

Bellarmino College Preparatory
Team 254 - The Cheesy Poofs

Team Handbook
2022 - 2023



Bellarmino College Preparatory Robotics Team 254 – The Cheesy Poofs



TEAM 254 HANDBOOK

Welcome!

Welcome to Team 254! We are excited to invite you onto the team as a fully-fledged Cheesy Poof. This handbook contains the key policies, goals, 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 are all thanks to the dedication of our members. Your participation is essential to fulfilling our program's goals. Every member's commitment and responsibility keeps our team running smoothly. We hope that on Team 254, you will acquire life skills that you will continue to use throughout college and in your future career.



Mission Statement

We aim to equip a community of students passionate about science and technology with the skills and initiative to become the next generation of leaders and create positive change in their respective career fields.

About

Team 254 gives students the opportunity to become fully immersed in an environment of dedicated, like-minded students interested in engineering while acquiring the necessary skills to achieve their future goals. Not only do members acquire technical skill sets, they also learn the fundamentals of other corporate tasks, such as project management, leadership, team building, marketing, etc. More important than any competitive success or awards, the students of Team 254 grow academically, intellectually, and socially. Team 254 members gain a better understanding, a greater respect, and a more profound appreciation of the benefits of a good education. In line with the mission of Bellarmine College Preparatory, Team 254 inspires and motivates our students to avidly pursue their academic, career, and personal goals both during their time on the team and in their futures.

Team History

Team 254 was founded in 1998 in partnership with NASA Ames Research Center. After Broadway High School's closure in 2000, Team 254 moved to Bellarmine College Preparatory. While the team's student members 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 High School to Bellarmine College Preparatory
- 2004 : 254 wins the FRC Chairman's Award, FIRST's most prestigious award, and becomes a member of the FIRST Robotics Competition Hall of Fame
- 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
- 2014 : 254 wins the FRC World Championship
- 2017 : 254 wins the FRC World Championship
- 2017 : 254 wins the first FRC Festival of Champions in history

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- 2018 : 254 wins the FRC World Championship
- 2019 : 254 finishes as a Finalist at the FRC World Championship
- 2020 : 254 wins the Chairman's Award at the Central Valley Regional
- 2021 : 254 wins the Autonomous Award
- 2022 : 254 wins the VEX World Championships and FRC World Championships

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What We Do

Team 254 members participate in two robotics programs, FRC and VEX. Students must select to participate in either FRC or VEX when joining the team and commit to that program for the full school year. Students may not switch between programs during the school year.

The *FIRST* Robotics Competition (FRC)

The FIRST Robotics Competition comprises of around 3600 teams worldwide and releases an annual challenge requiring teams to design, build, and program robots to compete in 3 vs. 3 games.

Members work with faculty advisors and mentors to design and build advanced robots to compete in the FIRST robotics competition. After the game is revealed in January, FRC robots are built using computer-aided designs and advanced metalworking equipment. Over the course of an intensive 6-8 week period, Team 254 builds multiple robots: a competition robot, and one or more additional robots for driving practice and programming.

During the Fall semester, the FRC team focuses on building skills needed for the Spring semester build and competition season. The team also competes in offseason tournaments with the prior year's robot during the Fall.

In Spring, beginning in January, the team works together on a single robot design, with subgroups existing for each aspect of the robot. All members can participate in any part of the design or build process.

In the Fall, the FRC team meets from 6:00 to 9:00 p.m. on Monday and Wednesday. In the Spring, the FRC team meets from 6:00 to 10:00 p.m. on Monday, Wednesday, and Friday and from 1 p.m. to 9:00 p.m. on Saturday. However, specific build dates/times may change, and additional dates may be added at the discretion of team leadership and mentors. Members are required to attend these build sessions for the entire duration of each build.

The VEX Robotics Competition (VRC, VEX)

The VEX Robotics Competition releases an annual game challenge for robots built with the VEX Design system. The challenge requires teams to design, build, and program robots to compete in fast paced, technically challenging 2 vs. 2 games.

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For VEX, members are split up into smaller teams headed by student captains and moderated by mentors, faculty advisors, and student leaders. During the season, each VEX team builds and programs robots to meet the game's challenges. Throughout the school year, members compete in a series of tournaments with the goal of qualifying for the VEX State and World Championships.

