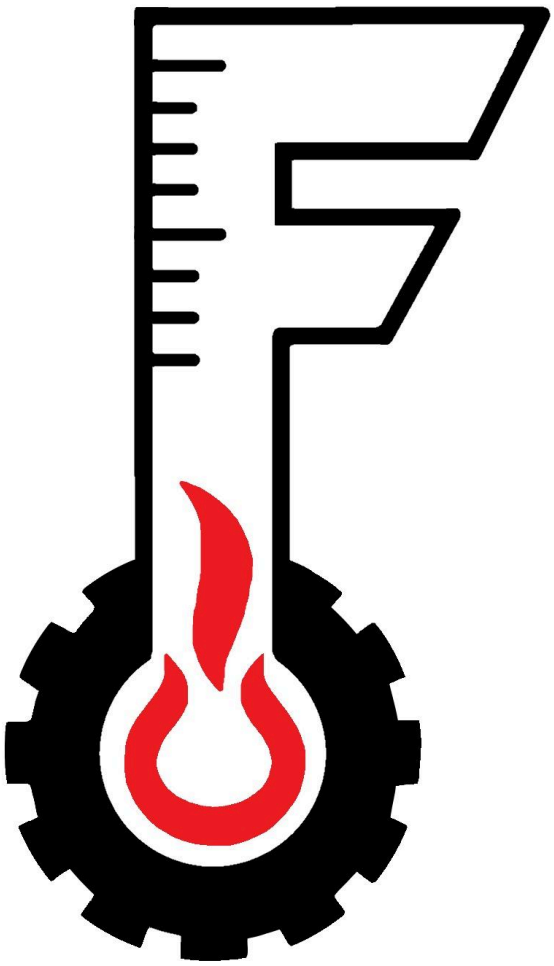
Fahrenheit Robotics

Student Handbook



2026-2027

1. Introduction - FIRST® 6
2. Member Expectations 6
2.1. Membership 6
2.2. Season Synopsis 6
2.3. Meeting & Member Attendance 7
2.4. Meeting & Event Attire 7
2.5. Fundraising 7
2.6. Competitions 8
3. Leadership Structure 8
3.1. Leadership Positions 8
3.2. Leadership Requirements 8
4. Code of Conduct 9
4.1. Gracious Professionalism® 9
4.2. Educational Responsibilities 9
4.3. Team Behavior 9
4.4. Tools & Machinery Etiquette 10
4.5. Public Behavior 10
4.6. Online Behavior 10
4.7. Competition/Field Trip Behavior 10
4.8. Hotel Behavior 11
4.9. Consequences 11
5. Job Descriptions 12
5.1. Job Positions 12

Quick Facts for Parents & Guardians

Who are we?

Team 6882, Fahrenheit Robotics, was formed in 2017 by FredWorks Incorporated to participate in the FIRST Robotics Competition (FRC). Based out of Fredericksburg, we welcome 9th-12th grade students* from public and private schools as well as homeschooled students.

*8th graders are invited to join on a case-by-case basis.

What do we do?

Our team is part of the FIRST Chesapeake district, comprising over 100 teams in the DMV area. Each year team members work together to build and operate a ~125 pound robot based on the new season's challenge.

Parents/guardians can help by chaperoning and helping to carpool to meetings and competitions. Parents/guardians interested in becoming Mentors can help in more official capacities by regularly attending meetings, helping with communications, helping to fundraise, providing snacks, sharing their knowledge of physics, engineering, and programming, and, of course, building robots.

When are the meetings?

The year is broken into four main seasons:

1. **Pre-Season** marks the official start to the new year and lasts from September through December. During this time, the team focuses on welcoming new members and preparing for any off-season events. **Expect 1-2 meetings a week (about 2 hours each)**.
2. **Build Season** is January and February. Teams attend the kick-off (https://www.firstinspires.org/robotics/frc/kickoff) event the first Saturday after New Year's Day to watch the reveal of the new season's game. Then the race is on to plan, design, and build a robot for the competitions! **Expect 3-4 meetings a week (about from 2 to 4 hours each)** filled with fun, problem solving, and some late nights as we get closer to competition season.
3. **Competition Season** is roughly from March to April. We participate in two district qualifying competitions each season, usually in the DC or Richmond Metropolitan area. These competitions span Friday evening through Sunday afternoon/evening. Depending on the outcome of district qualifying competitions, the team could be invited to attend Districts (early April) or even Worlds (mid-April). **Expect 3-4 meetings a week (about 2 to 3 hours each) and at least 2 full weekends of competitions.**
4. **Off Season** is May through August. During the off season, the team reflects on the last season, works to raise money for the next season, recruits and trains new members, and

learns and practices all the skills they'll need to build next year's robot. **Expect 1-2 meetings a week (about 2 hours each)**.

