

Student Built, Professionally Inspired,
Community Driven

Sponsorship 2017-18

4381



Twisted Devils

Welcome to Team 4381

Hello! We are FRC Team #4381, a competitive robotics team from the Gull Lake Area in Kalamazoo, Michigan. We compete in local, statewide, regional, and world level tournaments, competing alongside hundreds of teams from across the globe to inspire and increase education and awareness of STEAM (Science, Technology, Engineering, Arts, Mathematics) careers. We invite you to look through our packet and learn more about what we do and how we try to inspire our community and live out our motto, "Student Built, Professionally Inspired, Community Driven".



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Story Of FIRST

FIRST (For Inspiration and Recognition of Science and Technology) is a non-profit organization founded by Dean Kamen in 1989 to promote science and technology to high school students. The robotics competition centers around a game that changes each year. Teams have six weeks to design, build, and program a robot to compete in this game, whilst staying within the given rules and guidelines for that season.

Currently, *FIRST* consist of over 3,100 teams from across the world: The USA, Canada, UK, Taiwan, Japan, Brazil, Israel, and more. Over 50 regional competitions lead up to the world-wide competition, most recently held in St. Louis, Missouri and Houston, Texas, but soon to be held in Detroit and Houston. Not only does *FIRST* provide an excellent real world experience for students, it also presents many opportunities for different scholarships. Each year more than \$50 million dollars in scholarship value are given to *FIRST* students from a broad range of colleges and universities .

FIRST provides an education and view for a career path for young people who might not have otherwise discovered an interest in STEAM fields. The organization works closely with schools and community based groups at every level to transform both the perception and reality of education in science and technology. *FIRST* provides a “hands-on” learning experience, emphasizing teamwork, coordination, integration and professionalism, which leads to students being ready to function in today’s workplace.

FIRST Statistics

-*FIRST* participants are 2 times as likely to major in science or engineering as non participants.

-33% of women in *FIRST* programs major in engineering.

-88% of FRC Students are more interested in doing well in school than their non-*FIRST* peers.

-91% of FRC participants plan to go to college.

-90% of FRC Participants plan to take an advanced STEAM class.

-Over 75% of *FIRST* alumni are in a STEAM field as a student or professional.

-More than 90% of students say that they learned better communication and teamwork skills through their participation in *FIRST*.

-73% of students felt more comfortable presenting their ideas in front of new people.

Gull Lake Area Robotics (GLAR)



Team 4381 Twisted Devils is supported by Gull Lake Area Robotics (GLAR), a state and federally registered non-profit organization. The Gull Lake area includes Richland, Hickory Corners, Ross Township, Bedford, Augusta, Galesburg, Delton, and Comstock. GLAR's sole purpose is to provide financial, educational, and logistic support to the student members of Team 4381 and our Middle School and Elementary Teams. GLAR operates via a set of by-laws and a student handbook which outlines the responsibilities and expectations for student members, mentors, and associate members. Although based within

the Gull Lake Community School District, Team 4381 receives limited financial support from the district. The executive board and mentors are not compensated for their work with students, and membership is completely voluntary. Our structure is a federally-recognized non-profit corporation. This allows us to more effectively raise the funds needed to provide a quality program for our students. Our mentors come from a diverse range of backgrounds including science, engineering, trades, marketing, and finance, providing a rich source of experience for our students.

“This past year we expanded our student base, more than tripling from our rookie year in 2012”

Alumni Statistics

Our program is one that truly supports and inspires the success of our students. All 24 of our students who were seniors have graduated, 21 of them going to a university, and 14 of them are in STEAM fields. Our Alumni attend some of the finest colleges and universities in the region such as Michigan, Michigan Tech, WVU, WMU and Kalamazoo College

About Us

We are Team 4381, the Twisted Devils, from Gull Lake High School in Richland, Michigan. This is our 7th year as an FRC Robotics team and we are looking forward to hosting our 6th District Competition, held at Gull Lake High School. We are very fortunate to have this opportunity available to us and thank FIRST Robotics for it. Our team is open to membership to any student in Gull Lake High School, our Virtual High School, the GL Homeschool Partnership, or any neighboring schools that do not have their own team.

