TEAM 1828

VUSD BOXERBOTS

Team Handbook and Contract

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Introduction

FIRST (For Inspiration and Recognition of Science and Technology)

FIRST Robotics Competition (FRC) is a unique sport of the mind, designed to help high-school aged people discover how interesting and rewarding the life of engineers and researchers can be. The ***FIRST*** Robotics Competition challenges teams of young people and their mentors to solve a common problem in a six-week timeframe using a standard "kit of parts" and a common set of rules. Teams build robots from the parts and enter them in competitions designed by Dean Kamen, Dr. Woodie Flowers, a committee of engineers and other professionals.

FIRST redefines winning for these students because they are rewarded for excellence in design, demonstrated team spirit, gracious professionalism, maturity, and the ability to overcome obstacles. Scoring the most points is a secondary goal. Winning means building partnerships that last.

Team 1828 uses one phrase to describe the character of its members: “We not Me!” Each team member should strive to apply this philosophy to his/her every action as a BoxerBot. The winners of FIRST competitions are teams, not individuals. Being a team means not fighting over who is right or wrong. Discussion and compromise are the foundation for a successful team. Our robots are to be **student designed** and **student built**.

What we do. What to and not to bring (physically and mentally). What to expect.

The Vail Unified School District (VUSD) BoxerBots, FRC Team 1828, are participants in the annual competitions established by ***FIRST***. We are a team-oriented environment, not individualists trying to establish a name for ourselves. We welcome all who want to join, but only those who “play well with others” seem to make it to build season, let alone the competition.

A common misconception about being on the robotics team is that you are involved in the robot build. Many other aspects of the team exist; business, advertising, web design, and spirit are a few examples. The preseason is spent learning the different aspects of the sub-teams that members are a part of. All sub-teams will learn in a hands-on environment. Student team members pick which primary subteam they want to be a part of. Depending on team size, it is possible that cross-training MUST occur.

Robot Design

Part of our philosophy is that our robot is student designed and student built. Sub-teams design their portions of the robot and Student Leaders work together to incorporate the designs into one robot. They must meet all rules set forth by ***FIRST*** which are modified every year. Mentors are there to guide and review issues, but it is ultimately the students’ decision. For better or worse, this will truly be a student designed and built robot.

Calendar

The Team Calendar is from mid-May to early May of the following year. We expect members to take part in events all year long. While we strive to have a regular build schedule many issues can change this schedule. Most half-days in the pre-season we take off, while those in the build season provide more build-time opportunity. Please see the Team Calendar link on the Team 1828 website for an up-to-date work schedule and calendar of upcoming events. http://1828boxerbots.org/

Pre-season meetings are necessary because training is accomplished then. Familiarity with the parts, tools, and software used will be established in this time. Meetings for pre-season are currently scheduled as follows;

- Wednesday (Materials/process familiarization)
  4:00pm – 6:00pm (VAHS Activity bus riders leave at 4:45pm)
- Saturday (Robotics learning modules), every other
  10:00am – 4:00pm

Build season is the period of January through February (~eight weeks long). Kickoff is the first non-holiday Saturday in January. Following that the team will meet as follows:

- Monday, Tuesday, Wednesday and Friday
  2:40-4pm Homework Time
  4-6:00pm Build
  ~6:00pm Meal
  ~6:30-7:45pm continue build
  7:45 – 8:00pm Cleanup + Wrap up
- Thursday we take off to accommodate homework
- Saturday
  8:00am Start Time
  ~11:30 to noon Lunch Break
  Between 2:00pm – 4:00pm (determined by progress of the build) Clean up and Wrap up

Responsibilities

Students

Expectations

Students will put priority on their grades over any team need. Grades are important. Students must complete schoolwork before participating in team work sessions and activities. Read and understand all the rules of the competition. Understand our team's robot and competition strategy.

Ask for help! If you don't know what is going on or are unsure how to accomplish a task assigned to you, ask for help or clarification.

At the end of the day, students are required to help clean up. If a student needs to leave early they should clean up their own area and verify with a team lead or mentor before leaving. Students may **NOT** wander the school and should not leave without notifying a mentor.

Team members are expected to put away cell phones and netbooks during work sessions. Students caught playing video games, randomly surfing the internet, or any other non-contributory actions will forfeit their earned hours for that day.

Understand that since VAHS hosts the team, we are subject to the rules in the VAHS Handbook. This includes behavior and dress code. While our team's dress code does emulate that of VAHS, it is not to the letter, but following the team's rules should keep us all out of the limelight with VAHS.

Respect

Team members are expected to show respect to everyone. Team members are there to have a good experience, and deserve to have that good experience. Members are to respect fellow team members, and themselves.

Not listening to adults on the team when they are trying to relay information or training is disrespectful. They are there to give knowledge, assistance, and training. They are volunteers, and are not being paid to be there helping you. Remember that, and acknowledge that when dealing with them.

Students who are disrespectful may be dismissed from the team by the Team Advisor.

Eligibility

Success is an important part of ***FIRST*** and the team. It is not restricted to the robot, game performance, or how many trophies the team is awarded. Team members are successful when they succeed in the classroom, and then participate in team activities. All team members are expected to make schoolwork and individual academic performance a priority over any team event or activity.

Any student member of the team that is struggling with schoolwork can seek help. The team will have resources available to help students with schoolwork. You do not need to be ineligible or on probation to seek/receive help – just ask!

Rules & Regulations

All team members are responsible for knowing and understanding the Competition manual for the season, which is released during Kick-off. Updates come at least weekly, which include changes to the rules of the competition. These changes can affect the design of the robot overall, or just a subsystem. The updates may have an effect on gameplay, strategy, or a myriad of things.

Having all team members able to participate in understanding the total impact of the updates is beneficial to the team, as some members may think of issues others didn't.

Conflict Resolution

Conflicts will be resolved civilly and at the lowest portion of the chain. Preferably they will be resolved within the sub-team. If that is not a possibility, then they will be resolved at the captain level. If that does not happen, then the issue will be brought before the mentors for resolution.

We understand there are times when an individual may not be comfortable bringing issues up directly, and therefore may need to bring it directly to the captain, or even the mentors. This is acceptable, but not preferable.

Communication

Students are expected to check their listed email account, Facebook, etc. to stay current on what is happening. Team communications go out in several formats, and it is the team member's responsibility to stay informed by checking the various sources. The primary form of communication is email. The secondary form is group text. We respect that you may not have a Facebook account or cell phone, but at the very least you have a school email account. It is preferable that you use a personal email account you check regularly, as updates can come as late as the evening prior (though only in extreme circumstances).

If you can not remember to check an email account or seek information, it is not the team's fault if you miss an event. Please make sure to provide a response to the email if you are not going to be able to make it to a meeting.

Team Advisor

The Team Advisor is there to oversee all aspects of the team, and as such, is a busy individual. They are the liaison between the team and the administrators of FIRST and the sponsors. They participate in the meetings, but are also called off to other meetings the team leadership and/or mentors may not be involved in.

The Team Advisor acts as the presiding chair over the council of mentors. Their goal is always the betterment of the team.

Mentors, Adult Team Members (Sponsors or otherwise):

Helping the students reach their full potential is the primary reason for participating in FIRST. We know that mentors have families, jobs, and other important commitments outside of the team. We ask that mentors properly inform us up front of how much time they think they will be able to contribute. Adult chaperones on team outings are not allowed to consume alcoholic beverages.

When dealing with the students, please remember that you are there to guide, **not to do**. Also remember that these students do not have your life experiences, and may not know all you do about a particular field. Take the time to get to know the students and their abilities/limitations. Respect them as well when dealing with them. We also expect adult members to follow all the guidelines stated in this handbook.

Parents

Yes, we even have a section in here for you. It is imperative that the team members have your full support. It is important that the team mentors have your support, as well. For those members that cannot drive yet on their own, please help make sure they are able to make as many meetings as possible, and are picked up on time for scheduled meetings.

The team needs your support in the terms of dinners being made and delivered during the build season. We prefer to have dinner being served between 5:30 and 6pm. The Meals Coordinator creates a meal schedule for build season of the parents associated in December. We try to make sure there is even distribution throughout build. If you have an issue with a scheduled day reach out to the Meal Coordinator at boxerbotsadditions@gmail.com.