How are we funded?

Registration for FIRST competitions is ~$6,000. The team works together to fundraise and find sponsors to help cover the cost; however, there is a $50 membership fee per year to cover the cost of t-shirts, safety glasses, and light snacks. This membership fee does not include additional payments for the field trips. Average full season cost is ~$200.

Membership fees may be reduced or waived upon discussion with a mentor. Checks can be made out to **FredWorks Inc.**

How do we communicate?

The team's main method of day-to-day communication is through Discord. Discord is a voice, video, and text app used to communicate with people in various communities. Students and parents/guardians are encouraged to create an account to join the Fahrenheit Robotics server to receive updates for meetings, links to fundraisers, and inform us of any absences. Safety measures have been put in place for each of the channels to only allow vetted members to join and see daily discussions.

For more information about Discord and their Safety Center, go to https://discord.com/safety/3600.

Learn more!

Visit the FIRST Robotics (https://www.firstinspires.org/) site and read their Vision and Mission (https://www.firstinspires.org/about/vision-and-mission) statements.

1. Introduction - FIRST®

1.1. For Inspiration and Recognition of Science and Technology (FIRST®) was founded by Dean Kamen and Woodie Flowers in 1989. They're mission is to "inspire young people to be science and technology leaders and innovators, by engaging them in exciting mentor-based programs that build science, engineering, and technology skills, that inspire innovation, and that foster well-rounded life capabilities including self-confidence, communication, and leadership."

1.2. Since 2017, Team 6882 Fahrenheit Robotics has competed in the FIRST® Robotics Competition (FRC) once a year to build and program a robot to perform challenging and engaging tasks against a field of competitors.

2. Member Expectations

2.1. Membership

2.1.1. Fahrenheit Robotics accepts public, private, and home-schooled students in Fredericksburg and the surrounding areas. This excludes public school students in Stafford county; these students should seek information from Team 339, Kilroy Robotics (North Stafford High School).

2.1.2. FRC is designed for high schoolers, grades 9th-12th. Fahrenheit Robotics will allow 8th graders to join on a case by case basis. Travel privileges for these students may require the attendance of a parent/guardian.

2.2. Season Synopsis

2.2.1. Each season is split into four sections: pre-season, build season, competition season, and off-season.

2.2.1.1. **Pre-Season** begins in September through December. This period of time is focused on welcoming new members to the team, focusing on fundraising, and preparing our off-season event. The off-season events are optional, but are highly recommended especially for newcomers.

2.2.1.2. **Build season** begins with the FRC Kickoff - held the first or second Saturday after New Year's Day (January 1st) - and lasts for 6 weeks. Teams receive information about the new game and spend time working together to build the robot.

2.2.1.3. **Competition season** spans March and April. This includes six weeks of district competitions followed by FIRST® Championships. It is typical for teams to participate in two district qualifying competitions to qualify for district championships and potentially world championships.

2.2.1.4. **Off-season** includes all time outside of build and competition seasons. Events and participation vary from team to team. The

main focus is to reflect on the previous season while building up the next season through recruitment and fundraising.

2.3. Meeting & Member Attendance

2.3.1. Team meetings are held in the Maker Space located in the Upper School of Fredericksburg Academy: *10800 Academy Dr, Fredericksburg, VA 22408.*

2.3.2. During build season, meetings are held three to five days a week. Meetings are **never** held on Fridays.

2.3.3. Meetings do not follow a general cadence during the off season. Summer meetings may be held once a month and move to once a week once the school year begins.

2.3.4. Members are expected to place priority on attending meetings and competitions throughout the season. Exceptions include school events, sickness, injury, or an emergency.

2.3.5. If a member is not able to attend a weekly team event, i.e., the normal off-season and build season meetings, they must communicate to the team via Discord, email, or text **eight hours** before the event start time.

2.3.6. If a member is not able to attend a team event that requires travel, i.e., competitions, they must communicate to the team via Discord, email, or text **24 hours** before the event *departure* time.

2.3.7. In case of inclement weather, the mentors will use their discernment to cancel the meeting no later than **one hour** before the meeting start time.