2012's Gull Lake Event was the first competition we ever participated in. This competition proved to be a great learning experience. We had improved significantly by our second competition, and ended up in 3rd place overall

2013 saw great improvements, with the Twisted Devils making it into the Michigan State Finals competition, and in 2/3 of our district competitions finishing in the Top 10.

2014 held a huge increase in team numbers, with over 3 times as many members vs. our rookie year.

2015 was a massively successful season. Our team advanced all the way to the World Finals competition in St. Louis, Missouri. We placed 2nd in the Kentwood District competition, and earned a 1st place victory at the Gull Lake District. We participated in the Bedford competition and State Finals as well.

2016 was highlighted by many awards for our Safety program and Gracious Professionalism, achieving our desire to be one of the top comprehensive programs in our region. We regard these off field awards more than we do our on field success. We again advanced to the Michigan State Finals, narrowly missing an invitation to Worlds! It goes without saying that our success was primarily due to the generosity of our sponsors.

In 2017, we had an inspiring experience participating in three district competitions and once again advancing to the Michigan State Finals. Once again we were recognized for our Safety program, as well as Entrepreneurship, Engineering Inspiration and Imagery. These awards validate the well rounded program we strive to achieve, and the return we provide on our sponsors investment.



What do we do– In short

We, the Gull Lake Twisted Devils, Team 4381, are a Gull Lake Area Robotics(GLAR) Team, a Participant in USFIRST. We Promote the values of science, technology, engineering, arts, and mathematics in our community. We promote and provide real life education in other areas including:

- ◆ Marketing
- ◆ Web design
- ◆ Journalism
- ◆ Public speaking
- ◆ Data Analysis
- ◆ Problem Solving Skills
- ◆ Control Electronics
- ◆ Programming
- ◆ Electrical Power Systems
- ◆ Mechanical Design
- ◆ Mechanical Construction

“Student Built, Professionally Inspired, Community Driven”

How We Work, How We Live

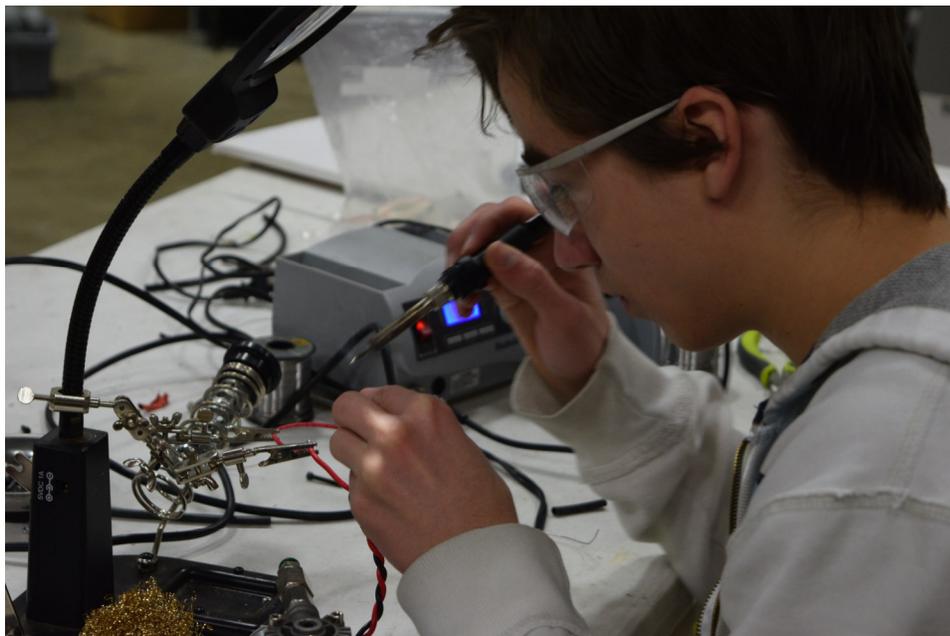
The phrase “Student Built, Professionally Inspired, Community Driven” is more than just a slogan or a tagline, it is our way of working and our way of living. “Student Built” this pertains not only to our robots, which are fabricated, assembled, wired, programmed etc. entirely by our students, but also to our team. Everything we do is driven by our students, whether it be in competition or our outside activities. “Professionally Inspired”-our team is blessed with a large core of mentors from a broad range of trades, professions, and background who freely give of their time, thousands of hours per year. Our students learn, experience and gain valuable wisdom from those who have gone on before them. In the words of one of our alumni, *“Through participating on the robotics team, I know what is expected of a professional and I think I’m more mature than most people my age because of it.”* “Community Driven”- Gull Lake is a small community, and we strive to impact our community through education, example and service. Our team goes beyond “building robots” and seeks to build community by promoting STEAM Education at all levels in our schools and volunteering in such areas as Habitat for Humanity, Relay for Life, County Fairs, Museum Presentations and Science Weekends.