Leadership

Student

This is the Team Captain, Team Co-captain, and Sub-team Leaders. These are the student leaders responsible for coordinating the efforts of the whole team and sub-teams. The primary responsibility of the Team Captain is to be the coordinator for the student body of the team. He or she shall be available for guidance and training. They shall exercise patience in dealing with team issues. They shall act as a liaison between the team and the Team Advisor and Mentors.

The leadership shall be receptive to ALL ideas and should consider them, no matter when or who they come from. Providers shall be informed as to why their idea is not being used instead of just being told “no”.

The Team Captain or Co-Captain is voted in by the team. Requirements for Team Captain or Co-Captain are one year on a team with participation in one regional event, and the nominee must be a Junior or Senior.

Team Leads are appointed by the Captain and Co-Captain, with final approval falling to the Team Advisor. These decisions will be based on capabilities in the team specialty, personal ability to lead, or several other factors.

Positional

This is in reference to some positional responsibilities. Team Leads and Safety Officer are listed for now.

Team Leads- Team Leads are responsible for the progression of their individual subteams, and the coordination between the Team Captains and the subteams. They are responsible for meeting schedule, or keeping the captains appraised of difficulties being encountered with the schedule.

Safety Officer **–** Is responsible for insuring that the members follow safety rules, and to remind individuals who have forgotten. This includes making sure that the proper personal protective equipment is worn in the build room, or when performing tasks inside or outside of the build room. This individual will also be involved in the Safety Training of the team members.

Procedures

Kick-off

Kick-off will be held the first non-holiday Saturday in January. Attendance is required for team members and highly encouraged by parents, family and friends.

Elections

Elections are to be held in the spring, thus allowing members who have experience with the nominees to vote. Eligible voters are student team members and adult mentors. Nominations take place for team Captain and Co-captain. Formally as a school club there needs to be an elected team secretary and treasurer, as well.

Rule Changes

Major rule changes are to be voted in by the majority or present members and adult mentors at the time of the voting. Minor rule changes are able to be made by the student leadership with support of the adult mentors.

Team Organization

During the pre-season and construction and competition season the team is organized into a series of subteams with each subteam being led by one or two student leaders. Below is a list of possible subteams, which may exist during the season. As team size and organization differ from season-to-season, it is possible that subteams may be combined.

Design Team:

- Responsible for creating the CAD imagery. This will be to scale.
- Responsible for insuring all required components will fit within the design parameters.
- Responsible for insuring that the robot's physical layout meets the competition specs.

New Build:

- Responsible for electrical assembly, wiring, as-built interconnect diagrams, and robot elex board layout and assembly.
- Responsible for mechanical assembly.
- Responsible for mock-field pieces and other wood-based fabrications.
- Responsible for assembly of pneumatic systems.

Advanced Fabrication:

- Responsible for all precision fabrication work involving the mill and/or lathe.
- Requires one year on the Build team learning measurements, power tools, etc.
- Responsible for fabrications using the TIG welder (min 1 year on Adv. Fab team)

Electrical:

- Responsible for designing and laying out the electrical subsystem.
- Test components as needed to assure functional status.
- Will implement all sensor needs, and make sure that there is appropriate mechanical design to accommodate sensors and electrical components.

Programming:

- Responsible for designing a program that accomplishes the needs of all the functions of the robot.
- Responsible for determining best implementation of autonomous modes, and should communicate sensor needs with the electrical sub-team.

Business Unit:

- Designs for team apparel and buttons
- Plan and host fun team and inter-team activities
- Record all team meetings and events through photo and video
- Chairman's Award and Entrepreneurship Award submission (essays and presentation)
- Determine submissions/criteria for other awards: Woodie Flowers Award, Technical, etc. and help the team achieve them.
- Responsible for Web site updates (calendar, pictures, events...)
- Publicity and team promotion throughout the community

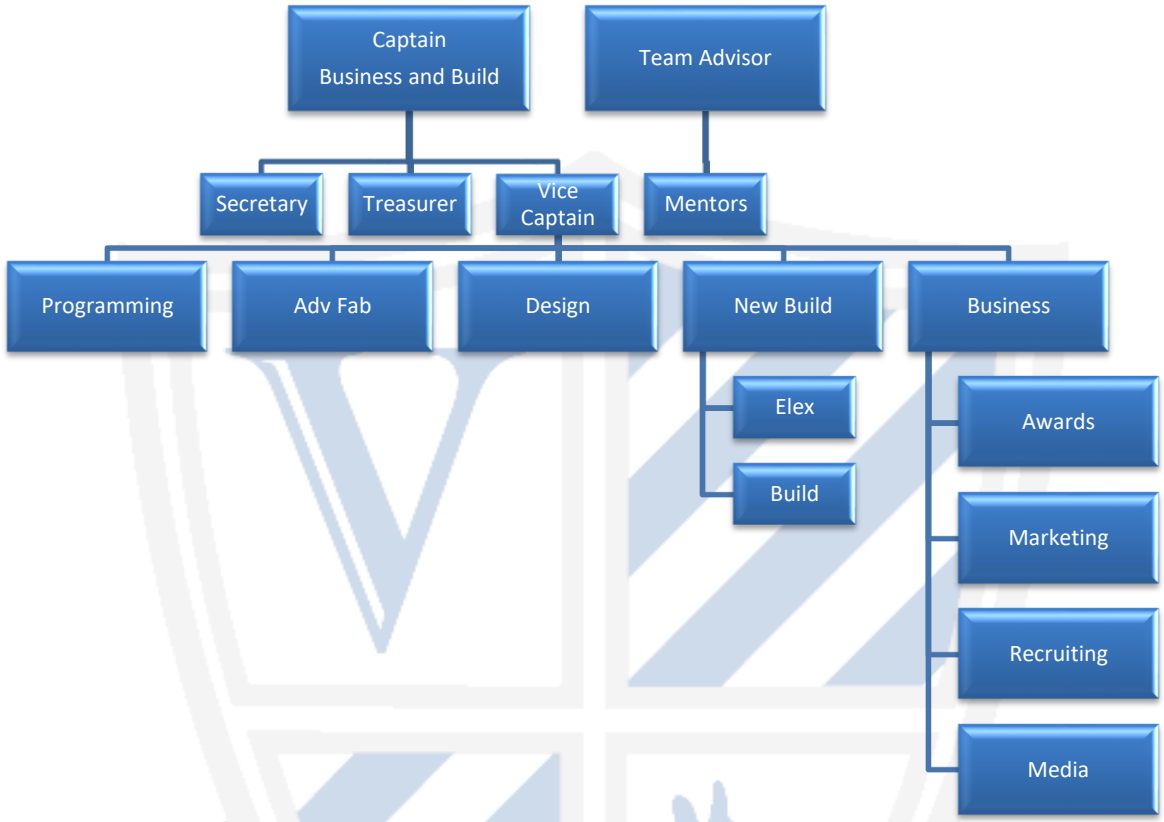

Figure 1. Conceptual layout of overall team structure

Competitions

Expectations at Competitions

- Departure times when leaving VAHS are not estimates. If you are not in the vehicles at departure time we will leave without you. Some of our trips include extensive driving so we need to leave as scheduled.
- Team members traveling with the team to competitions are expected to participate at all times with a positive manner while on the trip.
- Team members are expected to cheer and do whatever is necessary to help the team be successful.
- Team members are expected to wear their team jersey, un-modified, at all times when at regionals with the team.
- Team members will be participate in intelligence gathering (pit and stand scouting) and strategy meetings.
- Field teams (Driver, Navigator, Human Player, Technician) members will be selected before attending competitions. Students will need to try out for these positions. Teamwork, skills, knowledge of rules will be factors in choosing students for these positions.