2.4. Meeting & Event Attire

2.4.1. Members are expected to wear closed-toe shoes when entering the Maker Space. Shoes can be stored in the Maker Space for each meeting if required. **Crocs do not count as closed-toe shoes.**

2.4.2. Medium to long hair should be safely secured up or back by a hairband. Shorter hair can be held back by a hat or hair band.

2.4.3. Appropriate clothing should be worn at all times. Refrain from wearing loose fitting or ripped clothing as it could get caught in tools or the robot. Long pants are encouraged.

2.4.4. Dangly jewelry should be avoided when possible, especially around tools and the robot.

2.4.5. A Fahrenheit Robotics team t-shirt should be worn for all official team events. This includes, but is not limited to, fundraising events, open house, and, most importantly, competitions.

2.5. Fundraising

2.5.1. Fahrenheit Robotics relies heavily on company sponsorships and fundraising. Competitions can cost between $8,000-10,000 a season; this includes but is not limited to registration, build materials, team supplies, spirit wear, and travel. Continuing the season into district championships and worlds increases yearly costs to cover additional registration, travel, hotel and food for everyone.

2.5.2. Every member is expected to pitch in with fundraising for the team. This includes but is not limited to applying for grants, contacting companies, organizing spirit nights, and asking for donations.

2.6. Competitions

2.6.1. Fahrenheit Robotics is based in the FIRST® Chesapeake region. All district events will take place around the DC, Maryland, and Virginia areas.

2.6.2. Members should expect to spend one to two weekends during competition season to participate in district qualifying competitions. An additional weekend will be added for district championships should the team qualify. Competitions are held from Friday-Sunday, not including team travel.

2.6.3. Some of these competitions may include overnight stays at a hotel. More information about hotel expectations can be found in section 4.8.

2.6.4. Teams must qualify to participate in the district championship. Locations vary from year to year, but are still within the greater DC, MD, VA area.

2.6.5. Teams must qualify to participate in the world championship held in Houston, Texas. The world championship will span over four days in April, not including travel.

2.6.6. Every member should attend at least **50%** of team meetings during all seasons to be eligible to receive subsidized costs for competitions. Exceptions can be made for sickness, bereavement, and other scenarios with approval from mentors.

3. Leadership Structure

3.1. Leadership Positions

3.1.1. Team Captain - responsible for the team as a whole.

3.1.2. Vice Captain - the team captain’s right-hand teammate; shadows the team captain and steps in where needed.

3.1.3. Safety captain - responsible for ensuring all members adhere to safety guidelines, especially in the pit during competitions.

3.2. Leadership Requirements

3.2.1. Voting on leadership takes place in the pre-season.

3.2.2. Team captain must have been on the team for a year before elected.

3.2.3. Leaders must be reliable. This means they should regularly attend meetings, be able to answer questions–or find the resources to answer a question–and show a willingness to learn and grow in a position.

3.2.4. Outside of regular meetings, the leadership team may be asked to join leadership meetings. Agendas for leadership meetings will vary; however, they will mostly focus on status updates and additional leadership training.

4. Code of Conduct

This section applies to students, parents/guardians, mentors, coaches, and all who represent Fahrenheit Robotics.

4.1. Gracious Professionalism®

4.1.1. Dr. Woodie Flowers defines Gracious Professionalism® as “a way of doing things that encourages high-quality work, emphasizes the value of others, and respects individuals and the community. [...] With *Gracious Professionalism*, fierce competition and mutual gain are not separate notions. Gracious professionals learn and compete like crazy but treat one another with respect and kindness in the process. They avoid treating anyone like losers. No chest thumping tough talk, but no sticky-sweet platitudes either. Knowledge, competition, and empathy are comfortably blended.”

4.1.2. Members must adhere to Gracious Professionalism® standards at any time they are representing Fahrenheit Robotics.

4.2. Educational Responsibilities

4.2.1. Members are first and foremost students. Education and grades should never be placed second to team commitments. Members should discuss and set expectations around school work with a parent or guardian prior to joining the team.

4.2.2. Try to finish homework prior to meetings where possible. Mentors and other students can be available to assist with school work during meetings if needed.

4.3. Team Behavior

4.3.1. Remember the Golden Rule–treat others as one wants to be treated.

4.3.2. Members should be courteous and aware of their surroundings.

4.3.3. The Maker Space is offered to Fahrenheit Robotics in support by Fredericksburg Academy. This room should be kept clean, tidy, and readily available for student instruction between meetings.

4.3.4. There will be no roughhousing while in The Maker Space. This includes running, climbing, chasing, and strong physical contact.

