The class was great and tons of fun. I have been doing projects for a while in school and after not having any last semester it was great to get back into. It’s a lot of fun and rewarding to build a balloon sat and the teamwork of random groups is a good thing for finding new people and having different ideas. It was everything I expected and more. I will be recommending it to my friends coming in to college after me.

I came in with few expectations, but they were definitely met and exceeded. I expected to put in a lot of work, and I did, but my team all put in effort and worked together, so there was never a time that I felt too overwhelmed. It seems like everything that could go wrong did, and then everything that couldn’t went wrong anyway as well. However, I enjoyed every minute of the class, both the successes and failures.

Yes my expectations were met. I learned a lot about not only engineering, but what it is like to have a job where you are expected to have your reports and data in an easy to understand format. I learned about what it takes to get funding and how to analyze data and draw conclusions from it. I learned about what it takes to be an engineer in real life.

Yes! My expectations were met, up to 100,000 feet! This class provided learning experiences every day. The guest speakers were absolutely awesome. A couple things i think could make this class better: more hands on class days, the "learn to soder" day for example, was the best all around team building I saw. Less busy work, this class had something due almost ever class, while also focusing on learning how the balloon systems work, the book report,.. yikes,.. this is an engineering class right, not sure any other engineering classes have book reports. We could see that some groups were much better than others. I'm not sure how you could fix this, but when good people get stuck on bad teams,.. they start doing all the work,.. then the start not liking the team and the class. Again, not sure how to fix that, but i think i saw that in action this semester. Other than that, i absolutely loved the class, i would highly recommend it to anyone who likes science, thanks for a nice semester.

I think this class has met my expectations in terms of fun, the amount of concepts related to aerospace and astronomy, and in terms of teamwork. What I did not expect was the amount of work that goes into this class. The out of class hours were a lot more than I thought. This class was the hardest class for me this semester in terms of need time dedication, the amount of class assignments (presentations, homework, community service, and so on.) than any other class that is typically a 1000 or 2000 level class. However, I know that in the beginning of this class we were warned of the work load and hours needed to succeed in this class. I just didn’t expect it to add all up the way it did. Overall, this class met my expectations when I think of the experience and fun I had in this class.

My expectations for the class were met and the class exceeded what I was hoping to get out of it. I feel like I got more experience and learned more from this course than I did from any of my other courses these past two semesters. I truly loved the team experience and am happy we went through it.

Yes and no. There was as much work as I had anticipated (and more). However, despite overall the class being a benefit, I struggle to describe what specifically new I have learned from this
class. I had expected this class to be “intro to rocket science” but that is not really what I got. Chris’ teaching style is great and the guest lecturers were very enlightening, but other than that there is little point to come to class if not for attendance. After the soldering and Arduino tutorial, I kept excitedly waiting to learn new things but it never quite happened. I don’t mean to say “I knew everything we talked about because I’m so great,” but that we did not really talk about much. To Chris: Thank you for all your hard work with this class, Pathway, and all your other project and responsibilities. And thank you to the CAs for all of their hard work, as well. Enjoy your summer! :)

Yes, my expectations for this class were met. I expected that by the end of this class I would have greater knowledge about how the aerospace industry works and the various guest lecturers made sure to inspire me to continue trying to make a career in this field. I expected that I would be able to work better in a team after the semester, and yes, I have learnt many lessons on how to work in a team better. I expected that this class would require a lot of work but would still be exciting as it is the first opportunity I get to do something related to my field of study, and yes, all those expectations were met. I did get some hands-on experience in making and designing basic spacecrafts, and got to know more about rockets and space exploration.

Yes, my expectations for this class were met. I expected a self-driven engineering project with a group of peers, and that’s what I got. Most of the learning I did was directed to solving the specific problems that came up in our project and solving all the engineering and programming challenges that come with that. As such, every problem that we solved was entirely tied to our efforts as a team, and so our success in the end was that much more satisfying. We definitely made our share of mistakes as the project went on, and we were forced to learn from them and scramble to find solutions. I was led to believe that the workload would be much more of an issue, and we did have our share of long days and late nights, but it wasn’t too bad—at least the work is fun and interesting!

All of my expectations were indeed met for this class. It would’ve been nice to go into more depth for some of the topics in the lectures but I understand that it is only a brief overview is this is a projects class and each of the topics have a dedicated class. Besides that I have no complaints. It was a great semester and one of my favorite classes to go to. Thank you to all of you for what you did behind the scenes as it is not easy for this class.

My expectations for this class were absolutely met. I was expecting a dive into the process of designing, constructing, and flying a spacecraft. This class gave me exactly that. It encouraged me to manage my time, work in a group effectively, work around various problems and challenges and to present all of this effectively. I am very pleased with how this class went and I’d encourage everyone to take this class

This class exceeded my expectations. While I did not expect such an extensive time-commitment for the class, the skills, content, and experiences were invaluable to me. I came into the class hoping to discover more of what it means to be in Aerospace Engineering; I wanted to gain an insight to what might be expected in my college career and future. This class showed me that, and confirmed my desire to be where I am today. Along with this, I also learned and experienced
so much being in a team, where I learned the importance of organization, support, and commitment. Again, every aspect of the class and process was an example of the major itself, and that was just the experience I had hoped to gain.

I came into this class hoping to build something unique and personal. Something that I could be proud of; and project that I could show off to my friends as evidence of my work as an aerospace engineer. Something that none of my friends from home could imagine doing. I expected this class to be a lot of work, but to be incredibly rewarding. I expected to learn how to work as part of an engineering team and to gain the technical skills that I had never really had the opportunity to develop. My expectations were met and even exceeded. I had always been afraid of computer coding, circuits, and prototyping. It had always seemed too complicated. This fear paralyzed me, stopping me from even trying. But through this course, I was able to work with people who understood where I was and help me move beyond that. I was able to build complex circuits that control a scientific experiment. I was able to code Arduinos that ran the whole mission. What I really learned is that these complex platforms are not that difficult, it is just starting to learn them that is the real challenge. What I really wasn’t expecting from this course was the comradery that I had with my team. I made friends for life in this class and that is something that I did not expect walking in. My team and I worked very well together and were able to build a satellite that we all loved. We worked well together, and we played well together.

Technically all the expectations I listed in my first homework assignment were met as I did learn how to build something complex (PCB Oscillator), and I learned the initial steps in engineering; however, I did not have any expectations for how fun I would have hoped this class would be. Only in the most literal sense were my expectations met, but the troubles it took to accomplish some of those tasks honestly do not seem worth the amount of time and effort I put into attempting to accomplish the goals I set out to at the beginning of the semester. Throughout the long nights, there were so many times I could simply laugh and tell myself, no, it was not worth the effort I was putting into it. Although this could simply be a case of being overly optimistic with our initial hypothesis and attempting to experiment and prove it in the most perfect method possible, and then have almost nothing go as planned throughout the entirety of the semester, and also the frustration of failing during launch, I am still leading to believe that my expectations were not met.

In a lot of ways my expectations were met for this class. I expected that I would work on a team to send a cube sat into the stratosphere. I also expected that not everything would go according to plan as this was meant to be a learning experience for the future. This was definitely true in that every team seemed to have one or more aspects of their project fail. The part I was most disappointed by in this class was Chris’s attitude as the semester progressed. I have had the opportunity to take two other project classes here at CU and I have to say this was the least enjoyable. It seems as though because of the number of years Chris has been teaching this class he is a little burnt out. It seemed from the beginning the comments made toward our team were a direct reflection of teams he has taught in the past. Rather than encouraging students and assisting them on how to overcome the areas in which previous groups have failed he just told us not to do so.

My expectations were to gain a first-hand experience in designing the BalloonSat and gain a sense of pride and accomplishment in sending it to the edge of space. At the end of it all, it seems
that my expectations, while broad, were met. I did experience the arduous workload and long nights that was foretold, and yet, even with all of the many problems that came with the experiment and the BalloonSat itself, I can find myself with no regrets coming out of the class. That’s all that matters anyways.

My expectations were mostly met. I enjoyed this class. I learned LOADS of things this semester, like how to use Eagle, how to design circuits, how to read datasheets, and more. However, I was basically the only one that learned all of this. The group I was with really didn’t step up like I was expecting them too, and they chose to sit back and let me do a majority of the work. I’m sure it didn’t help that we got in over our heads with our project, but all the same they didn’t volunteer to help. In that aspect, my expectations of having a group that really clicked, fired on all cylinders, was interested in the material and excited about it, fell short. Beyond that, my expectations were met. It helps that I didn’t really have any, but we were challenged throughout the semester, and we learned how to write like an engineer.

Yes, It was more work than I expected, and mostly dominated the middle of the semester. Overall it was an excellent projects class that gave me a lot of serviceable skills and confidence in a broad set of introductory fields.

Buckle down!! You’re about to begin the most fun, difficult, exciting, and frustrating class you’ve every taken! My expectations were met and exceeded in regard to building, troubleshooting, and launching our BalloonSat. I absolutely love my team and have never had so much fun and laughed so hard while doing such grueling and hard work! I wouldn’t trade late nights, early early mornings, and hours spent on GoogleDocs for anything. With that being said however, group projects are still group projects. There will still be at least one person that doesn’t pull their weight or even care to show up. Every team has one, and you just have to do your best to keep them as involved as you can. Chris understands this, and doesn’t expect you to chase after them 24/7, but does encourage the team to keep contacting them. This was by far one of the most frustrating things for me. While the majority of my team and I were working until midnight or getting up at 4am to launch, there was always a team member or two that simply didn’t care as much as we did. They would try to lie their way out of the meetings, or activities and I simply had to bit my tongue and trust that the Peer Evaluations would reflect their efforts (or lack thereof). Be glad that you are taking this class in the Fall as well! Not only is it a wonderful way to make a solid friend group right off the bat with your team, but from what I’ve heard and experienced, Chris will be far more involved with you and your projects. Being in the spring semester was nice because I believe we got one more week to prepare for expo. However, with the Pathway to Space class and ramping up of COSGC projects, Chris’ involvement in our projects was minimal at best. Many of us in the spring semester feel rather neglected after hearing how much the fall semester loved Chris and got to know him. This class will teach you far more than you ever imagined. I expected to learn lots about coding and how to build a structurally sound box. But I learned leaps and bounds beyond that! I learned how to give fast and effective presentations, how to handle grading concerns, how to deal with difficult teammates and superiors, as well as plenty about circuitry, coding, testing, and team management! Looking back, the road to here was painful, SO tiring, infuriating but overall rewarding. I appreciate the opportunities we got.
in this class now, so I’m sure I will appreciate them even more after school is out! Thank you for a great semester.

This class has been almost everything I wanted it to be. However, that has not come without a few disappointments. I wish that the class had involved more hands-on learning, whether that came in the form of assigned workshops or in class workshops. The thing I wanted most from this class was to learn new skills that I had not previously had. The second thing would be teams. I wish there was a more organized way of picking teams rather than at random. While I understand why it is done the way it is, I feel randomly grouping students can be somewhat detrimental and did not myself have a great experience with my own team. Other than that, I like the class and how it was taught/what it provided me.

Were my expectations met? That’s a complicated question. On my first day of class, Chris said that this was going to take up a lot of our time and that we might have to make some sacrifices for the good of the project and team. So technically, yes…? But I would like to go a little further, because a short mention of the work load at the beginning of the year did not entail at all what was in store for the rest of the semester. I expected to work hard, perhaps struggle a bit to get some of the quirks out of our systems, and once launch came, feel great accomplishment but that was not the case. This class ended up being hell for me in many aspects. To start with, the work load is (in my opinion) way too much for a simple 3 credit projects class. In my average week, I would spend about 40% of my time outside of class with my team writing 20/30/50-page technical write ups and building the box. There seemed to be no real direction in class about our project so it was all up to us. I also had to sacrifice so much for this course. I took 17 credit hours this semester and I was hoping that this projects class wouldn’t be that big of a burden but wow was I wrong. I could have had so much more time in the day to succeed in my other classes but because of this one, I have had to take a hit in my GPA. The problem with this class is that it continuously grids you down so you must be resilient to make it. During launch, after the pain and suffering of building it, I was happier that I was nearing the end of the semester than anything else. And it never lets up. After launch, you will have even more work to do. In my eyes, launching something to space is cool, but not cool enough to trade your sanity for it. What was good about this class though, is the team you build, the lecturers, and Chris himself who is always in a good mood and has a good attitude. I would say it was worth it for my team but that’s it. If it weren’t for them, I would have probably been in the 5th circle of hell by now.

Overall, I guess my expectations were met. My original expectations were broad and vague. I had fun, but I learned more of what it is like to work on an engineering project. People will have conflicting ideas, but it can lead to something better.

My expectations for the class were exceeded! I wanted to face realistic engineering challenges, but this class gave me the experience of facing such challenges in a team environment. I’ve quickly learned that there are little to no roles in engineering that don’t require some form of a team setting. Learning to not only get the project done but work well as a team amongst other engineers is something that I didn’t expect to gain from this class. I’m very grateful to have been a part of this class and I’m excited for my future in aerospace engineering!
My expectations for this class were met. It required a large amount of work but when split between your team became more manageable. While the class was stressful, as expected it was well worth it. On launch day when you see your Balloon Sat go up, all the stress you and your team has gone through gets replaced with a sense of fulfillment which you don’t get in any other class other than maybe getting a good grade on that homework assignment.

My expectations were met. I expected this class to contain a large amount of work, and many opportunities to learn new skills and gain more engineering experience. I did not expect to have to put in as much time into the project as I did, but I am glad that I did and am happy that I took this class and received the experience of sending up my first satellite.

I expected this class to be a lot of work but rewarding. The class was both. I wish our experiment had worked because it was kind of a bummer when it didn’t. I felt like it impacted my experience a bit because even though we had the go pro footage I really wanted to accomplish a bit more than that. I felt like the amount of time I put into working at the meetings surpassed what actually worked. Overall, I’m glad I took the class but I was hoping to have more working for how much time was spent then we actually did.

Yes. I expected the class would be very challenging and would take a lot of time, which it did. I also expected to learn things about the Aerospace Industry that I didn’t already know, which I did. Finally, I expected this class to be very rewarding, and it was. The knowledge and skills I’ve gained I know will help me in my future years at CU and perhaps in the industry itself.

I would definitely say my expectations were met, and if anything, exceeded. This holds true primarily for the work load. However, the hard work was certainly worth it in the long run, as this class has provided such a unique learning experience. I can only hope that future project-based classes are held to the same standards. My passion for space exploration, and the field of engineering as a whole, has grown accordingly with what I have learned in this class. It is my intention to seek out more space related project/job opportunities in the coming years.

My expectations for this class were met. The amount of time spent working on our project was significant, however it was manageable. I believe that this class would have been more satisfying had we chosen a different experiment that we would have finished. I do also wish that I had been more involved in the creation of our PCB and the coding of it so that I could learn more about those things. Even though I may be biased because my group’s project did not end up working, it still felt as if Chris played favorites and was unnecessarily harsh sometimes. It didn’t particularly bother me, however I know it bothered other people in the class.

One expectation from this class that was not met was a freshman class of aerospace engineers. Coming into the class I viewed it as GEEN 1400 for only AE. I was disappointed at the diverse ages and majors as I hoped to meet more of my future classmates. My expectation of learning about the aerospace industry was met and exceeded. I cannot stress how informative this class was on what I can be expecting upon graduation.

Yes, my expectations were met for this class. It was very demanding and the work load outside of class is more than I initially thought. The work, time, and effort were all
rewarded when you see the results of your science experiment. Not everything turned out perfectly but in the end is the journey of learning and experience rather than the destination is the true goal. I would recommend this class to anybody interested in Aerospace Engineering and desires a true taste of what this occupation holds for them in the future.

My expectations were met for this class. I expected to build something that would be launched into near space and I did. I did not expect how much work and time this would entail. I also expected to learn a lot about the engineering process and how to best work in a team which I did learn. I really enjoyed working with my team, and it was over all a good experience.

My expectation for the class were met. In the beginning Chris told us that this class would be a lot of work and stress and the class definitely lived up to that description. The lectures were fun and the guest lectures were very informative. So yes, the class lived up to my expectations of being tedious and stressful.

My expectations were met. I expected to work with a group on building a balloon satellite and then launching it into near space. I knew there was going to be a lot of work in this class with this project, but there was even more than I had thought. Even with the high workload, this class was well worth it, especially when you see your satellite fly into the sky on launch day. The experience creating every part of a balloon satellite and also experiencing a lot of the other aspects, including the paper work, engineers face with projects was important to see.

Yes, having free reign to choose what we design and fly into space was exactly what I was hoping for. This was a great experience and I grew a lot as a team leader and learned a ton of other things I never would have without taking this course. It was a real challenge but a good challenge at that.

My expectation for this class were certainly met. Coming in to the class, I expected to gain a great deal of experience working on a team and completing a BalloonSat project. What I didn’t fully expect or understand is the amount of time that I would have to devote to the successful completion of my project. While I am sure that a great deal of this was self-imposed by myself and the rest of my team, the expectations and deadlines for the class were fast-paced and demanding.

I mentioned this in my class survey, but despite the expectations of the course being so high, I really do think they are necessary to show students the rigor of engineering here at CU, as well as force students to develop good productivity and teamwork skills before they enter their sophomore year of classes. Over the course of this semester, I have further developed my presentation skills, especially in the specific realm of engineering. I now know how to tailor my presentations to the listener to provide them exactly what they want to hear (nothing more, nothing less). This presentation experience has further helped me in my work with the Air Force on a research project I have been working on. One thing that I think could be helpful would be to give more instruction that is directly related to something that will help our projects. The Arduino tutorial lessons were extremely helpful, but we seemed to be left on our own for
everything else, including data analysis, electronics (such as choosing proper gauge wire for circuits, choosing proper power sources/batteries, making custom circuit boards, etc). If I were to do everything again, I would not change a thing. While this class caused me a great deal of stress, especially in weeks leading up to launch, the experience was worth every bit of it.

I believe this class has fully and completely met my expectations. This includes both expectations of things I thought I wouldn’t like, things I thought I would, and other aspects. I expected this class to be a lot of work and require dedication and commitment from anyone fully invested in the class. While at times I may not have been happy about it, this has turned out to be true. As well, this class met my expectations for what I thought I would learn. I gained a lot of skills and experience in many different things. I learned to solder, work with circuits, laser cut, as well as many other things I find invaluable. I got experience working with teams, working on intense engineering projects, and working hard. I expected all of these things and the class held up. Finally, I expected to be pleased with the class and happy that I took it. I believe it was the right decision, and I would never go back on it.

My expectations for the class were exceeded. I learned more than I could have ever expected assembling the satellite and had so much fun. I have met a few people that I now consider some of my best friends. Satellite aside, I thoroughly enjoyed each and every lecture. It is really nice to know a little bit about so many areas of the space industry. The class also helped me realize what type of job I want when I graduate as well as some other classes I might want to take while I’m still here at CU. Thank you, Chris for working so hard to make this class what it is!

Yes, my expectations for the class were met. I was happy with the challenge, and the freedom to decide on our own projects even more so. I found most of the lectures to be interesting, but I did feel that a majority of the guest speakers were all saying the same thing and it would be nice to have a larger variety. I understood that the one-minute reports were to help Chris get continuous feedback throughout the semester. However, towards the end they became more of a chore than anything else, and I believe I, along with many other students, slowly drifted away from writing anything of value on them. Perhaps only doing one a week with an emphasis on how they help Chris to tailor his class to each group of students would help to make them feel like something other than busy work. On the whole I really enjoyed everything about this class except not being able to pick our own groups. I understand that we may not be able to pick who we work with in the work world, but this is still just school, and I feel like the projects would have been even more fun/productive had we gotten at least some input in our groups. As far as presentations went, I really enjoyed Chris’s blunt and honest questions. It’s nice to be held to a higher level of expectations, and not to have failures overlooked because “we really tried our best.” I do regret not stepping up and doing more for this project, and I feel I lost some of the value of this class because of it. However, I still think it provided a good window into the world of aerospace engineering, and I have no regrets about taking this class. If I could do it again knowing what I know now I would. Thank you for a great year, and a memorable experience.
My expectations for this class were met and exceeded. From the first time I ever visited CU I had heard about this class and since then I have wanted to take it. The class filled up in the fall so I waited until Spring to take it and I have enjoyed every minute of it. I was put in a good team, so everything was easy to handle even when we were faced with a difficult task. I have gained many skills from this class and memories that I will live with forever. This class has made an impact on me and I am excited for the times in my future when I can reference back to this class.

Gateway has a reputation of hard, yet rewarding work. Coming into this class I had extremely high expectations because of the hype. To say the least, my expectations were exceeded. I came into the course knowing nothing about electronics, systems, structures, engineering documentation or Arduino. I think the best part of the course is that it is what you make it. I invested as much time and effort as I possibly could and came out with so much more than I could have imagined: leadership, organization, presentation skills, data analysis and documentation skills. And most noteworthy, a love for electronics. I went extremely outside of my comfort zone and took on the electronics. I reached out and gained a mentor who taught me as much as possible in a semester, I had a lot of practice designing a circuit and playing with components. I now feel more electronically literate considering I didn’t know what a resistor was on the first day of class. I am even considering switching to Electrical engineering or doing the EE minor. I would have never gotten this exposure if it wasn’t for this class and am thankful for the opportunity to try something new and learn as much as possible. I think Gateway to Space can be taken for granted sometimes, especially in the mist of all of the work. However, it crazy that COSG literally puts all of these amazing resources in our hands and we can launch a unique payload into near space in a semester. It was a treat to work on something on this scale and be a part of the process --from brainstorming the experiment, to building and analyzing data. This class solidified my decision to pursue an engineering career in the space industry. I am extremely lucky to have had the privilege to experience Gateway to Space, thank you Chris, Tristan, Alex and Amber.

My class expectations were more than met. I signed up for this class expecting to build a balloon satellite that would be launched kilometers into the sky, which is what actually ended up happening. I had a lot of fun doing this as well and getting to know my group members. However, with being given months to complete the satellite, I did not expect the time consumption to be so much. I ended up spending at least 6 hours a week outside of class dedicated to this course. I am glad I was made work a lot more than expected, but more importantly that I enjoyed doing so.