Team 254 Robotics

Team Handbook

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Introduction

Welcome to Team 254! We are excited to have you as part of Team 254 Robotics – The Cheesy Poofs, a partnership between NASA Ames Research Center and Bellarmine College Preparatory. This handbook contains the key policies, goals, grading system, and expectations of Team 254 and its members along with other information you will need.

The success of Team 254 in robotics and its numerous other activities is due to the creativity and productivity of our members. Your participation is essential to fulfilling our program's goals. We cannot stress enough the importance of each member's commitment and responsibility in keeping our team running smoothly. We hope that on Team 254, you will acquire and continue to use such life skills through college and your future career.

Dedicated student members of Team 254 have ensured the continued success of the team as we enter our 15th season. We are proud of the accomplishments of the past Cheesy Poof teams and the foundation that they have built. We are grateful for the opportunities NASA, FIRST, VEX, and Bellarmine College Preparatory give us and we are honored to carry on our tradition of excellence. We look forward to the opportunity to continue to give back to the Bellarmine, FIRST, and VEX communities in every way we can.

Mission Statement

- We strive to spread understanding and appreciation for science, technology, engineering, and mathematics (STEM) in our community.
- We aim to be role models in our community, using our knowledge and resources to help other teams succeed.
- We encourage collaborative learning within our team and in our community as a whole. Students meet and work with other robotics teams locally and nationally, building friendships and learning from others.
- We work to promote life skills such as teamwork, responsibility, time management, and accountability and prepare members for leadership roles in our community and in their professional lives.
- We give students opportunities to experience real-world engineering, be involved in technical and non-technical processes, and work with industry professionals.

Team Eligibility

To join Team 254, a student must fill out the application found at team254.com/apply. Returning members and non-freshmen new members must apply at the end of the school year. Any interested and motivated student is eligible to apply and all freshmen will be accepted automatically. Freshmen/new members must submit their contracts by August 31st to join the team. Each application will be reviewed by the leadership team and mentors. Decisions are based on project hours, event attendance, dedication to the team, and the written application. Accepted team members must then complete the contract on the last page of this handbook and give it to Mrs. Ann Roemer. Students are committed to remain on the team through the end of the semester. Students who join in the fall will be automatically enrolled for both semesters. For further information, consult the above link or contact Mrs. Roemer (see contact information below).

About

Team 254 participates in three robotics competitions as detailed below.

FIRST Robotics Competition

FIRST, which stands for "For Inspiration and Recognition of Science and Technology," is a nonprofit organization founded by Dean Kamen in 1989. The FIRST Robotics Competition (FRC) combines elements of gracious professionalism (working with your opponents to advance each other) and engineering in order to build a competitive robot. FIRST is a unique partnership between industry and academia, resulting in an environment that fosters a deeper appreciation for science and technology. Students work side by side with professional engineers and knowledgeable mentors to learn while doing, giving them real engineering experience.

VEX Robotics Competition

The VEX Robotics Competition utilizes the VEX Robotics Platform, which is engineered to be affordable and reliable in a classroom and extracurricular setting. VEX Robotics encourages integration of classroom curricula and robotics, which prepares students to face more challenging engineering trials in future careers. In VEX, adult engineers and mentors help guide teams, sharing their invaluable knowledge and expertise when needed. VEX robots are much smaller than FRC robots and utilize components similar to a heavy duty erector set.

Zero Robotics Competition

The Zero Robotics Competition is a programming competition that challenges students in a real-world programming environment to design and build software for a specific game challenge using SPHERES (Synchronized Position Hold, Engage, Reorient, Experimental Satellites). Zero Robotics is unique in that the team does not build any hardware and focuses solely on the software challenge.

Team History

Team 254 was founded as a part of the NASA Ames Robotics Alliance Project in 1998. Originally a small team located at Broadway High School, it has grown quite large and relocated to Bellarmine College Prep. While the team's student members have changed, the Cheesy Poofs have continued to flourish. Notable accomplishments and events include:

- 1999 : 254 begins competing in the FIRST Robotics Competition
- 2001 : 254 moves from Broadway to Bellarmine College Preparatory
- 2004 : 254 wins the FRC Chairman's Award, FIRST's most prestigious award
- 2009 : 254 begins competing in the VEX Robotics Competition
- 2011 : 254 wins the VEX Excellence Award, VEX's most prestigious award
- 2011 : 254 wins the FRC World Championship
- 2012 : 22 FRC regional wins since inception – more wins than any other team

What We Do

Team 254 students participate in a number of projects, many of which are described below. Any student is welcome to participate on any project; no prior experience is necessary.

