Zach Sanders

Explain how the student embodies the philosophies of Gracious Professionalism and Coopertition through the FIRST Core Values: Discovery, Innovation, Impact, Inclusion, Teamwork and Fun. Please provide examples.

Zack is a vocal member of our Student Advocacy Committee, a group of students and mentors that work to combat systemic team issues. The SAC also gives feedback and implements team suggestions, such as not meeting on Fridays. Due to Zack's leadership, he was elected to represent our students. Zack advocates for them, suggesting student-led meetings and a healthier robotics/school balance.

Zack looks to include everyone through group movie nights he hosts before meetings, where all students talk and have fun.

Outside of robotics, Zack has worked on Mission 16, a group where he led a handful of students to design an experiment to be run on the ISS. Zack designed a study on Halomonas Titanicae, a bacteria found on the Titanic, proposing that the bacteria consumes more rust in microgravity.

How has the student increased the awareness of FIRST? Describe the student's interests and/or plans to continue to engage with FIRST beyond high school. Please provide examples.

Due to our virtual year, our team lost a fair amount of its members, including most of our experienced veteran students. Zack saw this gap and worked to recruit students to join our team, to bring it back to the size it once was. Zack did this through organizing our robotics 101s, aimed at teaching our rookies the importance and fundamentals of robotics. Zack also volunteered at our high school's club fair, showing his passion for STEM and 1507 to our high school community.

Prior to this year, Zack did not express interest in mentoring or volunteering post-graduation. However, after seeing other college students return as mentors, Zack now plans to continue his involvement with FIRST as a mentor or volunteer. Aside from this, Zack also plans on obtaining a 4-year degree in engineering.

Describe the student's technical expertise, using specific examples in the areas of programming, electronics, design, fabrication, making, illustrating how these skills have contributed to the team's success. Please provide examples.

Zack is the lead of our build subteam, coordinating the construction of our robot and working closely with our CAD and programming subteams. Being the most experienced student on the build subteam, Zack has turned his focus to training our younger students in preparation for our 2022 season. Zack recently repaired several demo robots as well as constructed a mecanum base, and used the opportunity to teach our new students how robotics works.

While Zack is primarily a build team lead, his interests have extended beyond this subteam. He has learned some Python, C++, and JavaScript from our various programming classes, which he has been

actively involved in for 3 years. Zack uses his programming experience to understand robotics in its entirety, and can better communicate with other subteams.

How does the student's individual contribution to the team benefit the team as a whole in the areas of fundraising, outreach, entrepreneurship, and creativity? Please provide examples.

In our remote 2021 season, our team originally decided to only submit for the Game Design Challenge, but Zack had other plans. Zack single-handedly orchestrated our Innovation Challenge submission, which, by his design, was entirely student organized, with a mentor only sitting in meetings to observe silently. Zack and his team created the “Kit of Fit”, a kit of workout equipment that is portable and can be easily used at home or on the go. While this kit did not win any awards, this subteam easily became the most passionate and engaged subgroup we’ve seen in years. Zack has single-handedly proved to both us and the team that students can solely organize, lead, and inspire each other. As a result, our kickoff subgroups are now entirely student-led, which we have never done before.

Explain the student’s leadership to their fellow team members. How do they motivate others? What is their leadership style? Please provide examples.

Even through virtual robotics, Zack has been one of our key student leaders. He acts as our team president, leading all student activities. Zack also writes our Woodie Flowers submissions and leads the student decision on our nominee for that year.

Zack also diligently works for our build team, trying his best to build back a larger subteam, after lacking in person meetings for 1.5 years. He does this by incorporating rookies on his build projects, such as the assembly of a new mecanum practice base. He has also orchestrated all of our Robotics 101 classes, which teach basic robotics fundamentals to acclimate and encourage rookies for future seasons.

While other students have logged off during COVID, Zack continues to be engaged, ready, and able to tackle anything that may come his way.