

TEAM 7048



RED RIVER RAGE
7048

Fargo, ND

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LETTER FROM THE COACHES

Hello,

We sincerely appreciate your consideration of support for Fargo Robotics Team 7048, Red River Rage. This package will provide you with more information about our FRC (FIRST Robotics Competition) team, on and off the competition field, and ways you can provide much-needed support. Our team encourages the development of students' interests in STEM (Science, Technology, Engineering, and Mathematics) to prepare them to enter the workforce.

Building and designing a competitive robot is not an easy process. FRC is known as the hardest fun ever. Each year, our design and build season is six weeks long. It is an expensive and time-consuming endeavor that flies by unbelievably fast, with so many tasks to be accomplished and refined. From the official Season Kickoff in January, when we learn what tasks this year's robot is expected to be able to perform and receive our kit of parts, to building a crude prototype, and having a competition-ready robot by March, the journey is long, stressful, and life-changing. However, its value and benefits reach far beyond robotics and competition. Through the program, students gain invaluable opportunities to experiment and explore their technological capabilities and gain exposure to several aspects of technology, including engineering, technical design, computer programming, business management and marketing.

For Red River Rage to be successful, we rely on our community for support. Our team has dedicated mentors from various industries, who donate their free time to help our students build their robot every year. During this time, students are gaining new knowledge and skills. The team also relies on monetary support to purchase the necessary materials, tools, and resources to construct and program a competitive robot. Any support offered will allow us to continue our program that provides unique opportunities to our students as they explore their passion for STEM and prepare them to enter today's evolving society.

Included in this packet are:

- The History of Fargo Red River Rage
- What is FIRST & FRC
- Season Budget
- Sponsorship Levels
- Sponsorship Form

Fargo Robotics Team 7048, Red River Rage, depends on donations to be able to continue this unique program. We appreciate any support you are able to provide for the team.

Sincerely,

Tim Ryan & Rory Held



UNDERSTANDING FIRST AND FRC (FIRST ROBOTICS COMPETITION)

INTRODUCTION TO FIRST

FIRST (For Inspiration and Recognition of Science and Technology) is a non-profit organization founded in 1989 by inventor and entrepreneur Dean Kamen. The organization's mission is to inspire young people to be science and technology leaders and innovators by engaging them in exciting mentor-based programs.

FIRST offers a progression of programs catering to students from kindergarten through high school. These programs are designed to cultivate interest in science, technology, engineering, and mathematics (STEM) fields while fostering important life skills such as teamwork, communication, and problem-solving.

FRC (FIRST ROBOTICS COMPETITION)

One of the flagship programs of FIRST is the FIRST Robotics Competition (FRC), which targets high school students aged 14-18. FRC combines the excitement of sports with the rigors of science and technology, challenging teams of students to build and program industrial-size robots to compete in a themed game each year.

How FRC Works

1. **Team Formation:** FRC teams are typically formed by high schools, community organizations, or groups of students with a shared interest in robotics and technology.
2. **Game Design:** Each year, FIRST releases a new game challenge with specific rules and objectives. Teams receive a kit of parts from FIRST, including motors, sensors, and other components, to use in designing and building their robots.
3. **Build Season:** The FRC build season spans approximately six weeks, during which teams work tirelessly to design, prototype, fabricate, program, and test their robots.
4. **Regional Competitions:** After the build season, teams compete in regional events held across the world. These events bring teams together to showcase their robots, compete in matches, and vie for awards.
5. **Championships:** The culmination of the FRC season is the FIRST Championship, where top teams from regional competitions gather to compete on a global stage. The championship event features intense matches, innovation showcases, and networking opportunities.

Learning Opportunities in FRC

1. **Technical Skills:** FRC participants gain hands-on experience in mechanical engineering, electrical systems, programming, and design principles through the process of building functional robots.
2. **Teamwork and Collaboration:** FRC emphasizes teamwork, collaboration, and effective communication as teams work together to solve complex challenges and strategize for competitions.
3. **Problem-Solving:** Students learn to think critically and solve problems under pressure, honing their analytical skills and resilience in the face of challenges.



4. **Leadership and Entrepreneurship:** FRC encourages students to take on leadership roles within their teams, fostering qualities such as initiative, innovation, and entrepreneurship.