FRC Build

Students work to design and build advanced robots to compete in the FIRST robotics competition. In the fall semester, participants will have off-season training on design and all machine tools. In the spring semester, construction of the competition robot will happen. In January and February, the team works to complete a highly functional robot in a six-week period. Build season begins with a "kickoff" when the team meets at school to watch a broadcast of the game unveiling and begin brainstorming robot strategy. Six weeks later, on the "bag and tag" date, the robot must be completely finished and wrapped in a bag. It will then be transported to our competitions. During the competition season (March-April), members will be split into groups for pit crew (robot maintenance), drivers (robot operation) and scouts (strategy).

VEX Build

Individual vex teams work to design and build robots to compete in the VEX Robotics Competition. Because of its simplicity and hands-on nature, it is highly recommended that all new members participate. The program makes use of the VEX Robotics kit, teaching students the basics of structural design, gear ratios, power, torque, and C programming.

Programming and Controls

Programmers develop software for FRC and VEX robots using C++/Java and C respectively. The team also oversees development of all team software.

Scouting and Strategy

The scouting team is responsible for strategy at all events. Scouts evaluate the competition for strengths and weaknesses, develop match strategies, and create "pick lists" to help us make informed alliance selection decisions.

Zero Robotics

Programming Team competes in the Zero Robotics SPHERES Challenge, hosted by NASA and MIT. In this event, the team submits a program to autonomously control a simulated SPHERES satellite as it competes against AI submissions from other schools.

Graphic Design

Students create media for robot sponsor graphics, sponsor and competition awards, team apparel and merchandise, and publicity materials including banners, fliers, handouts and the Hall of Fame display.

Computer Animation

Students produce animations each year as part of the FIRST and VEX competitions. The team primarily uses 3ds Max, a professional-grade modeling and animation package.

Submissions

Students write and enter submissions for several FIRST and VEX awards such as the FIRST Chairman's Award and the VEX Excellence Award.

Documentation

Photographers and videographers document all team events for use in animations and publicity material. Students also create articles for the Bellarmine community, content for the team website, and team newsletters.

Outreach

Team 254 has a long history of working with other teams and community organizations, by mentoring middle school VEX/FLL teams, volunteering at STEM events, and providing support to other FRC teams.

PR and Marketing

Students work to attract new sponsors. They create publicity material and awards to give to sponsors in recognition of their support of the team. The team distributes similar awards to teams at competitions to recognize their achievements.

Website

The team maintains a website to assist in public relations, communication, and to compete in website competitions in the spring.

Finance

Students work to create and update the team budget and generate a comprehensive business plan.

Other

Students may suggest ideas for other projects by speaking to a student leader/teacher.

Team Leadership

Team 254 is managed by a leadership team consisting of student leaders, adult mentors, and teachers. The leadership team meets weekly to make team administrative decisions and to discuss the status of major projects. The leaders work to make decisions by group consensus. Every member of the leadership team puts in hundreds of hours of work behind the scenes to ensure that the team operates smoothly, going above and beyond what is required of all other students.

Leadership Meetings

The leadership team meets weekly year-round. The meetings are scheduled for Tuesday evenings at 7pm. During the FRC Build season, the meetings are moved to 6pm to accommodate the whole-team status updates at the NASA Lab. On weeks when school is in session, the student leaders will meet after school on Fridays for a mid-week action item update. Leaders will be punished for missing action items. After four missed action items, the student will be removed from the leadership team. The team president must email meeting agendas at least 48 hours ahead of time and the documentation director will take meeting minutes during the meeting. If the documentation director is not present, minutes will be taken by another leader. After the meeting, the documentation director must email the meeting minutes to the leaders the same day of the meeting and publish the minutes on the website. A student leader must be able to attend most meetings and communicate any absences in advance (at least 24 hours). After two unexcused absences in a semester he will be removed from leadership. All leadership meetings are closed to students not on the leadership team. If a student has a concern, he may contact any student leader, mentor, or teacher and it will be addressed at the next meeting. If more than half of the student leaders will be gone, the meeting will be cancelled via email 24 hours prior to the meeting. Every leader is required to blog about his domain at least once a week. Missed blog posts will count as missed action items.

Leadership Team Selection

At the end of each school year, a leadership selection committee consisting of mentors, teachers, and alumni will choose the next year's leadership team. The selection process is based on each person's previous leadership experience, dedication to the team, particular expertise, and written application. More information will be announced in the spring.