Above, our 2016 team at the end of long competition season



At Left, A picture from our 2016 Lakeview District and some team members prepare for a round displaying the pit décor and hats which earned us an Imagery Award at State.



New members to our team learn new skills. Pictured here, a member of the electrical team learning soldering.

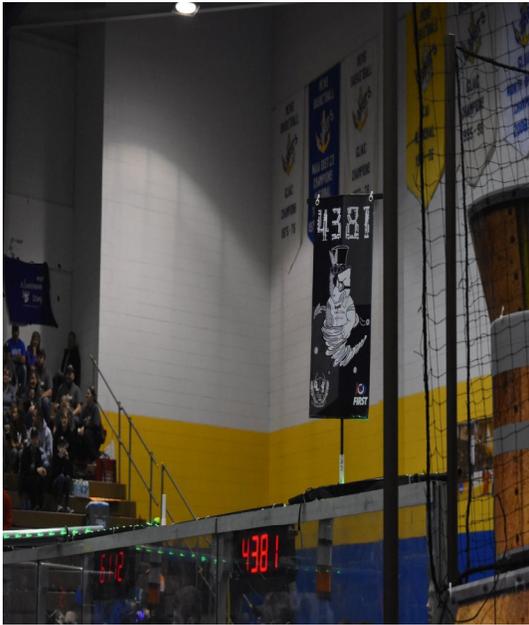
High Level competitiveness requires a great deal of support. Team 4381 achieves this level of competitiveness with a budget only 1/3 that of many teams in Michigan with similar achievements !



Our Budget

Competition Fees	Typical Cost	Running Total
-Two In-State District Events	\$5,000.00	\$5,000.00
-State Championship	\$4,000.00	\$9,000.00
-World Championship	\$5,000.00	\$14,000.00
Raw Materials and Tools		
-Robot Parts and Materials	\$5,000.00	\$19,000.00
-Materials for Practice Field	\$500.00	\$19,500.00
-Tools for Construction	\$1500.00	\$21,000.00
Marketing & Shipping		
-Shipping Expenses-Crate	\$500.00	\$21,500.00
-Team Uniforms	\$500.00	\$22,000.00
-Marketing Items	\$1500.00	\$23,500.00
Travel Expenses		
-District and State Championships	\$2,000.00	\$25,500.00
-World Championship Events	\$5,000.00	<u>\$30,500.00</u>

Why Team 4381?



