Larry

WR 13300

Professor Clauss

Monday October 31st, 2016

Building a Future

Situation: As a former member of my high school's robotics team, which I was on for all 4 years of high school, I am writing to my friend Jordan Allen (who is one year younger than me), urging him to join the team next year. Jordan might think that the team is full of stereotypical "nerds," who are not the sort of people he is really friends with, but I am arguing that the experience gained and lessons taught in robotics are invaluable. I know how Jordan feels, because these are similar trepidations that I had when I was considering the prospect of becoming a member. I am hoping to convince Jordan to join the team, because I know that him and I share many of the same engineering-based interests and so I know it would have a positive impact on him.

Hey Jordan,

What's up? How are you enjoying the senior life? Hanging out at Bottom O in between classes is pretty cool, right? Well, if you think you have it good now, just wait until second semester – that's where the fun really starts. Video-chatting with you last week was great; man, your hair is so long! I remember you told me you were elected as treasurer on student council. Congrats! I saw one of Mr. Bracht's [math teacher we both had] Facebook posts recently showing the welcome-back school assembly and it looks like you guys did an awesome job of organizing everything. I know college application deadlines are coming up soon, but hopefully you're not stressing out too much. After all, you're a pretty smart guy . You know what else is coming up? That's right, the start of the new robotics season! Have you thought about giving it a go? Because if you have, I couldn't agree with you more. I was on the team for all four years of high school, and even now I still believe it was the best decision of my life. Although you may have concerns about joining the club, I know you would benefit greatly from the program.

Now I think I already know your first concern about joining the robotics team, because it was also a concern that I had. Yes, you will find your stereotypical "nerds" at robotics. These are the guys and girls who love to talk about Star Wars or Dungeons and Dragons, and would rather spend their Friday nights playing video games than going out to a party. I know these aren't the people you usually hang out with; you're sociable and you like going out, which makes this a pretty reasonable concern. But even if the students on the team are not exactly the going-out type, I can say unequivocally that they are all extremely kind. When I joined robotics in my freshman year, I didn't know a single person on the team. But after a few meetings, I heard some students from my grade talking about possible ideas for a mechanism and chimed in. Instead of ignoring me or not taking my idea seriously, they welcomed me like one of their own. And remember, you don't have to become best friends with the people on the team in order to have a good time with them. Ultimately, the reason you join robotics is because you have a passion for engineering, and that's what brings everyone together. But even more importantly, I think you'll be shocked at the type of people who you'll find on the robotics team and how you might make friends from social circles that are very different from your own. I too don't typically hang out with the kids there, and yet I met one of my best friends in high school on the team. For example, you know Andrew Slough, the captain of the rugby team, right? Well last year he tore his hamstring and was out for the entire season. Since he had nothing to do and a lot of spare time on his hands, he started stopping by our workshop to check things out. Within a week, he had become a full-time member and also a close friend. In fact, we would even go out together on Friday nights after robotics had finished. I was talking to him recently about our experiences, and he mentioned, "I see robotics as a space where students can feel open about their minds and how they think," (Slough). Robotics is a welcoming environment where you'll have the opportunity

to make great friends and meet people who you otherwise might have never spoken to. If you really are considering joining the team, don't let pre-conceived notions of who participates discourage you. I know you'll fit in just fine.

I realize that another one of your concerns is the time commitment needed to join robotics. Yes, the team meets every day, Monday-Friday from 3 – 8 p.m. (and longer) and Saturday from 10 a.m. – 10 p.m. I know it's a lot, but here's the good news: you only have to show up as long as you can. The mentors on the robotics team know that the kids who are participating are smart and probably have other commitments to other school clubs and activities, and they certainly don't expect you to show up every single day for all of those hours. All you have to do is communicate effectively with the mentors to show them why you can't make certain days and they'll be fine. For example, I was on the tennis team last Spring, which is during the robotics build season. I knew I had made a commitment to my coach, so I let the robotics mentors know that for about two weeks, my attendance would be spotty and inconsistent due to my tennis practices. They were totally O.K. with this and didn't hold it against me in any way. Moreover, it's also what you do when you're there that counts more than simply how much time you spend coming to the meetings. Remember, all you have to do is communicate clearly with the mentors and you'll be totally fine.