Leadership Responsibilities & Authority

The leadership team is responsible for ensuring that the team runs smoothly. The leadership team understands the importance of communication, action items, and dedication. They attend as many events as possible to set the correct example at the events and to help with anything needed, including but not limited to scouting, robot maintenance, spirit, or general administration. They update the handbook and are willing to be men for others, by stepping up to help others when necessary. The leadership team has the authority to modify any of the policies outlined in this handbook if deemed necessary.

President - Nagy Hakim

The team president is responsible for keeping team unity, making sure the leadership team functions as designed, staying in contact with sponsors, and being a team spokesperson.

Engineering Director – Abhi Kumar

Manages and organizes the Vex and FRC Technical Leads. Responsible for coordinating VEX and FRC programs and scheduling, overseeing overall robot design process and technical aspects of both competitions,

FRC Technical Lead – Jonathan Lee

Responsible for organizing FRC build related activities and ensuring students get the most out of the technical aspects of FRC. Ensures proper organization and productivity at lab.

VEX Technical Lead - Jonathan Chang

Responsible for organizing VEX build related activities and ensuring students get the most out of the technical aspects of VEX. Manages and organizes VEX team captains.

Director of Competition & Operations- Scotty Cardona

Responsible for FRC and VEX competition preparation including scouting, pit construction, transportation, meals, and participation.

Director of Programming and Controls – Richard Lin

Responsible for programming and electronic function of FRC and VEX robots as well as the Zero Robotics Competition. Also IT manager for the VEX and FRC lab networks.

Director of Finance – Louis Lin

Responsible for team part orders, business plan, and documentation of all incoming and outgoing grants, donations and transactions.

PR & Marketing Director – Avery Strand

Responsible for improving team image, identity, and presence through publicity material. Organizes team presence at events, and oversees team outreach. Works with the president to manage sponsors and outside contacts.

Director of Documentation and Submission – Alex Powers

Responsible for all team content including the website, all award submissions, and team blog. Ensures team documents and activities are recorded and archived.

Director of Digital Communication – Stephen Pinkerton

Responsible for website-related tasks including team calendar, sign-ups, and team databases.

Media Director – Kyle Schnoor

Responsible for maintaining the team identity through graphics, banners, robot decorations, information flyers, awards, and coordination of tasks for FRC and VEX animations.

Member Obligations

All team members are expected to adhere to the following:

Outreach/Service

Community service is a core value of Team 254. Every member is required to participate in an approved major team outreach event or an equivalent number of hours in an approved miscellaneous outreach event (i.e a 3-hour outing for service to Toys for Tots). Members will be informed of outreach opportunities throughout the year. Activities will include external mentoring of FIRST Lego League, VEX, and FRC teams as well as robot demos at Bellarmine and outside. Members are required to record their own hours and have the mentor present at the event sign the time card (found on the "Documents" page of the website).

Projects

Team 254 works very much like a small business with a wide array of projects to complete in different fields. Each member of the team must be involved in robot and non robot related projects and workshops. Leaders will track the hours of the participants. Students are expected to contribute a minimum of two hours per week, or approximately 40 hours per semester for full credit.

Most of the projects will fall into one of the categories described in the "what we do" section. Anybody is welcome to participate in any project. No prior experience is necessary. If any student is interested in starting his own project, he can consult the leadership team.

Tournament Attendance

New members must attend the Bellarmine VEX Tournament the first semester plus one outside VEX tournament. They must also attend the Silicon Valley Regional (SVR) and Cal Games. Returning members must attend the Bellarmine VEX Tournament, SVR in the second semester and either a VEX tournament (options are to be announced) or Cal Games during the first semester.

Mandatory Events

During the year, everyone is required to attend the following events:

- VEX Kickoff – August 30th
- Introductory Meeting – August 22nd or 23rd (choose one; both meetings are identical)
- New members must attend the Bellarmine VEX Tournament the first semester plus one outside VEX tournament. They must also attend the Silicon Valley Regional (SVR) and Cal Games.
- Returning members must attend the Bellarmine VEX Tournament, SVR in the second semester and either a VEX tournament (options are to be announced) or Cal Games during the first semester.
- FRC Kickoff – January 5th
- Select Mandatory weekly meetings– (to be announced)
- Select workshops– (to be announced)

The team leadership may announce other mandatory events during the year. If you cannot attend a mandatory event, speak with Mrs. Roemer or at least a week before the event.

Dates and times will all be on the team calendar, which can be accessed at http://team254.com/members/.

Team Dues

Due to the high cost of materials, registration, and other fees associated with robotics, each team member is expected to contribute $120 annually for team dues. During the fall, each team members' family will be billed by the Bellarmine business office for this amount. Each student team member will receive two team t-shirts in the size of his choice and a laser-engraved team nametag. If for any reason a student's family is unable to financially meet this requirement, contact Mrs. Roemer as soon as possible.

