

# **2017-2018 Team Handbook**

Team 4135

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## 1. What is FIRST?

**For Inspiration and Recognition of Science and Technology (FIRST)** is an international youth organization that operates the FIRST Robotics Competition (FRC), FIRST Tech Challenge (FTC), FIRST LEGO League (FLL), and FIRST LEGO League Jr. competitions. It was founded by Dean Kamen (inventor of the Segway) and Woodie Flowers in 1989. Its expressed goal is to develop ways to inspire students in engineering and technology fields. For more information, visit <http://www.usfirst.org>.

## 2. FIRST Robotics Competition (FRC)

FIRST Robotics Competition is an international high school robotics competition. Each year, teams of high school students, coaches, and mentors work during a six-week period to build game-playing robots that weigh up to 120 pounds. The robots that are built will compete in regional competitions which require certain tasks to be completed in order to score points. The game changes yearly, keeping the excitement fresh and giving each team a more level playing field. While teams are given a standard set of parts, they are also allowed a budget and encouraged to buy or make specialized parts.

Each January the FIRST Development Committee releases a new game and we build a robot to compete in that game. Teams are allowed 6 weeks to design and build a robot for the competition. Regional Competitions begin in March and go into the month of April. The FIRST Championship takes place at the end of April.

Besides the robot competition, there are many other awards in FRC. Some awards are given for design concept, robot function, team spirit, exhibiting gracious professionalism at a competition, safety, and spreading information about FIRST to the community.

## 3. FIRST Philosophy

The philosophy of FIRST is expressed by the organization as **Coopertition** and **Gracious Professionalism**. Gracious Professionalism is a way of doing things that encourages high-quality work, emphasizes the value of others, and respects individuals and the community. Coopertition is founded on the concept and a philosophy that teams can and should help and cooperate with each other even as they compete.

## 4. Joining the Team

Students are expected to make a significant time commitment to the team, actively participating in meetings, workshops, and events. Commitment to the team increases substantially during the months of January – May.

Students are expected to be reliable and assist with team administrative tasks. Some examples include the following: being on-time, being responsive to mentors and other adult volunteers, being eager to work and clean up, having a positive attitude and assisting newer members. Everyone is expected to help in our regular fundraisers such as the Spaghetti Dinner and any other scheduled fundraising events.

Any student who attends Beyer High School may join the team. There are two different categories of team membership: semi-active team member and active team member.

**Semi-Active Team Members** simply have to be a student in grades 9–12, show up for

two consecutive team meetings, and show interest. Semi-active team members will not be eligible for the traveling team, nor be allowed to run for future officer positions like team captain. Semi-active team members who have not attended meetings for more than a month are assumed to have left the team.

If an active team member no longer meets the requirements of being an active team member, they may continue on the team as a semi-active team member.

**Active Team Members** must meet the criteria listed below to be considered an active team member.

All required forms must be submitted by the designated deadline. This includes any registration forms, permission forms, etc.

Register online with STIMS, including the FIRST media consent form by the given deadline.

Attend more than three quarters of all scheduled meetings. Some meetings and events are more important, such as the Competition Kickoff Meeting and all meetings during the build season from January to February. These meetings will be weighted accordingly, and attendance records will be kept.

Attend all division or travel team meetings if you are requested to be present. This includes certain extended hours during build season and in preparation for competition. We will try to give at least 24 hours' notice of any scheduled meeting. Division leaders will need to clear official meetings with team leadership.

Notify team leadership about late arrivals and absences. Please contact your division lead by email as soon as possible, preferably at least 12 hours in advance. Use your best judgment, and let us know earlier for longer absences.

## **5. Travelling Team**

A travelling team will be selected for any event which requires the team to travel several hours from Modesto. This will be an event where the team needs to coordinate travel and/or lodging arrangements. There will be a limited number of team members that will be selected for the travelling team.

Travelling team members must be active team members and will be selected from the active team members according to the travelling team criteria. The travelling team criteria will be a combination of a student's behavior, work ethic and fit for the roles outlined for the competition. The travel team will be announced at least two weeks prior to the event to allow time to turn in forms and organize logistics.

The travelling team will be re-evaluated and re-selected for each event. The surest way to get on the travelling team is to make yourself useful, work hard, and be pleasant.

### Travelling Team Positions

#### Tier 1 - Core Team Roles (Performance Based)

- Team Captain
- Drive Team Coach
- Driver
- Operator
- Human Player

Pit crew - mechanical  
Pit crew - electrical  
Pit crew - programming  
Head Scout  
Media

One person may fulfill multiple roles, depending on the roles.

