



Everything you wanted to know about FIRST Robotics Competition
Team #2851 Crevolution before applying for membership.

FIRST Robotics Competition Team #2851 Crevolution

New Member Information and Application

ABOUT OUR TEAM

Team #2851 Crevolution is a FIRST Robotic Competition (FRC) community based robotics team based at Rose Kidd Elementary School, 38397 Gladstone Dr., Sterling Heights, MI 48312. FIRST Robotic Competition is a high level robotics competition for high-school students. The ultimate goal of FRC is to engage students in discovering the excitement and rewards of science, technology, and engineering. Team Crevolution in its community based focus, is an all-inclusive high school level robotics team welcoming private, public, and home-schooled students and their families who are interested in FIRST (For Inspiration and Recognition in Science and Technology) robotics volunteer and learning opportunities and experiences.

Team Crevolution Philosophy

We believe high quality Science, Technology, Engineering and Math (STEM) education should be accessible to all youth, and that all kids with an interest in math, science, and technology should have an opportunity to express and explore those interests. Crevolution Robotics' mission is to generate interest and develop skills in the fields of engineering science and technology in our local community. We strive to be an open and inclusive FIRST robotics team so that we are inviting to all interested members of our school community. We strive to become involved with our middle school and elementary school and local youth programs to encourage students to participate in the FIRST Lego League (FLL) and FIRST Technical Challenge (FTC).

Our goal is to elevate character, teamwork, and academic and intellectual achievement above all else. We do not seek to win at all costs, but rather to give team members an enduring hands-on STEM experience that will serve them well into their futures. Putting character before competition has yielded a consistently high achieving team that reliably brings home trophies year after year, and is well regarded not just statewide but nationally.

ABOUT FIRST

The FIRST (For the Inspiration and Recognition of Science and Technology) Robotics Competition is an exciting, nationwide competition for high school students that engages them in solving an engineering design problem in an intense and competitive way. The program reaches thousands of students from around the country and the world. Each team is comprised of professional mentors and high-school-aged students. Teams compete for a series of awards honoring accomplishments in areas including engineering, design excellence, competitive play, sportsmanship, and high impact partnerships between schools, businesses, and communities. The program effectively engages students from various backgrounds, instilling new ideas and concepts in more experienced students, while helping to inspire, motivate, and encourage learning basic principles and skills among students with less experience. Through their FIRST involvement, students also learn about important, life-long team skills such as planning, research, collaboration, mentorship, and teamwork.

BENEFITS OF TEAM MEMBERSHIP include:

- **SCHOLARSHIPS** - over \$16 million in college scholarships are available annually.
- **TRAVEL** - to Regional Competitions and possibly to the World Championship.
- **EXPERIENCE** - many corporations across the nation are participating in FIRST and prefer to hire FIRST students.
- **NEW SKILLS** acquirement and the opportunity to explore careers in business, visual arts, science or technology. Team Crevolution emphasizes high quality training opportunities in CAD design, programming, building and design, and public speaking.
- **TEAM BUILDING** skills and **PREPARE FOR LEADERSHIP ROLES**.
- **FUN** meeting and networking with students and experts in a variety of fields.

A TYPICAL SEASON

The team's season meets year round for fundraising, team building, training, and organizational activities. In the off-season, during the summer and fall, we may meet only once or twice a week, and for special team building and training programs.

The FRC "competition season" officially begins the first Saturday in January. Team members have 6 weeks to design, build and program a robot to perform that season's challenge. Teams compete in two to three qualifying competitions, usually starting in March, and culminating with the State Championship in April. The World Championship is in late April.

In the competition season we meet at least 3 times per week with each student expected to contribute 12 hours per week. Sometimes there will be take-home work to complete between meetings (i.e. journal entries, programming, team spirit projects, etc.). Meeting schedules and activity plans will be posted to our email work-list and available on our website.

JOINING TEAM CREVOLUTION

To date, team membership has not been limited. The team roster has ranged from 12-30 students. Interested students must complete the application below for consideration. Applicants under consideration will be invited to three team meetings, to determine if the student and team are a good fit for one another. As a community based team, members from public, private and homeschools are welcome to apply to be part of our team.