Grades

To recognize involvement, each member of the team will receive a grade on his quarter and semester report cards. For all first time team members, the requirements are halved for the first semester on the team. All members of the team are committed to remain on the team for the whole semester and may not withdraw once enrolled. Students who do not meet the team obligations listed above will receive failing grades. The grade will be reflected on the student's transcript, but will not count towards his academic GPA.

Workshops/Projects (60%)

Members will be given credit for working on projects and attending scheduled workshops. Credit will be given for leading, assisting and participating in the workshops as well as working on any approved projects for the team. These projects include robot design, graphic design, web design, scouting, robot build, programming and other tasks in support of Team 254. Hours will be verified and maintained by team leaders. For full credit, 40 verified hours are required each semester. Team members can earn up to 45 hours towards the final grade from this category, with the extra 5 hours used to offset deficiencies in other areas.

Mandatory Events (20%)

In addition to the mandatory events above, there are weekly team meetings held at the Andrade Theater in the library on Wednesdays at 3:00 pm. Everyone is encouraged to attend as many meetings as possible, but only some meetings will be made mandatory. Attending additional tournaments does not qualify for extra credit.

Students will be given at least a one-week notice of upcoming mandatory meetings.

Non-Mandatory Meetings (10%)

Weekly meetings will be held at the Andrade Theater in the library on Wednesdays at 3:00 pm. Attendance will be taken at these meetings. If a student cannot attend, he must talk to Mrs. Roemer ahead of time. A student can miss up to two meetings and still receive the full 10% in this section. If he attends all the meetings, he will receive extra credit in this section.

Reflection Paper (10%)

Students must write a reflection paper each semester. Students will be given full credit for discussing the following:

- Summarize the project you worked on which had the most impact on the Robotics Team.
- Discuss a positive experience or accomplishment on this project.
- Discuss a difficult challenge on the project and how you overcame it or how you might prevent such challenges in the future.
- How could you improve or what would you like to work on in the future.

Reflections are due December 5th for the first semester, May 14th for the second semester.

Outreach

Students not completing team outreach as described will be docked 10% on their grade. Please see section above for detailed information on the Outreach requirement.

Grade Summary

In summary, your grade in Robotics will be calculated by

- Participating in outreach
- Attending meetings (especially mandatory meetings)
- Working on projects and attending workshops
- Attending required events
- Reflecting on your work for Robotics

You can earn extra credit in the team meetings, projects/workshops, and categories that can offset deficiencies in other categories. The grades will be determined as the percentage of points received over the possible 100 points. The grading scale is the standard Bellarmine grading scale.

Detailed Information

Meetings

Whole team meetings are held at 3:00 pm every Wednesday in Andrade Theater (except as announced). Certain key meetings will be announced as mandatory and all team members must attend (See "Mandatory Events" for more information). These mandatory meetings will be declared mandatory at least one week ahead of time.

Other project groups may have meetings as announced.

For all other meeting times, please consult the team calendar on the team website.

FIRST Robotics Competition (FRC)

The FIRST Robotics Competition is an advanced competition in which the whole team will come together to build a robot to compete against other robots in a specified game. The entire team works together to build one robot, with sub groups existing for each aspect of the robot. Anyone can participate in any part of the design or build process without previous experience.

Build

FRC robots are built during an extremely short time with the bulk of robot construction happening during a 6-week "build season". Build season begins with a "kickoff" when the new challenge is released. Later that day, the whole team will come together to discuss effective gameplay strategies. During the build season, the team will meet primarily at the NASA lab to design and build the robot. At the end of the 6-week period the robot is 'shipped' to our first competition and can no longer be worked on.

Team 254 designs the FRC robot using SolidWorks CAD (Computer Aided Design) software, creating a complete 3D model of the robot before construction. To build the robot, we utilize advanced metalworking equipment including computer controlled and manual mills and lathes to machine custom parts. Team 254 typically builds two robots, a competition robot and a practice robot. After the competition robot is shipped, the practice robot allows us to keep working until competition.

Robots are programmed using advanced control algorithms in C++/Java by the controls team.

Competition

Team 254 typically competes at the local Silicon Valley Regional in San Jose, a travel regional (possibilities include Las Vegas, Los Angeles, Davis, Fresno, San Diego, etc.) and the FIRST Championship Event in St. Louis. Because Team 254 is a member of the FIRST Hall of Fame, we automatically qualify for the Championship Event each year.