Impact of FRC

1. **Inspiring Future Innovators:** FRC inspires young people to pursue careers in STEM fields, fostering a new generation of engineers, scientists, and technologists.
2. **Building Confidence:** Participating in FRC boosts students' confidence and self-esteem as they tackle real-world engineering challenges and see their efforts come to life in functional robots.
3. **Community Engagement:** FRC promotes community engagement and outreach, encouraging teams to share their knowledge, passion, and enthusiasm for STEM with others.

FIRST and FRC play crucial roles in nurturing the next generation of STEM leaders, innovators, and problem-solvers. Through hands-on learning, teamwork, and competition, these programs empower students to explore their potential and make a positive impact on the world of technology and innovation.

THE HISTORY OF 7048

The Fargo Red River Rage Robotics Team, 7048, was founded in the Fall of 2017 and competed at the Great Northern Regional Tournament in Grand Forks, North Dakota, in 2018. They worked alongside the West Fargo and Moorhead robotics teams in a shared build space. That year, 7048 was awarded the Rookie All Star award and had the privilege of competing at the FIRST Championship event in Detroit, Michigan. In 2019, 7048 competed at the Great Northern Regional in Grand Forks, North Dakota, and the Seven Rivers Regional in La Crosse, Wisconsin. The team was part of the winning alliance at the event and for the second year in a row competed in the FIRST Championship event in Detroit, Michigan.

In 2020, 7048 Red River Rage was fortunate enough to compete at the Great Northern Regional in Grand Forks, North Dakota, before the season was shut down due to COVID. During COVID, 7048 lost their build space, lost students due to graduation, and had a large group of mentors leave the team. Due to this, 7048 did not participate in the 2021 FIRST at home season.

In 2022, 7048 Red River Rage (Fargo) joined 4360 Spudnik (Moorhead) robotics in a new home at the Moorhead High School Career Academy, in the former Sam's Club building. That year, 7048 competed at the Lake Superior Regional in Duluth, Minnesota, and the Great Northern Regional in Grand Forks.

In 2023, 7048 competed at the Great Northern Regional and the Iowa Regional in Cedar Falls, Iowa. The biggest accomplishment for the season was the redesign of our robot in the 2 week between the events. In that short amount of time the drive train and game piece



manipulator/arm were completely changed. This change allowed us to be a very competitive robot at our second competition.

This season, Red River Rage has competed at the Great Northern Regional in Grand Forks and will be competing in the Granite City Regional in St. Cloud, Minnesota. During the Grand Forks Regional, the team had a good showing and finished in the middle of the pack. One of the team members was named a finalist for the Dean's List award. Only two students from the hundreds in attendance at each regional competition are selected for this prestigious award that carries with it an individual invitation for her to attend the FIRST Championship Competition in Houston, Texas, April 17-20, 2024.

PREPARING OUR STUDENTS

We are preparing our students for the future through our teams participating in FIRST and FRC (FIRST Robotics Competition). Here are just a few ways we are doing this.

- 1. STEM Skills Development:** FIRST and FRC focus on science, technology, engineering, and mathematics (STEM) education. Students learn hands-on skills in areas such as mechanical engineering, electrical systems, programming, CAD (Computer-Aided Design), and more. These technical skills are highly valuable in today's technology-driven world and are in high demand across various industries.
- 2. Problem-Solving Abilities:** Through the process of designing, building, and programming robots to tackle complex challenges, students develop critical thinking, problem-solving, and analytical skills. They learn to approach problems systematically, evaluate solutions, and iterate on designs to achieve desired outcomes.
- 3. Teamwork and Collaboration:** FRC is a team-based competition that emphasizes collaboration, communication, and teamwork. Students work in diverse teams comprising members with different strengths and backgrounds, learning how to collaborate effectively, delegate tasks, resolve conflicts, and achieve common goals—a skill set essential for success in any professional environment.
- 4. Leadership and Project Management:** Students involved in FIRST and FRC often take on leadership roles within their teams, such as team captains, project managers, or subteam leads. They learn how to lead by example, motivate team members, set goals, manage timelines and resources, and navigate challenges—all of which are key aspects of leadership and project management in the real world.
- 5. Entrepreneurship and Innovation:** FIRST encourages students to think innovatively and fosters an entrepreneurial mindset. Students learn to identify problems, brainstorm creative solutions, prototype ideas, and present their innovations to judges and peers. This entrepreneurial spirit prepares them for roles in startups, innovation-driven companies, and entrepreneurial ventures.