If you are a Tier 1 member you are expected to set an example to other team members in terms of your academic performance, attendance, commitment to team goals, and behavior. In particular, your attendance and behavior during all meetings should be outstanding. If it is not, the team leadership may place you on probation and you may lose your status as a Tier 1 member. **Tier 1 members are guaranteed a place on the travelling team.**

Tier 2 - Scouting Team Members

Scout 1  
Scout 2  
Scout 3  
+additional to fill a (most likely) 16 person travel team

The scouts will assist the head scout in collecting data on the other teams. Tier 2 members will be selected based on attendance, behavior, commitment to team goals, and academic performance. There are a limited number of spots available.

Tier 3 - Supporting Team Members

These team members are invited to attend the event, but any travel costs (hotel, airfare, etc.) will not be paid by the team. Tier 3 members are expected to act as a part of the scouting team if they attend the event.

## 6. Grades

School is important. Students should have no grades below a 'C' for all progress reporting periods. Students are responsible for their schoolwork as a first priority, even before robotics. If your grades are suffering due to robotics, please have a discussion with the coach about whether or not you can be an active team member.

## 7. Behavior

All team members must obey the rules as set forth in the Modesto City Schools Conduct Code, and the following team rules:

Fulfill team expectations as well as possible, and to the best of your ability.

\*\*\* Follow the Behavior Contract as the team agrees upon. This will be signed in a separate behavior contract document.

## 8. Performance Criteria

### Attendance

**Outstanding:** Attend all scheduled build periods unless exceptions are discussed with and approved by team leadership at least 48 hours in advance with a total of no more than 3 tardies.

**Satisfactory:** Miss no more than 3 days (after school build sessions count as half days) unless exceptions are discussed with and approved by team leadership at least 48 hours in advance and have a total of no more than 3 tardies.

**Unsatisfactory:** Not meeting the above criteria

### **Behavior**

**Outstanding:** Stay engaged and productive and seek direction from team leaders when you are not sure what you should be doing. Keep distracting or off-task behavior (silliness, playing games, socializing, etc.) to a minimum. Actively engage in moving our team forward. Take personal responsibility and stay focused and productive throughout the build season.

**Satisfactory:** Stay engaged and productive and seek direction from team leaders when you are not sure what you should be doing. Keep distracting or off-task behavior (silliness, playing games, socializing, etc.) to a minimum.

**Unsatisfactory:** Not meeting the above criteria. Examples would be wondering around, socializing excessively, playing video games instead of working, continuous snacking to avoid working, not cleaning up after yourself, etc.

## **9. Team Code of Conduct – General Expectations**

We expect everyone on the team to be mature and responsible young adults. This effectively translates into:

**Take initiative** to do things, within reason. You will get out of the team what you put into it!

**Be on time and stay in touch.** Our team does a lot of work at meetings and most of our communication at meetings. If you do not attend, we may assume that you are no longer interested in being a part of the team. Be on time both to meetings and in finishing your work. Deadlines will be set for tasks, and it is expected that those tasks be completed by those deadlines. If you can't finish a task, it is your duty to make sure it gets finished by someone else. Checking email on a daily basis is necessary.

**Ask questions.** While we love people to take initiative, pretending you know how to do something if you don't is a very bad idea that can lead to extremely dangerous situations. It is not expected that someone will know everything, even if they have been a team member for a few years. If you need help or an explanation, ASK.

**Be mature.** If you have a question or concern about a recent event on the team or decision by team leadership we expect you to come to team leadership to discuss the issue in a calm, mature, and professional manner.

**Be gracious and professional.** Sometimes things don't go as you expect. Appreciate what everyone does. Maintain courteous relations with everyone on the team. You don't need to be everyone's best friend. You need to work well with everyone who works with you, whether they are part of the team or not.

**Be respectful** to everyone, whether they are present or not.

\*\* Students respect mentors' wisdom. Listen to their advice. Discuss concerns respectfully.

**Stay focused.** A little bit of goofing off is expected; however, distracting or off-task behavior should be kept to a minimum. If you need to burn off some energy, take it outside and away from the machine shop. Goofing off in the same room as a bandsaw or a power drill can have dangerous consequences.

**Maintain a good image of the team AT ALL TIMES.** You are representing our team, our schools, our community, our sponsors, and yourself wherever we may be. Treat others with respect and kindness. Your behavior impacts everyone that you represent. What you say to another team member and how you say it may be overheard by a judge, potential sponsor, or member of another team. Please be mindful of any negative attention and bad impressions. This includes the use of offensive language such as profanity. Any guests you invite or bring must understand this and behave accordingly.