VEX Robotics Competition (VRC)

For participation in the VEX robotics competition, team members will be split up into teams, designated by the leadership team. All first year team members must participate in VEX. Each team will be led by a captain appointed by the leadership team. Team leaders cannot be VEX captains.

Veteran students are encouraged to serve as technical advisers that float between VEX teams if they choose. This will aid in balancing the experienced team members among all teams rather than binding them with one. As a team, we search for overall excellence and this is the best way of ensuring that all VEX teams are equally balanced and that all have the same opportunity at success

Over the summer, no VEX build meetings will occur. Individual VEX teams will be announced at the beginning of the school year and there will be team-wide build/design workshops during the first few months of the year.

Build

VEX builds will occur outside of the FIRST build season (primarily in the first semester). Weekday build sessions will happen Monday, Tuesday and Thursday from 3:00-6:00pm or as announced. Weekend and alternate weekday build sessions will be announced based on teacher and mentor availability. All build sessions must occur either at Bellarmine or the NASA lab and parts may not be taken home. If additional build time is needed, VEX captains should talk to the VEX Director.

VEX robots are built with a specialized set of parts which the school owns. All parts used on VEX robots must belong to Team 254. (e.g. you cannot use parts that you purchase) VEX captains can request that specific parts be purchased and added to the team part inventory

(Contact Mr. Lindemann). A team leader will check out parts to teams. At the end of the year, all parts must be returned and teams will be responsible for missing parts.

Teams will have design reviews moderated by peers, student leaders or mentors (as appointed by the VEX leader). Preliminary design reviews must happen prior to part checkout and robot construction. Furthermore, design reviews must happen before any major robot changes. Robots should be completed 1 week before tournaments in order to be eligible to compete.

Competitions

VEX teams will have the opportunity to compete at a number of tournaments ranging from small local tournaments to large international competitions. Team attendance at tournaments will be reviewed and approved by the leadership team. Per Bellarmine regulations, a Bellarmine staff member must be present at any tournament in which Team 254 competes. Team 254 will pay tournament entry fees but students are typically required to pay for their travel. If there are any issues regarding travel funding, please talk to Mrs. Roemer.

At competitions a select group of 'drivers' and a 'coach' will operate the robot during matches. Priority for 'driver' and 'coach' positions shall be given to younger team members and appointments must be approved by the VEX leader and assistant VEX leader.

Workshops

In the beginning of the school year, interactive presentations are held to teach team members skills that will be needed throughout the school year. The following presentations will be given:

Introduction to VEX

This workshop will discuss the basics of the VEX program and introduce the team as a whole.

Introduction to the NASA Lab

At this workshop, we will be describing our work at the lab: What we do, how we do it, where things are located, and policies and procedures associated with the lab. We will also discuss how the FRC season is structured.

General Competition and Robot first aid

At this workshop, we will simulate a FRC season and go through the strategic aspects of robot development for a specific year's game. We will also be talking about how the robots work (piece by piece) and how to assemble, disassemble, and fix them (hence, "first aid").

Electrical Workshop

This workshop will give students the opportunity to learn the basics of wiring and electronics in FRC.

Website and Blog Workshop

The Website and Blog Workshop will describe the process of developing and managing a website. Most importantly, it will teach students how to add, edit, and improve content on the website. If anyone is interested in mobile and Internet development, this is an essential workshop for you.

Graphic Communication Workshop

This workshop teaches the principles of communicating graphically. It teaches the basics of making engineering drawings: how to make them, how to read them, and the important aspects of communicating via the ANSI standards. This is an essential workshop for anyone considering CAD or any design work in general.

CAD Workshops

Team 254 uses CAD (Computer Aided Design) software in the design of our FRC robots. Learning how to use CAD is a long and comprehensive process. Having these hands on workshops will give all students the opportunity to learn this process and how to apply it. Each workshop will build on the previous one, so coming to all of them is necessary to properly develop your skills and understanding of CAD.

Finance Workshop

This workshop will cover the financial aspects of the team. It will describe everything that goes into managing the team funds, where we get our money and how we track it, and will include details on how one can get involved in helping with the financial side of the team.

Mechanical Workshop

This workshop will teach the basics of mechanics and robot construction, applicable to both the FRC and VEX programs. Concepts include gear theory, prototyping, robot parts and implementation, and previous/common designs.

Facilities

NASA Ames Robotics Exploration Lab

Team 254's founding sponsor, the NASA Robotics Alliance Project has generously provided Team 254 with a large workspace at NASA Ames Research Center (ARC). Team 254 has an 80% size FRC practice field as well as a small machine shop, workspace, computer lab and meeting space. Any FIRST team is welcome to come in and use our practice field under the supervision of NASA personnel. Ames badges are required for access to the lab. For more information about the lab and badge access, contact Cory McBride.