Challenges for the VEX competition are released in late April and the teams begin to build starting as early as May, while new members begin their designs after joining the team in August/September. Members can participate in any part of the design or build process.

The VEX teams meet Monday, Tuesday and Wednesday 3:00 to 6:00 p.m., and 2:00 to 6:00 p.m. on Fridays, however this is subject to change based on the discretion of team leadership and mentor availability. Members are required to attend these build sessions for the entire duration of each build.

Each VEX team must successfully pass a design review moderated by student leaders and mentors in order to begin building their robot. Furthermore, teams pass subsequent design reviews in order to perform major robot changes at the discretion of the VEX Technical Director. It is the responsibility of VEX Captains to schedule design reviews. Also, each team must document their progress daily in an engineering notebook, which will be presented to judges at VEX tournaments.

Addressing COVID-19

The threat of COVID-19 is still very much a reality and we will follow Bellarmine's instructions in terms of restrictions and hygiene protocols.



Joining the Team

Team 254 Membership is open to all students attending Bellarmine. All interested students are invited to attend the informational meetings and open builds, held at the beginning of the school year in the Fall semester, to talk with team members and learn about all the aspects of the team. Prospective members must submit an application to join the team.

Members from the previous year must also reapply by submitting an application to rejoin the team. Decisions regarding acceptance of returning members are based on the member's prior year's level and quality of participation, behavior during meetings and builds, and their overall dedication to the team.

Following the announcement of the team roster, new and returning students invited to join the team must complete the Student and Transportation Liability contracts (last 2 pages only) at the end of this handbook. These forms can be completed online, and a link will be provided when the roster is announced.

Eligibility & Expectations

In order for students to be eligible to participate and remain on the team, they must:

- Maintain academic eligibility
 - Academic eligibility requires students to maintain a GPA above a 2.0
- Comply with the rules established in the Team 254 handbook, and by Bellarmine College Preparatory.
- Actively participate with the team for the duration of the school year.
 - Members are expected to regularly attend all builds throughout the entire school year. Must attend the full duration of builds.
 - Members who have or would like to have additional responsibility or leadership roles on the team should expect to come to all builds year round.
- Participate in mandatory team activities, some of which include Chezy Champs, Bell VEX tournament, whole team meetings, etc.
- Complete lab safety training by the announced deadline
- Complete basic (Green) tool training by the announced deadline

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- Sign-in immediately upon entering the lab for build and sign-out with a mentor when leaving at the end of build.
- Not misrepresent their role on the team in any way that could violate the integrity standards at Bellarmine.
- While in the lab, students should be entirely focused on the task at hand, or actively seeking out more work. Students spending time on their phones, playing video games, or who are otherwise distracted or engaged in unsafe behavior may have their build hours canceled, be temporarily suspended or be dismissed from the team.

Team 254 expects that all members behave maturely and professionally at all times and comply with the standards of Bellarmine College Preparatory. Members whose behavior is below the standards of Team 254 will face disciplinary action.

It is important that all team members remember that whenever they are engaged in a team-related activity, whether online or in person, they are representing Team 254. Their actions will reflect upon the team, Bellarmine College Preparatory and our sponsors. Team members should treat their teammates, members of other teams, and the general public with kindness and respect at all times.

At competition, those who are not members of Team 254 but are cheering for or representing the team in any way, such as parents and friends, must adhere to these guidelines as well.

Not following the expectations and requirements outlined above, or failure to, can result in a JUG, a temporary suspension from robotics activities, or removal from the team.

- JUGs are served in the robotics lab outside of build time under the supervision of a faculty advisor or mentor, and may consist of lab organization and maintenance tasks.

Team Dues

Team dues are \$250 per member per year to help offset the costs associated with the robotics program. This non-refundable fee is paid online when completing the student contracts or billed through the member's family's Bellarmine account. Each student will receive one team t-shirt. Please contact a faculty advisor if you are unable to financially meet this requirement.

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Team Participation

Team Meetings

The team holds meetings outside of regular robotics build times. Whole team meetings are held at 2:54 pm on Tuesdays in the Robotics Lab and it is mandatory that members attend these meetings.

Other project groups and sub-teams will also have meetings as announced. Certain meetings will be declared “Critical Meetings” as a prerequisite for attending competitions or other events.