If the Team and Applicant agree that they would like to continue working together, **the student is required to fundraise \$750** which will be used to help pay for robot parts, competition fees, and other logistical expenses, and is non-refundable. **\$350 is due before the 2nd Saturday in September. The remaining \$350 is due before the end of November.** Student members must also comply with attendance, behavior and grade maintenance requirements to remain part of Team Crevolution.

TEAM ROLES and RESPONSIBILITIES may include, but not be limited to, the following (students may be part of multiple teams, as needed and able):

Project Lead

The project lead coordinates overall engineering and design of the robot with communications, building and programming leads, and works in cooperation with coaches and mentors to achieve season objectives. The project lead is also responsible for organizing and scheduling team meetings, setting team priorities and keeping members focused. It's a big job, and other team members are expected to cooperate with and assist the project lead for effective team work and project success. The project lead is also responsible for related Engineering notebook entries.

Communications Lead

The communications lead is responsible for ensuring effective and cooperative conduct and communications among all members, an especially important role during competitions and tournaments. Team members are expected to cooperate with the communications lead and follow communications protocol and etiquette throughout the season.

Building Leads and Build Team

The lead builders make decisions about building, and work to achieve consensus among team members on the mechanical design of the robot using guidelines developed by the team. Builders make related journal entries for robot design and construction. The Build team will include someone responsible for Quality Assurance who will ensure that all wires and critical components of the robot are secured and in compliance with Challenge guideline and requirements. The Build team will also include someone responsible for hardware and tools management, to ensure that all equipment is well cared for and properly stored and inventoried.

Awards Team

These members will ensure that we're working effectively towards the highest award recognition by being well informed about award requirements and encouraging and guiding team members towards top performance in all areas.

Chief Systems Analyst

This person, in coordination with the coach and adult mentors, is responsible for knowing game rules, robot mission and challenges, and communicating this critical information to team members. The CSA will also verify that programming, mechanical solutions and proposed solutions are addressing needed goals.

Programming Leads and Programming Team

Lead programmers ensure that programs are completed by appropriate deadlines, and are responsible for Engineering Notebook entries related to programming. Programmers will ensure that programs work 90% of the time or better, and will schedule time with builders and drivers for changes and driving practice.

Safety Captain

The Safety Captain, in coordination with an adult mentor, will help establish safety rules and plans to enforce them. Responsibilities include ensuring that sufficient safety glasses are available and that they are worn by adults and students at relevant times during practices and competitions, and that clothing and behavior is appropriate with respect to safety of team members and others.

Team Video Manager

The Team Video Manager is responsible for coordinating the look and overall quality of the team video, which will be viewed by judges prior to competitions for award recognition at events. This is a critical role in earning the Inspire Award, the top award given. The Team Video Manager will ensure that the team communicates clearly about their robot design in the video, and that the team presents itself well in the final product. To that end, the Team Video Manager will coordinate all aspects of filming and production.

Marketing and Fundraising Manager

This team member, in coordination with adult mentors, is responsible for helping create a team business plan, coordinate fundraising efforts, assist with community outreach opportunities, and maintaining team finance records. The Marketing and Fundraising Manager will also ensure that the team “look” is effective, neat and well presented, and will also help develop and maintain sponsorship and team information packets, and will help with team blog entries.

Photojournalist

This team member helps document, via video and photography, the team year, and updates the website with photos. The complete build process should be chronicled, as well as tournament activities, with photos for use in marketing and news media.

Team Spirit

This member will help create team cheers, pins, banners, signs, and competition giveaways for fun and PR, and help develop the team's identity with respect to encouraging spirited support and fun at meetings and events.

Additional roles include

Robot Drive Teams – Teleop (RC) drivers are typically those members who show an aptitude for remote control finesse, strategy and precision, but all who are interested are welcome to learn to drive and will be given opportunities to drive, or at least coach drivers, on the field during competitions.

Public Relations – members who speak with other teams and coordinate Team Crevolution specialists to help other teams, as well as create connections within the community.

Website Manager – a member proficient and comfortable with website maintenance and posting.

BUILD SEASON

Team Meetings

Meetings are typically held at least 3 days per week with days determined prior to the season to maximize attendance and mentor availability. Meetings have typically been 4pm – 8 pm weekdays and 10am-6pm Saturdays. Competition kick-off is the first Saturday in January where the competition for that year is announced. Additional meeting dates and times may be added as necessary during build season. Build season meeting attendance is mandatory – If you can't make a meeting, please advise team mates and coach as soon as possible. Meetings and agendas, as well as all other important notices, are announced and archived on our google drive, to which all members will belong. Files, programs and other related documents will be available there. ***All members are expected to check their email regularly and to actively communicate with one another and the coach about meetings.***

Meeting Agendas

The agenda for each meeting, with specific tasks and goals, is coordinated between the Project Manager, the Head Mentor and Student Leader. 15-30 minutes will be allotted at the start of each meeting for general administrative housekeeping. 30 minutes are allotted at the end of each meeting for clean up. Agendas will be provided to members in advance of each meeting.

Expectations at Meetings

Gracious Professionalism and Respect are expected at all times, for each other, for adult coaches and mentors, and for anyone with whom you're working, anywhere, at any time.

Be an Active Participant – If there doesn't seem to be enough for you to do, tell us; work with other team mates; take the initiative when you see something that you can do; don't wait to be asked to help.

Be Informed – All members should be thoroughly familiar with rules of the competition, team goals, arrive ready to work at meetings, and understand individual and group tasks.

Communicate – Ask questions if you need help or don't understand something. Communicate clearly, often and openly with each other, your coach and mentors.

Be Responsible – Be conscientious about the use and maintenance of equipment, parts and tools. Put things where they belong so they can be easily located when needed. Get to meetings on time; be sure you know what your role is and carry out your responsibilities at meetings. Clean up after yourself, and help others do the same.

Have Fun!! The more respectful, professional, informed, communicative and responsible you are, the more fun you'll have and the more memorable and enjoyable your experience, and that of your team mates, will be.

Expectations at Competitions

Be Graciously Professional at all times. Help your team mates and other teams as able.

Be Positive! - Team members are expected to participate at all times in a positive and helpful manner, whatever the competition outcome or trend.

Show Spirit! – Support your team by cheering and sign waving. Cheer other teams, too.

Look Good! – Wear your team shirt, tan/khaki pants with a belt, and closed toed shoes. Sport a neat, clean appearance; no baggie pants, or loose items of clothing, for safety reasons as much as appearance.

Be Safe! – Wear safety glasses where required; Look where you're going at all times and pay attention to what you're doing.

Have Fun!

Qualifications for Attending Competitions

School always comes first! A minimum of a C (2.0 GPA), or, in the case of homeschooled students, evidence of equivalent academic commitment is required to remain a member of Team Crevolution. (Grade sheets are required weekly during competition season.)

Appropriate behavior at all times, including at school and in your community, as well as at competitions or events.

Attend 75% of meetings at a minimum, 90% of meetings if you head up a build team.

Complete and return all paperwork in a timely manner – Throughout the year, various forms and agreements will be required. Please be responsible about completing and returning them.

Meet Expectations of Behavior and Conduct previously listed.

ADULT TEAM MEMBERS AND PARTICIPANTS

- Adults working with students on Team Crevolution will be asked for background checks.
- Adult participants are expected to adhere to the same behavioral guidelines set forth for student team members.

Revision History

Revision	Date	Change made by	Description of Change
1.0	May 2014	G. Chene	New Document - Draft
1.1	April 2015	G. Chene	<p>Page 3</p> <p>Year for scholarship money changed to annually.</p> <p>Range of students changed from 12-22 to 12-30</p> <p>Dates for sponsorship money changed to generic dates – 2nd Saturday in September and last day of November.</p> <p>Page 7, Adults working with students on Team Crevolution may be asked for background checks changed to will be asked.</p> <p>Page 6. Project Lead and coach changed to Project Manager, the Head Mentor and Student Leader</p> <p>Page 7, added . (Grade sheets are required weekly during competition season.)</p>