6. Communication and Presentation Skills: FRC competitions involve various aspects of communication, including presenting robot designs, explaining strategies, and interacting with judges, sponsors, and the community. Students enhance their public speaking, presentation, and communication skills, which are crucial in professional settings for conveying ideas, pitching projects, and building relationships.

7. Networking and Industry Exposure: Students participating in FIRST and FRC have opportunities to network with industry professionals, mentors, sponsors, and other teams. They gain exposure to different career paths, industries, and technologies, expanding their horizons and building valuable connections for future internships, job opportunities, and collaborations.

8. Community Engagement and Outreach: FIRST encourages teams to engage with their communities through outreach activities, workshops, demos, and STEM education initiatives. Students develop a sense of social responsibility, leadership, and civic engagement, contributing positively to their communities and building a foundation for future involvement in societal issues.

Overall, FIRST and FRC provide students with a comprehensive learning experience that goes beyond technical skills, preparing them holistically for the challenges and opportunities they will encounter in higher education, careers, and life in general.



AWARDS HISTORY

2018

Rookie All Star Award - Celebrates the rookie team exemplifying a young but strong partnership effort, as well as implementing the mission of FIRST to inspire students to learn more about science and technology.

Highest Rookie Seed - Celebrates the highest-seeded rookie team at the conclusion of the qualifying rounds.

2019

Regional Winners - Celebrates the Alliance that wins the competition.

2021

Volunteer of the Year – Presented to an individual, business, or organization to celebrate and recognize the extraordinary contributions of time and skills to the FIRST community. Awarded to Coach Rory Held

2024

Dean's List Award - Celebrates and recognizes the leadership and dedication of the most outstanding students participating in FIRST. Awarded to Juliette C

Engineering Inspiration - Celebrates outstanding success in advancing respect and appreciation for engineering within a team's school or organization and community.




TEAM BUDGET

Item	Amount
Registration Fees	\$ 10,000
Travel Expenses	\$ 4,500
Lodging Expenses	\$ 7,500
Education and Outreach Materials	\$ 500
Robot Material Costs	\$ 5,500
Team T-Shirts and Uniforms	\$ 1,250
Practice Field Elements	\$ 500
Tools, Batteries and Technology	\$ 3,500
Miscellaneous Costs	\$ 5,000
Total Budget	\$ 38,250



SPONSORSHIP LEVELS

 RED RIVER RAGE 7048	Levels			
	Platinum \$5000+	Gold \$2,500	Silver \$500	Steel < \$500
Robot	Large Logo on the Robot	Medium Logo on the Robot	Listed as a Sponsor on the Robot	
Pit	Large Logo on Pit Sponsor Banner	Medium Logo on Pit Sponsor Banner	Small Logo on Pit Sponsor Banner	Listed on Pit Sponsor Banner
Website	Call out on the Website & Logo on Sponsorship page	Logo on Sponsorship page	Logo on Sponsorship page	Listed on Sponsorship Page
Social Media	Social Media Shout Outs	Social Media Shout Outs	Social Media Shout Outs	
T-Shirt	Large Logo on Team Shirt	Small Logo on Team Shirt	Listed as a Sponsor	

*Additional benefits may be discussed as requested

STEM Alliance

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Please enter "Team 7048" in the Notes/Comments



SPONSORSHIP FORM

Business Name:	
Contact Person and Title:	Phone: Email address:
Address:	
Business Website:	
Alternate Sponsorship/Finance Contact Person:	
Amount Donated:	Method:
Please make checks payable to STEM Alliance and indicate "Team #7048" in memo line	
EIN: 84-3692756	Mailing Address: STEM Alliance Attn: Team 7048 PO BOX 6465 Fargo, ND 58109
Special designation for how sponsorship should be used:	
Material Donations: Item/s: Amount: Value:	
Please Email logo to FRC7048@stemalliancefm.org	
Company description or verbiage for website/press release or other website features:	
Tags for social media usage:	