****Note: The team is not responsible for lost or stolen items while traveling.****

Qualifications for Attending Competitions:

- All forms and dues turned in on time.
- Keep up grades and attendance at school (no exceptions). This is a C average, with no F's.
- Exhibit appropriate behavior at all times. This includes behavior within the classroom and school as well as at competitions or events.
- Complete and return all paperwork and make all payments (if any) in a timely manner.
- Work a minimum of 72 **quality** hours to attend the Home competition, and 122 **quality** hours to attend the Away competition. Keep a log of your pre-competition activities. In order to count as "quality hours", it must be approved (each entry) by an approved mentor.
- Participate with a positive attitude.
- Attend no less than 7 demos (subject to availability) for a minimum total of 20 hours.
- Attend Kick-Off with the team.
- Help in 20 shop clean-ups or otherwise equivalent work (must be agreed upon by mentors) and 3 dinner clean-ups.
- Provide dinners as scheduled by boxerbotsAdditions@gmail.com.

****Please note that the word quality above is bold. Simply showing up, signing in, hanging out, and leaving does not constitute "quality" and hours will be dropped from your total hour count.****

Team Member Conduct:

All members of the team are expected to exhibit exemplary behavior and act as role models for their peers and other team members. Team members will be in the public eye both on and off the playing field. Knowing this, you must conduct yourself accordingly. The actions of a team member are a direct reflection of themselves, their team, their school or corporate sponsor, and family. School rules do still apply. This means **NO** "Personal Display of Affection" (PDA). Significant others can be distracting to the team, please respect the efforts we are all putting forward.

As a team member you are expected to wear team jerseys and colors with respect and pride in what it represents. "Good Sportsmanship" consists of respect for others and cooperation with teachers, coaches, teammates, and officials.

Depending on the severity and seriousness of a behavior issue the team member may be dropped from the team, put on probation, or given a verbal warning. In all cases the situation is expected to be rectified in a timely manner to the satisfaction of the school administration and coaches.

The Team asks that you treat everyone with respect. ***Students, please remember that all of the adults on the team are volunteers and are not receiving any payment to come and be part of the team. Please respect and thank them for this commitment!!***

Requirements

Quality Hours:

"Quality hours" has been a contention since it was brought it up a few years ago. What is meant by "quality hours"? What this means is that while the team members are physically at a BoxerBot event, whether it is a build night or an advertising event, they will be expected to conduct themselves in a professional manner, and they will be expected to be gainfully employed to the end result of furthering the team on their projects. This means that the team members are not drifting from one group to another, playing on their cell phone or tablet or laptop, or being a non-productive distraction to the team members who are genuinely trying to get things accomplished. This also means that they are not snuggling up close to another member on the team.

Essentially, view this position as a job. If the team member is doing something and was in a professional workplace, would what they are doing get them rewarded, reprimanded, or even possibly fired? If the Mentor Council's only perception of the team member is in the above "don't do" list, they most likely will not be counted in the travelling team.

Team members should know what the responsibilities of the team they are working for are. They should also make sure that they are doing something productive toward that. The assignment they are working on should have been provided by the team lead. No, team members do not get to be self-directed. Each team has specific goals to accomplish. The team lead knows what they are. The team members should make sure they have an assignment. They should make sure they understand the assignment, and what is needed to accomplish it. Questions are welcome and encouraged. The team members is responsible for informing the team lead if any issues arise, especially if they potentially impact the schedule.

Dress Code:

Students are expected to dress appropriately while on campus and during all team-sponsored activities as they are a direct reflection of the BoxerBots, the Vail School District, FIRST, and Caterpillar, Inc. For participation on our team, it is also considered for safety purposes. The parameters for appropriate dress and grooming are set forth below. Students who violate the dress code will be asked to correct the situation or not to participate in that meeting. **The team administration shall be the interpreters of proper attire.**

All clothing must be neat, clean, and in good repair. Clothing and accessories may not display language/logos of a sexual nature, depict graphic images of physical violence, or weapons. At no time can clothing display profanity, profane/obscene gestures, or promote alcohol, drugs, or tobacco. Gang-related clothing, accessories, or personalization are not permitted. **All clothing must conceal undergarments at all times including boxer shorts and bra straps.**

- Pants must be worn at the natural waist. No sagging. Build room activities/participation requires wearing pants (preferably denim) for safety reasons.
- Shorts and skirts must reach mid-thigh or have a 4 inch inseam. Shorts and skirts worn over leggings or tights must still reach mid-thigh or have a 4 inch inseam.
- Cut-offs are not allowed. However, shorts/skirts purchased with a seam and a frayed edge are permitted. Ripped denim that allows skin to show is not allowed.
- Shirts may not expose the midriff or reveal any cleavage. Tank tops must be at least one inch wide over the shoulder. Halter tops and spaghetti straps are not permitted.
- Footwear must be appropriate for a fabrication environment, close-toed. Slippers, flip-flops, and sandals are not permitted.
- All clothing must be appropriately sized. Students are not allowed to wear pajamas.
- Jewelry should be worn in moderation. Piercings may only be worn in the ears. Gauges (tunnels or spikes) may not be visible on campus. NO JEWELRY while working with power tools.

2026-2027 VAHS *FIRST* Robotics Team
Student Contract

Student Full Name: _____

Participation in the ***FIRST*** Robotics Team will require a large commitment on your part. To be a part of the team you must:

- Keep up grades and attendance at school (no exceptions).
- Maintain communication as set forth in this handbook.
- Exhibit appropriate behavior at all times. This includes behavior within the classroom and school as well as at competitions or events.
- Complete and return all paperwork and make all payments in a timely manner.
- Participate with a positive attitude.
- Achieve at least a Level 3 certification for the subteam to which I belong.
- Work a minimum of 72 **quality** hours to attend the first competition, and 122 **quality** hours to attend the second competition during the build season.
- Help in at least 3 dinner clean-ups.
- Participate in no less than 20 community service hours through recordable team events.
- Listen to the mentors and team leads, and participate in a safe and constructive manner.
- Follow **all** guidelines set forth in this handbook.

If you or your family is unable to meet any of these requirements please speak with the Team Advisor.

I have read the VAHS ***FIRST*** Robotics Team Handbook. I understand that if I wish to attend any of the competitions, I will be required to earn that privilege by participation in the activities mentioned above.

_____

Member Signature

Date _____

2026-2027 VAHS *FIRST* Robotics Team
Parent Contract

Parent Full Name: _____

Participation in the ***FIRST*** Robotics Team will require a commitment on your part, as well as your student's. To be a part of the team you must:

- Retrieve your student from competitions or events should they be dismissed from the event.
- Provide an email address that is checked regularly for team communications.
- Exhibit appropriate behavior at all times. This includes behavior within the school as well as at competitions or events.
- Complete and return all paperwork and make all payments in a timely manner.
- Support the team with at least one meal during the build season.
- No alcoholic beverages will be consumed around or during team work sessions and events.
- Follow **all** guidelines set forth in this handbook.
- Mentors are there to guide the student through the process of building the robot that the students have conceived and designed. They are aware of the rules and guidelines set forth by ***FIRST*** and the School District. Unless a safety violation is perceived, the mentor is in charge.

I have reviewed this handbook with my child and understand the commitment that will be required. I agree to have my child participate on the VAHS ***FIRST*** Robotics Team.
I understand failure to follow these guidelines will result in Mentor Council intervention and possibly my student's removal from the team.

By signing this contract parents are agreeing to the items listed above and those in the handbook.

_____

Parent/Guardian Signature

Date _____

2026-2027 VAHS *FIRST* Robotics Team
Mentor Contract

Full Name: _____

Participation in the ***FIRST*** Robotics Team will require a large commitment on your part. To be a part of the team you must:

- Exhibit appropriate behavior at all times. This includes behavior within the school as well as at competitions or events.
- Have registered as a volunteer with the Vail School District (to participate in meetings and events).
- Complete and return all paperwork in a timely manner.
- Participate with a positive attitude.
- No Alcoholic beverages will be consumed before or during team work sessions and events.
- Follow **all** guidelines set forth in this handbook.
- Mentors are there to guide the student through the process of building the robot that the students have conceived and designed. We do not touch any team product during the season or at events with the intent to fabricate or repair. This applies to the robot or team documents.

I have read the VAHS ***FIRST*** Robotics Team Handbook. I understand failure to follow these guidelines will result in Mentor Council intervention and possible removal from the team.

Mentor Signature_____

Date _____