Gateway To Space – Message to Fall 2013 Students from Fall 2012 Students

<<<NOTE: The text below was provided by students in the Gateway to Space Fall 2012 class at the end of that semester. Students were asked to provide a message to students taking the class in the Fall of 2013 as part of their team’s final report. The messages below were compiled by the course assistant and were not edited in any way. >>>

Team #1 – Napoleon
This class will be by far the most memorable experience of you freshman year. It will present challenges and force you to learn in a completely different way than any of the other courses you will take this year. It can be both fun and frustrating, as you run into many issues with no clear solution. Don’t give up, be patient and relentless in you task of building a satellite. If you refuse to give up, and put all of you effort into this project, it will be the most rewarding experiences this year. Get to know your team, and become friends with them. You will be spending an entire semester working, suffering, and having fun together. This is an experience that you will talk about many years in the future. Take a deep breath, work hard, and have fun. You will be grateful to have taken this class.

Team #2 – Orion
During team Orion’s time in Gateway to Space we learned a lot of things that we would like to pass on to you. First, do not let the mere 3 credits behoove you. This class will take the most work and time out of any of your classes you will have your entire freshman year. The process of making a satellite and putting it into near space in one semester is more daunting then you would ever expect it to be. Not only does it take so much commitment of your time but also your focus. Second, ask for help. Although the class seems to be a competition, do not be afraid to ask other teams to help you. And if they don’t know then ask someone on campus that knows. People in the physics department have lasers that can help calibrate sensors. Third, you will, as we did, come across topics that you not only not know how to do them but no one will directly teach you how to do it. But this in essence is the beauty of the class. In industry there wont necessarily be someone to hold your hand and teach you exactly how to do something (in these instances, the internet is your friend). This class is the only class that you will take your freshman year that will directly prepare you for life after college. When you write this message to the semester after yours you will hate this class just like we do. But you will soon realize how much you actually did, and how much you learned. And you will come to love Gateway to Space.

Team #3 – Spirit of the Koala
Professor Koehler was in fact correct in saying that we will spend more time on this class than any other class during the semester. You may not believe it at the beginning of the semester but this class will challenge you, stress you, keep you up until the early hours of the morning and most of all, things will go wrong at the worst possible moment. All of that said, Gateway to Space will be the most fun you have ever had on a project. It is immensely rewarding to launch what you have worked so hard on for so long. There are a number of things that as a team you can do to make the overall experience less stressful though. To start, you must have a strong team leader, someone who will not be afraid to kick people into line to get done what needs to be done. This is because without a doubt there will be people on the team who do not want to contribute to the best of their ability. Second, do your research. You may have a good concept at the beginning and it may go well throughout the project, but you must know everything about how your concept works. In the case that you don’t, things will start to pile up very quick when you can’t understand something that has gone wrong. Third, work out just
when your team can meet and have very good communication between team members. This will make everything else much less stressful. Overall, the main thing that we should have done differently was testing. Had we completed our MissionSim testing earlier we could have worked out all of our problems without needing to spend the night in SpaceGrant hours before the BalloonSat was due. In the end, have fun with the experience.

**Team #4 – Up, Up, and Away**
This class will be one of your most memorable classes of all time. You are building a satellite, which you most likely have never done before. Are you nervous yet? You should be and if you are not, let us repeat...you will be making a fully functional satellite, on your own, in less than 12 weeks! Well you will not be entirely alone. Tim May is a great resource for electrical troubles and all the folks at Space Grant are invaluable resources for everything satellite related. The number one secret to success in this class is to plan ahead. You will encounter several problems along the way that you could not possibly have foreseen and the best way to deal with these setbacks is to have left room for failure. Finally, be creative and keep your mission simple.

**Team #5 – Honey Badger**
Don’t underestimate Chris when he says the class will be a TON of work.
Programming is definitely the most challenging aspect of design.
If you can’t figure something out, get help early.
Attend launch and recovery. It makes all the hard work you put in during the semester worth it.
Keep it simple.

**Team #6 – Apollo 18**
One of the most important factors to our success in this class were utilizing the individual skills of each team member and organizing all our efforts in a cohesive way. We would definitely recommend focusing on the hardware early on and making sure the data can be recorded, because we watched so many teams struggle with this even during the week before launch. Communication was key for our team, and our team leader watched the schedule and made sure that there was time for everything. Don’t be overwhelmed by everything required of you; just begin building and eventually everything will get done. But most importantly, think of a challenging experiment right away, and don’t test handwarmers! But even if your idea isn’t good enough the first time, there is still time to create a great experiment and have a blast in the class!

**Team #7 – Hang Seven**
A semester of Gateway to Space may be overwhelming, frustrating, and time consuming to say the least, but is by far one of the best classes you will ever have. Some advice to help you have an easier semester is to be sure to use your time efficiently, and do not rush the testing process. The biggest factor of our failures was not testing over and over to ensure that all our subsystems worked properly. The easiest way to motivate you to work over 25 hours a week on this project is to get to know your teammates and have a good relationship with all of them. This will make it a lot easier and fun when having to meet every night. Above anything, be sure to make the most of your experience and never give up even if you do not succeed. Think about all that you will achieve with this project, and the fact that few people have
the same opportunities to do something like this. This is a once in a lifetime project so work harder than you ever have before because in the end it will all pay off.

**Team #8 – Super 8**

In the other groups’ final reports, you might read that they had to pull all-nighters multiple times to get their final reports or their presentations done or to be ready for weigh in before launch. Team 8, on the other hand, did not work through any nights at all, and I think we are the only group that can say that we actually slept well the night before weigh-in. The key to doing a good job and getting a good night’s sleep at the same time is to stay organized both with your materials and your schedule. When you make a schedule, make it ambitious, but not impossible. Make sure you are aware of upcoming deadlines and make sure you meet them. Be productive at every team meeting and make sure everybody is doing their fair share of the work. If you feel somebody is not doing as much work as they should be, you should be vocal about it and try to resolve the issue before it causes any problems to the success of your mission. There were a few other groups who complained a lot about their teammates not doing enough work; they complained to other groups, but whether they communicated the concern within their group is up for speculation. We believe that the project is an iterative process beginning from proposal and ending only with retiring of the spacecraft. We were caught off guard by a few deadlines, but careful planning and scheduling led to damage mitigation, rather than damage control. Our schedule and adherence theretofore allowed us to perform a battery of tests and thereby ensure completion long before weigh-in. Those are the two biggest tips from the team; do not procrastinate, and stay organized. You are going to learn a lot in this class, and you are going to do a lot of hands-on and tedious work. You may do something you have never done before. But in the end it will be worth it. You will have learned more than any other student could ever think of learning in a projects course, you will have sent something to space, and to top it off, you will have another very important line to add to your resume. Above all that, make sure you have fun and enjoy every bit of it, because this class is an experience you do not want forget.