in the future will learn very quickly that you get in what you get out. It’s what teams from the past told this year, and it should be the motto of every team in the future. If someone is looking for the easy way out, this is not the class to take!!

This team was lucky enough to be the first group in history to forget to turn in two presentations... in a row... which got them into a load of embarrassment. So if there is anything this team learned, it’s to TURN IN YOUR ASSIGNMENTS ON TIME and to shy away from making Chris a grumpy professor. In terms of time management, The Guardians were lucky enough to include quite a few hard workers, which made time management much easier, and the distribution of work far less stressful. It is easy to get caught up in the theoretical designs of your payload, but when the time comes to actually construct the thing, make sure you do as much planning as possible the first time around. It allows for much more efficient work when constructing the payload.

Lastly, you have an entire university at your disposal! If you think that you are the only one doing the type of research you decided to do, think again. There are sure to be a few specialists that are more than willing to help you with your experiments, and they can prove to be some of the most important resources out there. Getting help is never something to be ashamed of. Oh, and have a good time! If you don’t, it won’t be nearly as fun, easy, or rewarding.