4.3.5. Members should not be under the influence of any drugs, alcohol, or both.

4.3.6. Communication is a must! Members are expected to communicate to their teammates and/or the mentors if they have questions, concerns, or issues.

4.3.7. If a member needs to leave the Maker Space for any reason, such as using the restroom, going to the kitchen, getting a snack, etc., the student must inform a mentor. This allows the mentors to keep track of the members during meetings and fosters trust as we build up to competition season.

4.3.8. There is no set rule on transportation set to and from weekly meetings. Arrangements should be discussed with the student and guardian(s).

4.3.9. Members shall not be discriminated against by their race, gender, sexuality/gender identity, nor religion. This includes students, parents/guardians, mentors, and coaches.

4.3.10. Be mindful of the standards, views, morals, etc., of others. What you do or say may mean something different to someone else.

4.4. Tools & Machinery Etiquette

4.4.1. Handheld tools may be operated by members of the team. These tools are owned by Fahrenheit Robotics, FredWorks, or Fredericksburg Academy. Members must be responsible when using the handheld tools and they should be returned to their home location after use.

4.4.2. Members are expected to ask for assistance on how to safely operate a handheld or powertool tool **before** using it for the first time. The mentors are here to help you!

4.4.3. Members may not operate heavy machinery without the supervision of a mentor. Heavy machinery includes, but not limited to, the drill press, drop saw, circular saw, and band saw.

4.4.4. Members and all present in The Maker Space must wear ANSI approved safety glasses when operating handheld tools and heavy machinery.

4.4.5. No food is permitted around tools and machinery.

4.4.6. Hair, dangling jewelry, and loose clothing must be well secured when operating handheld tools and heavy machinery.

4.5. Public Behavior

4.5.1. Members represent the team in their every day actions. Public or private school actions can reflect the integrity and reputation of the team.

4.6. Online Behavior

4.6.1. Online behavior applies to the Fahrenheit Robotics Discord, email communications, social media pages, and anytime a member is representing Fahrenheit Robotics online.

4.6.2. Be careful of what you send, post, text, etc. online. You are a representative of Fahrenheit Robotics and the face of our team. Make sure your content is appropriate and kind. Remember to think about what you say or do before you take action.

4.7. Competition/Field Trip Behavior

4.7.1. While not encouraged, members may provide individual transportation to non-overnight trips with written guardian permission.

4.7.2. Non-related members **must** receive written permission from guardian(s) of each member in order to be transported to non-overnight trips by another member.

4.7.3. Members may not provide individual transportation to overnight trips unless accompanied by a guardian.

4.7.4. Members should act appropriately and be respectful, positive, and supportive of those around you, both on and off the team.
4.7.5. Members are not allowed to leave the competition area without first speaking to a mentor.
4.7.6. Travel in pairs. Having a buddy helps keep you safe!
4.7.7. Put others first. Take the time to help people out, especially those on other teams.
4.7.8. Safety protocols must be followed at all times at competition, especially within the pit.

4.8. Hotel Behavior

4.8.1. When at the hotel, keep the volume down. Other people in the rooms nearby are trying to sleep and do not want to be disturbed.
4.8.2. Do not run anywhere in the hotel - it is louder than you think and could cause injury.
4.8.3. Try to go to bed by lights out. It is for your benefit as well as others'. If you are staying up late, let others who want to sleep go to sleep.
4.8.4. If people are visiting other rooms, the occupants of the visited room need to leave their door open, i.e., able to be opened without a key.
4.8.5. Members may **not** leave the hotel at night unless supervised by an adult chaperone or there is an emergency.
4.8.6. All messes must be cleaned up, especially after breakfast.

4.9. Consequences

4.9.1. Fahrenheit Robotics follows a three strike policy prior to dismissal from the team. This policy applies to both students and parents/guardians. Severe or repeated infractions may result in a restriction of travel privileges or dismissal from the team.
4.9.2. For students -
    4.9.2.1. **Strike one** - member requires a meeting with a mentor/coach within one week of the infraction.
    4.9.2.2. **Strike two** - member **and** the parent or guardian require a meeting with a mentor/coach within one week of the infraction.
    4.9.2.3. **Strike three** - member is immediately dismissed from the team and the parent or guardian is called for pick up.
4.9.3. For parents/guardians -
    4.9.3.1. **Strike one** - parent/guardian requires a meeting with the mentor/coach within one week of the infraction
    4.9.3.2. **Strike two** - parent/guardian requires a meeting with a coach within five days of the infraction.
    4.9.3.3. **Strike three** - parent/guardian **and their student** are immediately dismissed from the team.
4.9.4. Dismissed members may have their membership reinstated at the discretion of the mentors.