Mandatory Events

During the year, team members are also required to attend the following events:

- Mandatory Returning Member Meeting – After announcement of the team roster.
- Bellarmine VEX Tournament – Volunteer or Participant
- Chezy Champs FRC Tournament - Volunteer or Participant
- FRC Kickoff – Beginning of January (FRC team only)
- VEX Kickoff – End of April or Early May (VEX team only)

The team leadership may announce other mandatory events during the year. Students who cannot attend a mandatory event should speak with a faculty advisor at least one week in advance of that event.

Communication

All members are required to have an active email address that is registered with the team. They must also check emails sent to this address daily. Messages will be communicated to members through Microsoft Teams, Blue, Slack, emails, meetings, and blogs.

Team Website and Calendar

The team website is located at team254.com. All members must create a website account with the team and are encouraged to subscribe to the Team Calendar

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through the Members Portal. Members must also have at least one parent create an account on the team website to receive important parent-specific communications.

Email Group

When a parent or member creates an account on the team website, that member will be added to the team mailing list and will begin receiving email updates from Team 254. Only students and parents who are registered on the website will receive team emails. Failure to check email is not an excuse to miss required activities or deadlines.

Slack

Members are required to join the team's Slack workspace at team254.slack.com. Accounts are created for each student as soon as they join the team. Slack is available as both a desktop and mobile app. Team announcements, group chats, and private messaging are all available through Slack, so it's a vital tool for team communication. Failure to check Slack is not an excuse to miss required activities or deadlines.

Team Blog

Team 254 maintains a blog on the team website that members are required to check daily throughout the FRC build season. Please read the blog before messaging a student leader for more information regarding build progress, tournaments, or anything else that may have been featured on the blog. Failure to read the blog is not an excuse to miss required activities or deadlines.

Identity

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

Identity Standards

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

Dress Code

The dress code must be maintained at competition, all off-season events, and robot demonstrations. Maintaining the dress code is encouraged on the school days before and after a robotics competition in order to raise awareness at school. For more detailed information, see the Identity Standards.

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Photography and Media

All members must be willing to be photographed and appear in team-related publications. Members are encouraged to teach and attend skill building workshops for the team. Mandatory sub-team specific workshops may also be held in order to introduce members to sub-team specific skill sets.

Outreach

The team participates in numerous demonstrations and other outreach events throughout the year. This is an important way to interact with and enrich the community while also spreading our message and brand. Outreach is important on Team 254, and attendance is open to anyone on the team. The Outreach subteam and Team 254 leaders are required to support Outreach events. Outreach events count toward team participation hours.

Submissions & Publications

To maintain the team's high standards of quality and imagery, the leadership team, including faculty advisors and mentors, must approve any documents or media pertaining to the team prior to their release. This includes award submissions, publicity materials, news articles, pictures, videos, posts to social media, discussion forums, and the website.

Confidentiality

Team 254 prides itself on its competitive excellence and on being a source of inspiration and mentorship for other teams. The team shares ideas and design concepts with other teams and offers help to anyone who asks for it. However, the team believes that helping others work through the engineering process is much more effective than giving away fully-formed solutions and designs.

Members are not permitted to disclose any ideas, designs, documents, photos, or videos to anyone not affiliated with Team 254 without the explicit approval of the leadership team. Confidentiality is taken very seriously and disciplinary action will be taken when a member fails to maintain the team's trust.

Facilities

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Bellarmino Robotics Lab

The Bellarmino Robotics Lab serves as the primary workplace for all robotics activity on the team. Team 254's on-site robotics lab is located at Bellarmino next to the Sobrato Theater and the track. The lab complex features a workspace area, a machine shop, a full sized VEX field, a 70% size FRC field, and outdoor shipping containers for storage.

Rules & Guidelines for the Robotics Lab

All members must complete lab safety training and basic tool training, and turn in a signed lab safety contract. Members must follow all rules outlined in the safety training including (but not limited to) those listed below.