When representing our team online, please remember gracious professionalism. You are representing our team just like at competition or in public, so remember to be humble, professional, and considerate!

At competition, respect the other teams. Remember gracious professionalism, and always be respectful. Stay with the group and if you need to go anywhere, let the people in charge know and find a reasonable time to do so. If you're needed and you're not there, it will reflect poorly on you. It is important that you stay on task and fulfill your role on the team.

**Be safe.** Know safety procedures and follow them. Using tools is a privilege, not a right.

**Obey rules and team leadership.** If you have been notified of something, that stands. If something feels unfair, please bring it up with team leadership, but team leadership has the final decision.

## 10. Workspace Rules

- Long hair must be tied back. Jewelry is not acceptable if it can entangle into robot parts or into machinery, and is generally discouraged.
- Closed-toe shoes must be worn for work on the robot, in the STEM Center, or in the pits. This applies to both the shop and at competitions.
- If you wish to borrow a piece of team equipment, ask the Coach and the division leader which uses the equipment.
- Follow all safety guidelines and protocols. For tools especially, using them is a privilege, not a right, and safety is paramount. Do not use a machine or tool unless you have been trained and signed off to use that equipment.
- Return all tools to their given places.
- Wear safety glasses around the robot, when using power tools, or when in potentially dangerous situations.
- If a student leaves before a work session is over, he or she must give an appropriate amount of notice and obtain permission from team leadership and the relevant division lead. The student must also help clean up before leaving.

- Malicious destruction of team property is strictly prohibited.
- Do not download or install programs onto the programming, CAD, or business/media computers without the permission of the respective team lead and a reason directly related to robotics or the team.
- At the end of each meeting the last 15 minutes will be dedicated to a “clean 15”, at which time every member in attendance will help clean up the space that was used. If students are staying later than the official meeting time, the clean fifteen will still happen at the end of the official meeting time, and any students staying later will be expected to leave their workspace clean.

## **11. Competition Travel Rules**

- To travel around outside of the hotel or competition area, students are required to travel in groups of three or more students and have the explicit permission of a chaperone who needs to know who is going, where they are going, when they plan to get back, and who among them has a cell phone.
- No one is allowed to enter a room not assigned to them unless permissible to those assigned to said room.
- All students are required to be in their room by curfew and not allowed to leave until dawn except in case of emergency. Unless specified at the team meetings at competition, curfew is 10 PM. If the team needs to leave very early, team members may leave their room at a reasonable time.
- If a student does not have a personal cell phone, they will be expected to buddy up with a student that does. This information shall be communicated to a chaperone.
- All students are required to be up and ready to leave at the designated time every morning.

## **12. Team Dress Code Rules**

Team shirts and other team gear may NOT be noticeably modified (for example a leftover L shirt being given to a petite girl may be tailored, however cutting off sleeves, lowering the neckline, or any damage to any logos is not allowed).

DO NOT wear a team shirt or any piece of team gear while not behaving in an appropriate manner. Even if you're just wearing it to school, you are representing our team.

At competition, it is important for the team to maintain a unified image. As such, we may require all team members who are attending as part of the team to wear the current year's t-shirt on designated days. On practice days of competition, the team may decide to relax the standards and allow previous years' shirts. The team may also decide to create a specific t-shirt for an event, in which case that t-shirt supersedes the current year's t-shirt. Details will be discussed before each competition.

DO NOT wear another team's clothing while at any event. This does not exhibit team spirit and is not acceptable. \*\*Unless allied with teams in playoffs.

### 13. Consequences

The Behavior Contract and Code of Conduct are intended to provide members with an outline of expectations in order to help ensure that everyone's experience is positive. In general, team members who are not conducting themselves in a manner consistent with these expectations can expect the following escalating consequences:

- Consequences outlined in behavior contract
- Excessive offenses: Student's parent/guardian will be called and/or will not be allowed to attend events as part of the team until a plan to resolve future issues has been discussed with the coach, student, and student's parent/guardian.
- Serious and/or repeated violations after parent contact: Student being dismissed from the team

The above escalation is provided as a guideline only, and violators may be subject to more serious consequences, at the discretion of the coach. Students that break school rules may also be reported to the school administration. For less serious offenses, leadership may determine the consequences.

