Chairman's Award - Team 2512

Print Close

2018 - Team 2512

Team Number

2512

Team Name, Corporate/University Sponsors

Stewart Taylor Printing/Tricel Honeycomb/Lake Superior Consulting/Saturn Systems/Minnesota Power/F.I.Salter/National Bank of Commerce/AAR Aircraft Services Duluth/Kiwanis of Friendly Duluth/Krech Ojard & Associates Inc./ISD 709/Woodland Family Dental&East Senior High

Briefly describe the impact of the *FIRST* program on team participants with special emphasis on the 2017/2018 year and the preceding two to five years

75% of our upperclassmen intend to go into STEM related majors in college. 84% who plan to go into STEM majors had that decision influenced by their time on the team. 68% of 2017's graduated seniors went into STEM, and nearly all of them said that their decision was swayed by FIRST.

Describe the impact of the *FIRST* program on your community with special emphasis on the 2017/2018 year and the preceding two to five years

Hosting LEGO robotics camps for elementary schoolers in summer, attending an annual car show called Motorhead Madness, partnering with the Duluth Fix-It Clinic to repair Duluthians' appliances, meeting with the local Ham Radio Club, and assisting the local Kiwanis group's annual auction are all ways that we get out into our community. Assisting 7 FRC teams and 2 FTC teams in Duluth has been an amazing way to meet other young adults in our area that want to spread a love of robots.

Team's innovative or creative method to spread the *FIRST* message

Some of our favorite outreach events are the Duluth Huskies baseball games, a great place to reach out to families with kids interested in STEM. Demonstrating our robot before the game and shooting foam baseballs to attendees during halftime, we get to reach to many that might not have known about robotics. In 2017, we were recognized as the first high school organization in the Duluth area Chamber of Commerce. We also received our 501(c)3 nonprofit status in 2017.

Describe examples of how your team members act as role models and inspire other *FIRST* team members to emulate

Our team members, alumni, and mentors have grown to appreciate the many opportunities to help others. We've had three Dean's List Finalists, and three Woodie Flowers Finalists. Our students look to upperclassmen and alumni for inspiration and strive to achieve gracious professionalism. Many team members have fostered personal friendships with members of other FIRST teams and we encourage those friendships in the interest of helping all parties to grow.

Describe the team's initiatives to help start or form other FRC teams

In the summer of 2017, team representatives traveled to and established the first FRC team in Sweden. FRC team 6819, now has 7 students and are looking forward to competition. In 2011, we hosted 3 students from our neighboring school for a season to give them the knowledge to start their own team, Denfeld Nation Automation, 4009. The presence of our team has led to the beginning of 7 FRC teams in our region.

Describe the team's initiatives to help start or form other *FIRST* teams (including Jr.FLL, FLL, & FTC)

10% of our teams sponsor income goes towards our youth programs, such as starting new FTC and FLL teams in our area. Two years ago this money went toward starting the FTC team at Ordean East Middle School; the Devil Dogs team 11206 did very well their first year and continue to thrive. This year we were able to start the FLL team 31211 the Fireballs at Lester Park Elementary who qualified for sections.

Describe the team's initiatives on assisting other *FIRST* teams (including Jr.FLL, FLL, FTC, & FRC) with progressing through the *FIRST* program

The Daredevils have strived to create FLL and FTC teams at our direct feeder schools, and were most successful in 2017, when an FTC team was started at Ordean East Middle School, and an FLL team was started at Lester Park elementary. We've also worked with Duluth's charter school district teams, as many students from their FTC teams end up at East High.

Describe how your team works with other *FIRST* teams to serve as mentors to younger or less experienced *FIRST* teams (includes Jr.FLL, FLL, FTC, & FRC teams)

Over the summer of 2017, team representatives went to Växjö, Sweden, to visit family and while there, assisted a local school starting their own FRC team. Mentoring the team through their first practice robot by Skype and through email, we look forward to competing with them at Northern Lights Regional. We offer programming assistance to local FTC and FLL teams, forming friendships and easy links to move from FTC to FRC.

Describe your Corporate/University Sponsors

The Daredevils currently have 15 sponsors, who each have 3-5 year contracts ranging from $1,000 to $5,000 yearly. We take pride in being 100% community funded, with sponsorships coming from local dental offices, aircraft recovery services, printing shops, banks, and manylocal STEM centered businesses.