- No member is ever to work without a mentor or faculty advisor on site. A mentor or faculty advisor must be in the machine shop when any machine tools are in use.
- Food and drink is not allowed inside team facilities.
- When a member is finished using a tool, it must be returned to its designated location in the lab. At the end of every work session, all tools and materials must be put away. The cleanup checklists should be followed at the end of each build.
- If a member leaves before a work session is over, that member must clean for at least fifteen minutes before leaving. Members must speak to a mentor when they begin cleanup if leaving early.
- Members are not allowed to leave the lab before notifying and signing out with a mentor or faculty advisor.
- If a power tool malfunctions or breaks, it must be reported to a mentor or faculty advisor immediately.
- Electrical devices of any kind may never be powered by daisy-chaining cords or power strips.
- Always wear safety glasses and other pertinent safety equipment when operating power equipment or when near somebody who is operating power equipment.
- Loose hair and long or loose clothing must either be tied back or removed before a member is permitted to use any machine tools. Close-toed shoes must be worn in the lab

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- Members must partake in a robotics related activity if they are in the lab. If a member is caught not participating during a work session they will be asked to leave the lab. Horseplay and games will not be tolerated.
- Members may not remove any equipment or material from the robotics lab for use at another location, including home use.
- All members must abide by the guidelines set forth by the Bellarmine transportation form. Any questions about a student's transportation status should be taken to a faculty advisor.
- Faculty and mentors always have the final word in any situation where safety is at stake.
- All applicable rules of Bellarmine College Preparatory apply at any location where robotics work is taking place.

Failure to comply with the established robotics lab safety rules will result in disciplinary action.

Travel & Competition

Eligibility

Eligibility for overnight robotics tournaments is determined by the faculty advisors & mentors. They will look at a member's participation, skills and contributions throughout the semester. All members are encouraged to attend local tournaments.

Payment

Certain competitions require travel which will require payment from members for airfare, hotels, buses, meals, etc. If cost is an issue, please speak with a faculty advisor regarding financial assistance.

Members who withdraw from a travel tournament will only be refunded if another member takes their spot.

Roles & Responsibilities

Prior to competition, members will be divided into roles needed for the particular tournament, such as drivers, pit crew, scouts, strategy, alliance readiness, videography, etc. It is vital to the success of the team that members maintain the roles that they are given.

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When at competition, members are encouraged to watch matches, meet other people, and look at other team's robots. members are not permitted to engage in unrelated activities without express permission from a mentor.

Behavior

Behavior that is deemed below the standards of Team 254 will result in disciplinary action. Severe infractions may result in an immediate flight or bus trip home at the expense of the team member, and/or dismissal from the team.

Transportation

Local Events

Events within Santa Clara county may not have transportation scheduled by the team. For these events, it is the member's responsibility to arrange transportation.

Travel Tournaments

For events outside of the local area, Bellarmine will arrange all transportation, accommodation and meals (as required) to and from the tournament. Members are responsible for the travel costs and will be billed directly by Bellarmine. Team members may be required to arrange their own transportation to the airport.

Members who withdraw from a travel tournament will only be refunded if another member takes their spot. Students on financial aid will get assistance to pay for the travel costs, however, if they cancel, they must pay any cancellation fees.

All student members participating in a travel tournament must travel with the team.

Members must sign up in advance for all travel tournaments.

School Absences

If a member will miss school due to a robotics event, it is that member's responsibility to inform teachers of an absence at least one full week ahead of time and arrange for completion of missed work.

If a student misses school due to illness, they may not attend any robotics function later that day.

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Students may not miss school after the day after a tournament due to fatigue or postponed homework. Any such absences will be unexcused.

Team Leadership

Team 254 is managed by a leadership team consisting of student leaders, adult mentors, and faculty advisors. The leadership team's duties go beyond those of regular members. This team makes administrative decisions, plans events, and manages projects. Every member of the leadership team puts in hundreds of hours of work behind the scenes to ensure that the team operates smoothly.

Leadership Meetings

The leadership team meets year-round, typically weekly. Leadership meeting attendance is restricted to the leadership team, but the meeting minutes will be publicly available to team members. However, students are encouraged to approach leadership team with any and all relevant concerns.

Leadership Team Selection

At the end of each school year, a selection committee consisting of mentors, faculty advisors, and alumni will choose next year's leadership team. The selection process is based on previous leadership experience, dedication, expertise, and a written application. Leadership roles are updated as needed and published every year. Any team member may apply to be a team leader.