Of all the different programs and charities asking for donations, why should you choose team 4381? We believe the answers can be found in the mission of FIRST and our team. Our main goal is to increase and encourage the STEAM fields. Sadly, US students rank 15th globally in math and science scores. Support of FIRST FRC Team 4381 will improve the future of our students and our community. 2-8 years down the road, our students will be the employees of our community's workplaces, and perhaps starting their own companies. Robotics can be thought of as the "Varsity Sport of the Mind". It educates our community about Science, Technology, Engineering, Arts, and

Mathematic fields. Not only does robotics educate students about STEAM, but also gives them opportunities our schools simply cannot provide. Approximately 50 million dollars in scholarships are available to FIRST participants, making it easier for those from less fortunate situations to be successful in their future.

While there are several FRC teams in the area, The Twisted Devils is one of the newest and fastest growing. Within our six years as a team, we have been to the State Finals four times, and the World Finals once. With sub-teams such as CAD, strategy, programming, marketing, electrical, and mechanical, our talented mentors donate lots of their time--over 30,000 hours— to help our team succeed.

"It(robotics) has given me tons of soft skills on top of : Working with hand tools, machines, and how to properly use tools and power tools." -A student, Alumni of Team 4381

Levels of Sponsorship

Level 1- Up to \$50: Company name on website, pamphlet.

Level 2- \$51-\$250: All above and Name on Team Shirt

Level 3- \$251-\$500: All above and logo on shirt, Sponsor Spotlight on website.

Level 4- \$501-\$2000: All above and name on robot.

Level 5- \$2001-\$5000: All above and name on banner, event shout-out at Gull Lake

Level 6- \$5001-\$10,000: All above and Presenting Sponsor Status

Level 7- \$10,000+: All above for all GLAR FLL, FTC, and FRC Teams.



The team participates in various parades, here we are in the Gull Lake Homecoming parade with our Middle School teams and our iconic robot "Gary" from 2014

Sponsorship

Please consider helping us by choosing a donation level below:
(please specify)

- ◇ Level 1- Up to \$50: _____
- ◇ Level 2- \$51-\$250: _____
- ◇ Level 3- \$251-\$500: _____
- ◇ Level 4- \$501-\$2000: _____
- ◇ Level 5- \$2001-\$5000: _____
- ◇ Level 6- \$5001-\$10,000: _____
- ◇ Level 7- \$10,000+: _____

An acknowledgement letter for your tax deductible donation will be mailed.

FIRST is committed to Diversity and Inclusion

Have a skill ?

Enjoy working with youth ?

Have some time ?

Want to make a difference?

Volunteers make up 99% of the FIRST® workforce. Whether you have a weekend to help, want to mentor a team, have technical or non-technical expertise, there is a volunteer role suited to your unique interest. Find information about FIRST programs, volunteer resources, opportunities, and more!

<http://www.firstinspires.org/ways-to-help/volunteer/event-volunteers>

Building STEAM literacy and confidence is required to be successful in nearly every endeavor in today's technology-rich society. STEAM competence and confidence creates pathways to well-paying jobs and entrepreneurial opportunities in the fastest-growing fields, creating the potential for young people to achieve purposeful and prosperous lives.

Collectively, we must enable our young people to grow up to solve the world's most pressing problems, be strong citizens, and build a brighter future. FIRST is committed to bringing its programs to students who would benefit most, and is actively engaged in developing strategies that will ensure greater access to its programs and reduce inequalities. FIRST is committed to fostering, cultivating and preserving a culture of diversity and inclusion. We embrace and encourage differences in race, ethnicity, national origin, sex, gender, gender identity, gender expression, disability, age, religion, income or any other characteristics that make our adult-force and students unique.

Exploring, developing and implementing strategies to become more inclusive and ensure access to our programs to all students (as well as access to key supports) is critical for FIRST to reach its goal and mission. ALL young people should have the opportunity to become science and technology leaders. FIRST will remove barriers to program participation for underserved, underrepresented students. Pursuant to that end, FIRST Diversity & Inclusion is a concerted, organized effort to develop strategies to make its programs more accessible and inclusive.

Gull Lake Area Robotics

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