Describe the strength of your partnership with your sponsors with special emphasis on the 2017/2018 year and the preceding two to five years

Beginning with a build space and a warning to stay away from the race cars, Archer Brothers Racing opened their doors to us. Archer Brother's Machinist Russ Myers was a go-to mentor during build season and his enthusiasm for FIRST brought us Tricel Honeycomb as a sponsor. Losing Russ far too early from cancer, his close friend Steve Loudin at Tricel created the Russ Myers Memorial Continuing Education Grant to help fund college for a Daredevil that demonstrated a high commitment to the team.

Describe how your team would explain what *FIRST* is to someone who has never heard of it

FIRST is an amazing family, creating the opportunity for kids and adults alike to expand their talents with the feat of metal and math that is a robot. It's a revolutionary group that takes all kinds; builders, coders, artists, business people, all find a place in FIRST, given a hands-on freedom to explore. Taking us beyond our school, beyond the Chamber of Commerce and city council, into the world of innovation and inspiration.

Briefly describe other matters of interest to the *FIRST* judges, if any

Our team is composed of 39 students; we're currently 17 girls and 22 boys, the highest ratio of female to male students the team has ever had. The leadership group, team and department captains, has 7 female and 5 male students. Within our school, the Daredevils are not seen as a boys club, allowing us to attract interested and qualified students from all genders; allowing us to work toward making the epithet "female" become irrelevant when placed in front of any professional title.

Team Captain/Student Representative that has double-checked this submission.

Haley Montgomery

Essay

The Duluth East Daredevil's love of STEM ignited a spark in Duluth that has spread to other area schools and kickstarted a passion for robotics. Partnering with local schools and organizations, our most important contributions come by expanding the FIRST family to include metaphorical parents, grandparents, and siblings. This year, in collaboration with the Duluth Sister Cities group, we extended our connections across the Atlantic and planted a new team of cousins in Växjö, Sweden. As a result, we formed new connections with teams from the Netherlands and Norway.

It took 4 years of dedication from Duluth student Greg Collins to start our FRC team, one of the first in Northern Minnesota. From this foundation, we intentionally worked to expand FIRST over 11 years and now have 15 sibling teams in our area. Our goal is to grow stronger together by sharing our knowledge, tips, and tricks.

Expanding FIRST into the community, we partnered with our local newspaper and FRC teams 2220, Blue Twilight and 5690, SubZero Robotics to spread community-wide knowledge of and excitement for Duluth's double regionals, Northern Lights and Lake Superior. Writing personal interest stories, creating press releases and providing photography and video, we have garnered press support and community attention.

We love bringing our sibling teams together in one place to experience the game reveal by hosting an annual FRC kickoff event in collaboration with the University of Minnesota Duluth. To build excitement for the game release, we arrange for inspiring speeches from alumni who have chosen STEM careers, uplifting messages from local leaders, such as Michelle Roemer, Executive Director of Information Technology at Cirrus Aircraft, and videos from national leaders, such as former Senator Franken. Kickoff attendance increased by 17% in 2018 to 23 teams. Teams participated in discussions of strategy alongside the kit of parts distribution. New this year was a multi-team strategy discussion over Skype with Viking Robotics, team 6819 from Sweden, Team Rembrandts, team 4481 from the Netherlands, and Hell Robotics, team 7239 from Hell, Norway. Our family has significantly grown in diversity and strength.

Skill building begins at home. This last year we achieved the goal of adding technical learning resources within our Duluth School District. Supported by years of planning and grass-root campaigns from team members and mentors, teachers, parents, and community leaders; the school board funded the building of a fabrication lab and expanded the woodshop in each high school. Both schools now have thriving CAD, 3D modeling, architecture, and engineering classes; enrollment is at 100% with many students waitlisting to participate. These hands-on STEM opportunities not only support and grow FIRST Robotics but have also launched a SkillsUSA team at our own Duluth East High School. This is a new and different opportunity that will help broaden access to STEM. While local and regional outreach continues, we now are an active part of STEM national outreach. It started with personal tours for Senators to meet students, see first-hand our fabrication and logistics facilities, and connect FIRST to long-term economic development. We expanded our influence at the National Advocacy Conference, lobbying members of Congress to fully fund the STEM package in the Every Student Succeeds Act.

Families work and grow best when we roll up our sleeves and help each other. By supporting our sibling teams every year since 2011 at Itasca Community College's training days, our team members are able to grow and develop, last year by teaching 9 of the 14 seminars; including basic and advanced programming, team management, media, basic build functions, CAD, electronics, team funding, and a Chairman's preparation roundtable. Other team members grow by lending a hand to sibling teams during the practice competition the weekend before Stop Build day, in the spirit of making everyone stronger for competition.