Leadership Roles & Responsibilities

Team President

The team president is responsible for keeping team unity, making sure the leadership team functions as designed, running all team meetings, and being a team spokesperson.

Program Management Director

This leader oversees the FRC build schedule and daily build tasks as well as allocating team resources to ensure progress and timeliness for all subsystems

FRC Technical Director

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This leader oversees the overall robot design process and technical aspects of FRC as well as organizing workshops and ensuring that team members are adequately prepared for the season.

FRC Technical Lead

This leader oversees the design process concerning one or more particular subsystems of the robot. The FRC Technical Lead reports to the FRC Technical Director and assists in organizing workshops and ensuring that team members are prepared for the season. There may be one or more Technical Leads selected each year.

FRC Competitions & Operations Director

This leader is responsible for FRC competition preparation including scouting, pit construction, and FRC team member participation at tournaments.

VEX Technical Director

This leader is responsible for organizing VEX build related activities, managing and organizing VEX Captains, and ensuring members get the most out of the technical aspects of VEX.

VEX Operations Director

This leader is responsible for VEX competition preparation including scouting, pit construction, and VEX team member participation at tournaments.

Software Director

This leader is responsible for the programming and electronic functions of FRC and VEX robots as well as maintaining team web apps and scouting platforms.

Software Tech Lead

This role works with the software director to provide technical leadership on the organization of software team projects, educate and involve new members, and maintain Team 245 codebases.

Media Director

This leader and his sub-team create all publicity and robot related media, including merchandise, and maintain the team's Identity Standards.

Business Director

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This leader and their sub-team are responsible for the creation and archiving of all written team content such as blogs and award submissions, as well as securing and managing finances for the team.

Outreach & PR Director

This leader and their sub-team are responsible for coordinating and organizing appearances at outreach events, as well as maintaining and improving the team image, identity, and presence through social media.

Contacting Leaders

Leaders, faculty advisors and mentors can be reached by messaging them through Mattermost or sending email to them by referring to the contacts listed on the leaders and mentors pages on the Team 254 website.

Non-technical Sub-teams

Many leadership roles include management of a sub-team of students who work with the leader on team projects. Students are assigned to a sub-team based on their application preferences. They will have obligations to this primary sub-team and be responsible for completing action items delegated to them. In addition, students are encouraged to join and participate in additional sub-teams, as long as they fulfill their obligations to their primary sub-team.

Sub-teams support the whole team in completing vital tasks, so that the team functions effectively in all areas. Leaders will take note of students' participation and contributions on their sub-team and inform the mentors. If the student is found to be lacking, this feedback may lead to the mentors warning students and their parents about their performance level.

Members on the leadership team without a sub-team and VEX captains are not obligated to work on a sub-team due to their leadership responsibilities.

The functions of each sub-team are listed below.

Media

Members create sponsor decals for the robot, sponsor and competition awards, team apparel, merchandise, and publicity materials including banners, fliers, handouts, and displays. They are also responsible for supporting the media needs of the other sub-teams, creating templates, and creating and maintaining the team's identity standards in official documents and as displayed at tournaments and other official

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events. Students on this sub-team also learn to use industry standard tools in the Adobe Creative Suite and other programs to create media materials for the team.

Business

This sub-team takes the responsibilities of the Documentation, Business Development, and Finance sub-teams of previous years. Members develop all written content for the team. This includes, but is not limited to, Build Blogs, Technical Binders, award submissions, grant applications, and Business Plans. This sub-team is also responsible for managing team finances and updating the team budget. In the fall, members of this sub-team work to inventory Chezy Champs gear.

Outreach & Public Relations

Members on this sub-team coordinate outreach events and maintain Team 254's public image. This sub-team is responsible for engaging our audiences through our online presence on our blog, Facebook, Twitter, Chief Delphi, and other social media channels. The Public Relations sub-team is also responsible for ensuring that FRC, VEX, and team events are documented and publicized through our various social media platforms. Members of this sub-team are expected to participate deeply in outreach, though every student on the team is encouraged to attend outreach events as well. Events like Engineering day, mentorship with other robotics teams, and other outreach opportunities are managed by members of this sub-team.

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 leadership team has the authority to modify this handbook at any time. Team members will be notified of any modifications. All students must acknowledge the Authority of the Handbook by signing the Student and Transportation Liability contracts online.