The lab is located in Building N246, Room 180 in Moffett Field, CA at NASA ARC. Directions:

- Approach the first gate on Moffett Blvd (North).
- If picking up badge, go through front gate in RIGHT lane. Inform the guard that you are picking up badge and park in parking lot to right.
- If going to lab, go through the first gate in LEFT lane. Show badge and ID at first gate.
- Take the first left on Arnold Ave.
- Show badge and ID at second gate. Turn right and proceed around Bush Circle.
- After going half way around circle, turn right onto DeFrance Ave. Proceed to Warner Rd. and turn right.
- Park on the right (south) side of Warner Rd. near the "Robotics Alliance" trailer.
- Enter the door closest to the "Robotics Alliance" trailer.

NOTE: The badge office is open during standard weekday business hours only, closing at 6pm each day. If you are coming on a weekend and do not have a badge, you will need to be put on the afterhours list.

Bellarmine Robotics Lab

Team 254's primary robotics lab is the building on the field side of the Liccardo Parking lot. This lab is an invaluable resource that must be used with care. All parts are to be leased out through a mentor or teacher to ensure a fair distribution. The lab is to remain clean at all times with food and beverages only allowed with the approval of an adult team mentor. Any member who wishes to build there must take on the responsibility of cleaning up after every build and respecting the build times for the day. Robots may not be brought home and should only leave the lab with the approval of an adult team mentor. No student is allowed in the lab without the supervision of a teacher or team member. If a student is found without supervision inside the lab, there will be consequences as determined by the mentors and teachers.

Safety

Robotics, an activity where students regularly work with sharp metal and dangerous tools, can be very hazardous. All members must listen to fellow team members so that they may act safely. Teachers, mentors and NASA personnel always have the final word in any situation where safety is at stake. If any student is caught partaking in unsafe conduct or behavior that does not comply with the Bellarmine College Preparatory or the NASA Ames code of conduct, there will be consequences including the possibility of dismissal from the team.

Emergencies and Injuries – Procedure

Check – Check the scene. Is it safe? What happened? Who is injured? Is someone there who can help you?

Call – Find an adult mentor. Call an emergency number. If an emergency occurs, the operator will need to know your name, location, telephone number, and description of emergency. NASA Lab: Moffett Field, Building N-246 Room 180. Dial 4-5555 on any NASA phone; Bellarmine Lab: 850 Elm St., San Jose.

Care – After contacting emergency care and adult mentor(s), use the first aid tips and kit to care for the victim. Remember, the best thing you can do for someone who is severely injured is to help get an emergency care professional as fast as possible. If you are at

Bellarmine, the infirmary is in the gym. If you are at NASA, there is a medical center between N-246 and the cafeteria across the road from the volleyball court.

Report – All emergencies must be reported to Mrs. Roemer as soon as possible for the official school report.

Lab Rules for FRC and VEX Lab

Students will be asked to leave the lab for unsafe behavior and may not be able to return.

1. No student is ever to work without a mentor on site.
2. Any student intending to use any potentially dangerous tools must be trained about how to safely use the tool by an adult mentor AND documentation of this training must be completed before the student will be permitted to use that tool.
3. When finished using a tool, it must be returned to its designated location in the lab.
4. At the end of every work session, all tools and materials must be put away.
5. If a student leaves before a work session is over, he must spend AT LEAST 15 minutes cleaning (or have permission to leave from a student leader or adult mentor).
6. If a power tool malfunctions or breaks, it must be reported to a mentor immediately.
7. Electrical devices of any kind may NEVER be powered by daisy-chaining cords or power strips.
8. Always wear safety glasses when operating or are near somebody who is operating power equipment. If you are unsure in any given situation, wear safety glasses.
9. No loose hair or long clothing is permitted during the use of power tools.
10. Students must be respectful to everyone (present or not).
11. Horseplay and games are not tolerated.
12. All students must abide by the guidelines set forth by the Bellarmine Transportation form. If you are unsure of your transportation status, check with Mrs. Roemer
13. All applicable rules of Bellarmine College Preparatory apply at the NASA lab or any place where robotics work is being done.

Travel & Competition

Participation

Most competitions outside of the local San Jose area require travel. Travel will not be fully funded by the team and will require payment by the student. If a student decides to back down after making the commitment, he may only be reimbursed if another student fills his spot. If payment is an issue, speak with Mrs. Roemer. The leadership team and mentors will determine if a student is eligible to attend these travel tournaments. Not all students will be eligible, and selections will be made based on attendance and contribution. Students who are interested in attending travel tournaments should notify Mrs. Roemer as soon as the dates are announced and sign-ups are open.