In 2014 we began hosting an annual summer event at our school to bring our FIRST family together in the offseason. The Gitchi Gummi Get Together, nicknamed the Gitch, includes 2 days of competition, dancing, and a hilarious mentor drive match. The Gitch allows students to step into new leadership roles and encourages friendships to grow between our sibling teams. Based upon popular demand, in 2017 we expanded the Gitch to include workshops on Programming in C++, the FRC API, Adobe Photoshop, effective leadership strategies, CAD, and a Chairman's roundtable held in partnership with Green Machine, team 1816 and King TeC, team 2169.

Our team had a dream of kickstarting FRC in Sweden, and made it happen when we worked with the Duluth Sister Cities Committee to get contact with teachers at schools in Växjö. Over the summer of 2017, a mentor and student leader visited Växjö in direct support of their efforts to start the first FRC team in Sweden. Viking Robotics FRC team 6819 has successfully built a robot, secured sponsors and community funding, and is coming to Duluth to compete in the 2018 Northern Lights Regional. Team 6819's 7 students and 5 mentors regularly communicate with our team for advice and mentorship; including a Skype session on kickoff day. This outreach includes plans to have the Swedish team members shadow us at school on the Wednesday before competition. Even though they are a young team, the Vikings are already spreading STEM awareness in their own community, conducting many outreach events in Växjö, and being featured in their local newspaper multiple times.

We consider ourselves a family run business that supports all students who participate, regardless of their financial situation. In 2016, we held our inaugural Sponsor Thank You night with a dinner. We enjoyed connecting with sponsors and talking about our shared love for not only robotics but all areas affected by STEM and how their contributions make an impact. With sponsor encouragement and support we joined the Duluth Area Chamber of Commerce in January 2017 as their first high school organization member. To promote increased giving, we pursued creating an LLC organization and near the end of 2017, we accomplished our goal of federal recognition of 501(c)3 non-profit status. We plan to use these financial resources to bring FIRST and STEM to more students and their communities.

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For the past 5 years, our robots have been a significant attraction at the Duluth Rhubarb Fest which directly raises funds for a local food shelf and crisis shelter. Each year we inspire more people by giving the experience of driving a robot, demonstrating the game, and talking with attendees. Promoting FIRST at local minor league baseball games with 3 other teams, we collaborate in robot demonstrations and shoot foam baseballs to young fans. The annual Sidewalk Days street festival in downtown Duluth is another opportunity to meet hundreds of people including parents and a lot of interested kids who later attend our summer LEGO camps. Our 3 summer LEGO robotics camps offer an easy, affordable and fun introduction to robotics and STEM for elementary-aged children. We want STEM opportunities to be available for all, not just for those who can afford it. In the summer of 2016 we began hosting a free camp at our local Boys and Girls Club of the Northland. 52 students attended our 3 camps in 2017, an impressive increase from the 4 students at our first camp in 2012. We attend Vacation Bible School events at local churches during the summer with one in 2017 giving us the opportunity to share our love of STEM with nearly 200 local kids.

Outside of our summer camps, we love going to our local elementary schools to work with their FLL teams, attending Lester Park's STEM night, Lakewood's annual carnival, and Lowell's Week of Code through their afterschool KeyZone group. Bringing our robots out at events for the public to drive excites kids along with the many other hands-on activities. Exhibiting robots at the American Cancer Society's Relay for Life, the Kiwanis Club of Friendly Duluth, and LifeScience Alley, a conference for medical devices and automation, we're working to get the STEM message out broadly within the community and make deep connections with STEM centered organizations. Motorhead Madness, a large car show in Duluth has been an amazing place to annually showcase our robots, and captivate interest. Planning to attend again in 2018, our whole team is excited to talk to fellow enthusiasts of building things that move. Over the years we have tried new adventures to expand our reach. Acknowledging differences and using everyone's talents is a core value of our Daredevil family.

It is always hard saying goodbye to a quarter of our family at the end of every season as they graduate. Each student, along with our mentors, coaches, parent/volunteers, and supporters, becomes a life-long Daredevil and FIRST alumni. 10 alumni volunteered at official FIRST events in 2017, and even more came to the Gitch to volunteer and give back in support. Over the holiday break in 2016, in honor of our 10th anniversary, we invited our alumni to come together, enjoy good food, play games, and tell stories from their time on the Daredevils. With 67 of us together, it was one amazing family reunion. 40% of Daredevil alumni have entered STEM fields as of 2017, and 84% of our 2018 Juniors and Seniors plan on entering a STEM field with many decisions supported by their positive, family experience in FIRST robotics. The Daredevils are proud of their work to promote STEM throughout the community and are eager to do even more.