5. Job Descriptions

Fahrenheit Robotics members can join mechanical, electrical, software, or business teams. All members, especially new ones, are encouraged to try being a part of multiple teams. Eventually, you will become more specialized in an area you choose. We encourage everyone to cross train in different areas.

While there are multiple jobs for the team, only the **Captain**, **Vice Captain**, and **Safety Captain** will be specifically selected each year.

5.1. Job Positions

5.1.1. **Captain -** The team captain is the driving force behind innovation, collaboration, and competition readiness. Captains lead by example—balancing technical expertise with mentorship, and strategy with empathy. The captain's role is to unify the team, inspire creativity, and ensure that every member feels empowered to contribute.

5.1.2. Vice Captain - The vice captain serves as the right hand to the Captain—bridging leadership and execution. Vice captains help coordinate team operations, support technical development, and ensure that every member feels engaged and valued. This role is essential in maintaining momentum, solving problems, and fostering a collaborative environment where innovation thrives.

5.1.3. **Safety** - Safety is first at Fahrenheit Robotics. We need people to promote safety awareness and maintain team safety standards such as tool training programs and safety protocols.

5.1.4. **Mechanical Engineering** – Design the mechanisms of the robot. These are complex systems integrated into a limited footprint that need to be designed, prototyped, CAD'd, manufactured, tested and implemented in just a few weeks each competition year.

5.1.5. **Electrical Engineering** – Design electrical systems for the robot. Students can learn about power and ground lines, data lines, how they interact, and then implement them by powering the mechanical systems of the robot. Electrical devices - such as limit switches, potentiometers, encoders, and more - can be used to make the robot more autonomous and easier to operate.

5.1.6. **Computer Programming** – Learn Java programming skills and put them to use by programming complex systems including state machines, feedback and control loops, integrating sensor data into decision making algorithms, driver and operator controls, and video processing with limited bandwidth.

5.1.7. **Management** – If you are good at organizing, we need someone to bring all the planning, finances, operating, recruiting, and scheduling together. There are also off-season events that we can plan such as building contests or programming competitions.

5.1.8. **Business** – Update our business plan of how we operate and keep track of our finances and the budget. Organize and participate in fundraisers, sponsorships, and grants so that we can acquire tools and materials, pay competition fees, and provide transportation to events. We also need to keep in touch with our sponsors and donors, thank them for their support, and make sure we advertise them.

5.1.9. **Publicity** - Communicate to our community about what we are doing by establishing and maintaining relationships with local schools and organizations. We also need to recruit new members by telling others about FIRST and Fahrenheit Robotics and make presentations to the public. Students can also keep our social media pages up-to-date and design a team website.

5.1.10. **Brand Management** – Maintain and improve our brand. This includes designing T-shirts, logos, letterheads, spirit wear, buttons, and giveaways so that our team image is noticeable and professional. There are a lot of opportunities for students who love art.

5.1.11. **Scouting** - Take comprehensive data on the teams at the competition so we can better strategize for our matches and for alliance selections.

5.1.12. **Historian** - We need students who love photography, videos, and/or music. You can produce videos and take photographs of our team for publicity and documentation purposes, and compose cheers, chants or songs for the competition Spirit Award. We need help with writing grant applications, promotional materials, instruction manuals, and safety data sheets. Documenting the team's progress is key for remembrance and submitting awards.

5.1.13. **Pneumatics** – Work with both the electrical and mechanical teams to design, install, and test mechanisms that are controlled through the use of air pressure.

5.1.14. **Systems Engineering** – Integrate the various systems of the robot into one final unit by figuring out how they will fit and work together the best.

5.1.15. **Mathematics**- Work closely with the Scouts to collect data on other teams at competitions to analyze and discern which teams would make good alliance partners. Apply statistics and learn software such as Tableau and excel.

5.1.16. **Construction** - We need help building field elements to practice with. Students will learn how to read building plans, plan and build structures and platforms from engineering design specs.

Fahrenheit Robotics Student Agreement

By signing below, I confirm having read and understood the rules and guidelines set forth in the Fahrenheit Robotics 2026-2027 Student Handbook.

Student Name (Print): _____

Student Signature: _____

Parent/Guardian Name (Print):_____

Parent/Guardian Signature: _____