Team members are responsible for their actions during competition. Always remember that an individual's behavior reflects on the team, on our sponsors, on Bellarmine College Preparatory, and on himself. Whether you are at the competition facility, at an amusement park, at a hotel, or at a restaurant, you should remember that you are an integral part of Team 254, and your behavior should reflect the respect you have for yourself, for the team, and for others. Those who are not members of Team 254 but are cheering for or representing the team in any way must adhere to these guidelines as well. In other words, if your friend from school comes to a regional separately from the team, but is representing the team in any way or form, make sure they represent the team positively.

Behavior that is deemed below the standards of Team 254 may result in punishment by an adult team leader. More severe infractions at a competition may result in an immediate flight or bus trip home at the expense of the team member, and/or suspension or dismissal from the team (at the discretion of adult team leaders).

Transportation

Non-Regional Events

Many team events, including FRC build sessions, will not occur at Bellarmine. Transportation may be provided to these events, often in the form of rides from parents.

NASA Lab

During FRC Build Season, rides will be arranged for most week days to the NASA lab by school bus, van, or licensed parents. During the first six weeks, these rides will be by bus

which will depart near the baseball field and wrestling rooms. After "bag and tag" these rides will be by van and meet outside of the robotics lab. Sign-ups for rides will occur on a weekly basis. Students must sign up at least 24 hours in advance in order to verify capacity. If spots are available as a ride is preparing to leave, rides will be given on a first-come, first-serve basis.

Silicon Valley Regional (FRC)

On Friday of the competition, a school bus will bring students to the San Jose State University event center, leaving school early in the morning. Depending on the decided departure time, students who choose to come on Friday will be missing all if not most of their classes that day.

Long-Distance Tournaments

Bellarmine College Prep will arrange all transportation. Students will pay Bellarmine by check. All students MUST travel with the team; they are not allowed to travel with their parents separately from the team. Students must sign up 48 hours in advance for VEX tournaments and a month or more as required for tournaments that require airfare or hotel reservations.

School Absence

Many team events will require that students miss school. It is a students' responsibility to inform his teachers of an absence ahead of time, arrange for completion of missed work, and fill out a planned absence form (available in the Dean's office). Return this form directly to the Dean's office before the absence.

Identity

Team 254 is well known throughout the robotics community and has a very distinct identity associated with it.

Uniform

The uniform of Team 254 consists of a current team T-Shirt and a team nametag. Shirts will be distributed during the school year and should be worn on all days of competition. Previous years team T-shirts are acceptable on Thursdays (practice days) of FRC Competitions. Current T-shirts must be won during Friday and Saturday of an in-season

FIRST Competition and on all days of a VEX competition. Uniforms must be worn at all off-season events and robot demonstrations. Uniform wearing is recommended on the school day before and after a robotics competition, to raise awareness at school. For more information, see the Team Identity Standards, available on the team website.

Identity Standards

Team 254 has developed a set of comprehensive identity standards to help maintain and preserve our strong team identity. For more information, see the identity standards posted on the team website. The policies outlined in the identity standards are binding and must be followed for all team appearances and communication.

Photography and Media

Team 254 works hard to document our activities and all students must be willing to be photographed and appear in team-related publications.

Behavior

Team 254 expects that all students behave maturely and professionally at all times. Students whose behavior is deemed to be below the standards of Team 254 will be punished appropriately by an adult team mentor. It is important that all team members remember that when online or in person they are representing Team 254 and their actions must not reflect poorly upon the team. Team members should treat members of our team and other teams with kindness and respect at all times.

Written Documents on Behalf of the Team

Any written documents put into writing on behalf of the team must be approved by the team leadership and Mrs. Roemer. Written award submissions are included and may not be submitted without the explicit approval of the leadership team and Mrs. Roemer.

Sponsors

Team 254 is only possible because of the generosity of our sponsors.

Fundraising and Sponsorship Solicitation

Bellarmine College Preparatory has asked that Team 254 students do not fundraise. Goods and services, as well as cash donations from outside companies are always welcome. Sponsors can donate at different levels, Gold, Silver, or Blue. Each level allows for different levels of recognition, all of which are specified on the website: www.team254.com/sponsors The team is always looking for many types of goods and services that could be donated including but not limited to: food, machining, metal, fasteners, VEX parts, T-shirt printing, photocopying, computers, metal finishing, plastic, banners, and software.