Considering you'll be able to side-step these concerns rather easily, I'd like to tell you about my actual experience in robotics and why I loved it so much when I was in high school. Robotics is the perfect application of engineering, and I say this because I know that your intended major as of now is mechanical engineering, which is mine as well. Throughout my 4 years of being on the team, I gained invaluable experience and knowledge about the sequenced steps of brainstorming, design, prototyping and assembly that is vital for any future engineer.

One of the greatest benefits of being on the team is that the mentors will personally assist you in mastering our Computer Automated Design (CAD) technology, which is heavily used in the engineering private sector. In order to see how the entire robot will ultimately come together, every single mechanism and part is carefully designed, up until the last nut and bolt, using state of the art computer applications. When these specially CADed parts arrive from our metal manufacturer, the robot is almost 100 percent assembled by students, which involves knowing how to operate machinery such as band-saws, mills, lathes, drills and circular saws. As a mechanical engineer, it is very likely that you will be spending hands-on time in workshops using these sorts of machines, and so robotics is the perfect place to gain an early understanding of how these tools function. I became quite close with Essau Ali in my senior year, who along with his brother were both mentors of our school team. I was speaking with him the other day about how well robotics has prepared me for college when he told me that, in his view, students leave robotics with "a multitude of both technical and personal skills that you didn't even know existed," (Ali). The skills you will learn as a member of the robotics team are guaranteed to help prepare you for both your college classes and beyond.

Another benefit of being a member of the robotics team is that you'll be given the opportunity to drastically improve your leadership qualities. As I'm sure you know, our robotics competition officially starts on January 1, when a video is released online that delineates the challenge for the robot. After this, the team will split up into separate groups to brainstorm ideas for different mechanisms and designs. As a senior, you will be given quite a bit of responsibility and would most likely be given the role as a leader of one of these build groups. That's the role that I held last year, and it was a tremendous way for me to grow as a leader. For six weeks, I was in charge of about 4-5 students, and together we went from our initial concepts of a shooter

mechanism to the final sheet-metal assembled version. As a leader of a build group, you will have to make important decisions on which ideas to pursue in greater detail, how to delegate tasks to others and how to keep the group on track with a hectic schedule. These leadership skills that you'll develop on the robotics team will of course be necessary in any field of study that you choose.

But without a doubt, the greatest part of being on the robotics team is the annual trip to the U.S. for the actual competition. Now, there are typically about 60-70 kids on the team but only 20-25 go the competition. To secure yourself a spot on the trip, you have to show to the mentors that you've been an active member during the build season and have an excellent knowledge of how the entire robot works. This means spending a decent amount of time working during the build season, but I promise you it is so worth it. The four days you spend in New York are unforgettable. The first day is typically a tourism day, and last year our school was able to secure us a private tour of the Bloomberg software company headquarters in New York. We were able to meet various employers and after speaking to one lady for a while I was able to give her my email address for a possible future correspondence. Going on this trip allows you to begin networking and meeting important people who can help you in your future career path. But the star of the show is the next three days, where you head over to the Javits center where the competition is set up. I know it sounds crazy, but the atmosphere really is like a football game. Thousands of students from all over the nation and the world are gathered there to support their teams, shouting encouragement from the stands and watching the robots perform. There are referees, judges and even commentators during the matches! It truly is a one of a kind experience and I met so many amazing people there. You also have a chance to walk around the "pit", where all the teams keep their robots, and ask the other teams questions about why they chose certain

designs over others and how they were able to build certain mechanisms. It's an incredible learning experience and you leave New York with so much more knowledge than when you came in.

I know you still may have reservations about joining the robotics team, and it's not a decision you should take lightly. Joining the team is a huge time commitment, and you may feel overwhelmed in your senior year of high school. But the experience you'll gain and lessons you'll learn are invaluable. I have learned so much from the robotics team, and I know you would as well. But of course, the decision is yours, and I don't want to force you into something you don't want to do. As always, please message me if you have any questions or concerns, and I'll do my best to show you how this could be a life-changing decision. I'll call you soon!

Cheers,

Larry

Works Cited

Ali, Essau. Telephone interview. November 7, 2016. xxx-xxx-xxxx [deleted by Clauss]

Slough, Andrew. E-mail correspondence. November 6, 2016. xxxxx@xxx.org [deleted by Clauss]