The Code of Conduct and Rules are expected to be self-enforcing. Students who observe their teammates violating the Code of Conduct and Rules are expected to remind their teammates of their existence. Continued violation of the Code of Conduct and Rules should be reported to the coach. **Students who observe continued behavior which is not in line with the Code of Conduct or Rules - and fail to notify a coach - may be considered a participant in the violation and may be subject to disciplinary action.**

### 14. Team Organization

Team leadership consists of a coach or coaches, captain, vice captain, and division leaders.

#### Student Leadership

Student leadership consists of the team captain, vice captain, and division leaders. On occasion student leadership will meet with the coach and/or mentors to address upcoming events, any issues that arise, or improvements for the team.

Any student leadership position (with the exception of the captain and vice captain positions) may be split between two people to reduce the workload for teaching purposes. No student leadership position is automatically granted a spot on the travelling team. All student leadership positions must be student team members who will be in 10–12th grade and have been a team member in the previous year. If no such person is suitable for the position, it will be dealt with on a case-by-case basis.

#### Captain

At the conclusion of the competition season, the active team members will choose a captain for the next school year. Active team members will vote at the final meeting of the year to decide. A vice captain may be chosen by the captain.

Responsibilities will include the following:

- Ensure that the team is a safe and welcoming environment for all of our members.
- Keep the team together and on track. This means that team leadership has the authority to make final decisions for the team and to set and enforce deadlines for the team. The captain and/or vice captain are expected to lead each meeting, work with the division leaders, know what the various parts of the team are doing, and keep people responsible for themselves.
- Communicate with the team and mentors.
- Work with parent volunteers to make sure all people involved know what is going on.
- Review and approve written materials written on behalf of the team, especially for awards.
- Engage all team members, and make sure that robotics is a safe and welcoming environment for all students.

### **Division Leaders**

Division leaders lead programming, electrical, mechanical, and outreach/media divisions of the team.

The division leaders are appointed by team leadership. Division leaders are expected to have experience with the division and to make sure that new members of the team are exposed to what the division does. If new members are interested, division leaders will help provide the relevant training. Division leaders coordinate with the captain, vice captain, and other division leaders as to what the division is required to do.

**Programming:** This division programs the robot itself. Their work centers on using object-oriented programming in Java and sensor data such as that from gyros, hall effect sensors, and limit switches on the robot to program autonomous routines and teleoperated code. FRC games incorporate an autonomous period during the beginning of the match during which the robot must perform pre-determined actions or respond to real-time changes on the field.

**Electrical:** The Electrical division wires the robot and creates any pneumatic systems needed. They take the mechanical systems designed and fabricated by the mechanical team and make them controllable.

**Mechanical:** The Mechanical division is further broken into two groups: Design and Fabrication. The Design Group uses CAD software (Solidworks and/or AutoCAD) to design the drivetrain and other mechanisms on the robot, as well as make part drawings for the Fabrication Group to use. The Fabrication Group uses part drawings and industrial machines such as mills and lathes to create parts for the robot. Both of these groups contribute to the assembly of the robot.

**Outreach/Media:** This division is responsible for promoting STEM in the community. For example, presenting at community events and preparing for the prestigious Chairman's Award (The highest award given in FIRST). Members of this division also manage our social media sites and our website, take photographs, create graphics and videos for team presentations.

## **Robot Design Group**

The Robot Design Group will consist of the Captain and other team members chosen by leadership with expertise and knowledge of the rules and expectations of the game. This group will discuss scenarios and determine what strategies to use.

## **Mentors**

Mentors are adult volunteers who donate a great deal of their time and effort to help the team. They assist with team organization, technical support, and help students in all aspects of running an effective team. Mentors are here to teach, guide, and lead alongside the students. Mentors should be mindful of letting the students do the majority of the hands on work.

Being a FIRST Mentor requires dedication and a significant time commitment. Please visit <https://www.firstinspires.org/mentors-and-coaches> for more information on volunteering as a mentor. Following your review of the mentor criteria, if you feel that you are able to make the commitment, please contact a coach or another mentor about your interest.

Mentors work extensively with team members during the build season, designing, building, and fabricating a functional robot for competition. Their expertise is the catalyst for the team's and students' success.

## **15. Parent Involvement**

We highly encourage parents to participate as parent volunteers. They are necessary for our team to run smoothly; parent volunteers help to organize trips and fundraising, and keep the lines of communication open. Parents who wish to get more involved may mentor, become a Booster, or help in the ways listed below.

## **16. Donations**

Beyer Robotics provides a great value to students, giving numerous opportunities in many areas. For much of our costs, we seek community sponsorship and grants. However, this alone is not enough to cover all operating costs. On occasion we may ask for donations of food, supplies, or items for fund raising events. It is our hope that parents will rise to the occasion and help in these areas.

## **17. Food**

During build season, we work through lunchtime on weekends and, near the end, may pull extended hours that require a dinner break. Food is provided by the parents, usually a homemade meal of some sort. (Six weekends' worth of junk food is a lot for a student's system to deal with.) A sign-up will be available and organized through parent volunteers. Guidelines for when to bring the food will be provided; however the team may end up pushing the time of the meal later due to workflow productivity or unmet deadlines.

As a general rule, the programmers will eat first while everyone else continues working. Once the programmers have eaten, everyone else will eat. This will allow the programmers access to the robot during the meal break period.

## **18. Chaperones**

On away trips, we will need chaperones. Chaperones are adults, usually parents, who are affiliated with the team. Chaperones coordinate with team leadership to organize the trip, manage the logistics of hotels and food, and oversee all of the students.

## **19. Transportation**

On away trips, transportation is extremely important. For events like the Sacramento Regional (Davis, CA), we organize carpools, and it is wonderful to have more than the same five parents driving to each event. In order to transport students, the driver will need to complete the School Driver Registration Form and submit to the school office. This form is available online at [www.beyerrobotics.com/boosters](http://www.beyerrobotics.com/boosters).

## **20. Schedule**

Build season: January 6, 2018 – February 20, 2018

Build season is where it all comes together. At Kickoff, we will receive the game, and we will design, build, program, and wire the robot by February deadline. Because build season is regulated to be only slightly longer than 6 weeks, we need our strongest commitment during build season. In addition to the regular Wed/Thurs meetings, we will also have meetings from 9am-5pm on Saturdays, Sundays, and any Monday holidays.

Competition season: February 28, 2018 – April 21, 2018

During competition season, we will be preparing the team for competition and attending competitions. We may add additional hours to continue working on the robot, but it will be less time consuming than the build season.

## **21. Communication**

Effective communication within the team is important to make sure all members are aware of upcoming events and important team announcements.

An email distribution list will be maintained for all members, as well as individual lists for students, parents, and mentors. Periodic emails will be sent regarding general updates and on specific topics.

Group text messages using REMIND will also be used to notify students, parents, and mentors. The phone number database is especially important when the team is away at an event. Members are expected to check their email and/or text messages daily and respond promptly.

## **22. Contact and Final Notes**

Here is the contact information for the 2017-18 team:

Heidi Pagani (Coach): Pagani.H@monet.k12.ca.us

Charity Loche (Coach): Loche.C@monet.k12.ca.us

Vincent Benenati (Captain): beyerrobotics.students@gmail.com

Todd Smith (Boosters President): SmithTo2605@gmail.com

We expect all team members to follow and understand all rules and policies in this handbook. School leadership reserves the right to set consequences for major violations and consider confidential information in decisions. Team leadership may also change the handbook during the season. If this occurs, the team will be notified of the modifications promptly.

## Team 4135 Student Contract

Please print this page, sign and submit it with your registration packet.

By signing below, I, the student, agree with the following:

- I have read and understand the 2017-18 Team Handbook, especially the team expectations, rules, and team code of conduct.
- I understand that to be considered an active team member, I must follow and fulfill the criteria outlined for active team members in section 4. I understand that being a semi-active team member will not grant me all the privileges of an active team member.
- I understand that not everyone will be able to travel to “away” events and will agree to abide by the travelling team criteria once it is shared with the team.
- I will behave in a responsible, mature, and graciously professional manner while on or representing the team.
- I understand that, if there is a problem, I can bring it to the attention of team leadership to work it out.

\_\_\_\_\_

Student (print name)

\_\_\_\_\_

Signature

\_\_\_\_\_

Date

By signing below, I, a parent, agree with the following:

- I have read and understand the 2017-18 Team Handbook, including the parent expectations. I understand what is expected of me as a parent of a team member, outlined in that section.
- I understand that for my child to be considered an active team member, he or she must follow and fulfill the criteria outlined for active team members in section 4.
- I understand that not everyone will be able to travel to “away” events and will agree to abide by the travelling team criteria once it is shared with the team.
- I understand that my child is expected to be respectful, mature, and responsible for themselves. If they have a question or concern about the team, I can let them interact with team leadership for themselves.

\_\_\_\_\_

Parent (print name)

\_\_\_\_\_

Signature

\_\_\_\_\_

Date