Communication

All students are required to have an active e-mail address that they check often. It is suggested that you monitor your email at least once daily in accordance with Bellarmine policy. All other messages will be communicated to members during team meetings or posted on the team blog.

Team Website

The team website is located at team254.com. To create an account, scroll to the bottom of the page, click "Register," and follow the instructions on-screen. Adjacent to the "Register" button is a link to log in and out of the website. To edit your profile, including your name and password, click "Team Members" at the top of the website and click the "Change Password" button at the bottom.

Email Group

All students and parents must be registered in their respective email groups. Please send an email to nagy@team254.com if you are not yet on the email list.

Student email list: team254@googlegroups.com
Parent email list: team-254-parents@googlegroups.com

Team Blog

The team maintains a blog on the team website. Information is posted frequently on everything from build progress to meeting minutes. Please read the blog before messaging a team leader for more information. More than likely, it will have already been posted on the blog.

Contact

Student Leaders

- President - Nagy Hakim: nagy@team254.com
- Engineering Director - Abhi Kumar: abhi@team254.com
- FRC Technical Lead - Jonathan Lee: jonathanl@team254.com
- VEX Technical Lead - Jonathan Chang: jonathanc@team254.com
- Competition & Operations Director - Scotty Cardona: scotty@team254.com
- Programming & Controls Director - Richard Lin: richard@team254.com
- Media Director - Kyle Schnoor: kyle@team254.com
- Finance Director - Louis Lin: louis@team254.com
- PR & Marketing Director - Avery Strand: avery@team254.com
- Documentation & Submissions Director - Alex Powers: alex@team254.com
- Digital Communications Director - Stephen Pinkerton: stephen@team254.com

Mentors

- Ann Roemer – Head Teacher – aroemer@bcp.org
- Brad Lindemann – Teacher/Moderator – blindemann@bcp.org
- Jose Molina – Teacher/Moderator – jmolina@bcp.org
- Kathleen Downum – Teacher/Moderator – kdownum@bcp.org
- Travis Covington – Mentor – traviscovington@gmail.com
- McKenna Walsh – Mentor – mckenna@morefaster.com
- Cory McBride – Mentor – cbmcbride@gmail.com
- EJ Sabathia – Mentor – ej.sabathia@gmail.com
- Pat Fairbanks – Mentor – patfair@gmail.com
- Tom Bottiglieri – Mentor – tom.bottiglieri@gmail.com
- David Wilson –Mentor – david_tw@lycos.com
- Nick Eyre – Mentor – nick@team254.com
- Jeremy Baumgartner – Mentor – jeremy@team254.com
- Austin Schuh – Mentor

Parents

- team-254-parents@googlegroups.com

Authority of the Handbook

The rules and policies set forth in this handbook are binding and must be followed by all team members. The handbook may contain appendices including the Team Identity Standards; these documents are binding as well. The team leadership has the authority to modify the handbook at any time; the team will be notified of any modifications.

Please print and sign the contract below and include a signed transportation form as well

Student Contract

By signing below I acknowledge and understand all points listed below:

- I have read the handbook describing Robotics Team 254 and agree to comply with the policies outlined within.
- Participation in the program requires attendance at meetings and I have received a tentative schedule of those meetings.
- The equipment used during construction of the robot can cause serious harm injury if not used correctly. Students are not permitted to use any piece of equipment until they have been instructed on its safe use and are not permitted to use any piece of power equipment without adult supervision.
- I will only ride a car driven by an adult mentor, a Bellarmine-approved parent or myself to any robotics function if my parents have signed the Bellarmine liability release/consent form.
- I agree and consent to allow my photographs, name or comments to appear in media related to Team 254
- I understand that violation of any of the policies above is punishable by the leadership team up to and including dismissal from the team.

Student Name

Bellarmine Student ID #

Email

Student Signature

Parent Signature

	Yes	No
1) My son has permission to operate his own motor vehicle to and from any school sponsored activity inside Santa Clara County.		
2) My son may transport other students to and/or from any school sponsored activity inside Santa Clara County.		
3) My son may travel in a vehicle operated by a Bellarmine parent or guardian to and/or from any school sponsored activity.		
4) My son may travel in a vehicle operated by another Bellarmine student to and/or from any school-sponsored activity inside Santa Clara County.		
5) My son may ride in a privately owned vehicle operated by an adult coach/moderator/leader to and/or from any school-sponsored activity.		
6) My son has permission to use public transportation, while accompanied by a school official; to travel to or from any school sponsored activity.		
7) I, as a Bellarmine parent/guardian, am willing to drive my son and other students to a Bellarmine sponsored activity when my son or other students are participating in that activity		

Student Signature Date:

Parent Signature Date: