

King's College London Mathematics School Robotics

Volcanix

FTC Team 32981

Team Handbook

26-27 BioBuzz



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WELCOME!

Team 32981: Volcanix is a FIRST® Robotics Competition team at King's College London Mathematics School in Lambeth, London, United Kingdom. Founded in 2025 in the 25-26: FTC Decode Season, we are a team of 15 (or more) engineers, programmers, and robotics enthusiasts who are passionate about learning, collaborating and competing.

You can see more information about our team at

[KCLMS Volcanix - FTC Robotics Team London](#)

Thank you for your interest in Volcanix. This handbook is intended to give you and your parents an understanding of what we do in our team and your responsibilities.

Please review the information carefully. If you have any questions that this guide does not answer, please do not hesitate to ask. Additionally, keep this handbook handy as we may reference it in the future.

Also included are forms for you and your parents to fill out online.

We welcome you to FTC Team 32981: Volcanix and FIRST® Robotics. We are looking forward to sharing all the fun with you!

ABOUT FIRST®

The FIRST® organization (For Inspiration and Recognition of Science and Technology) was founded in 1989 by inventor and entrepreneur, Dean Kamen. Since its inception, FIRST has risen to become the leading nonprofit STEM-engagement program for youth worldwide, not only inspiring young people's interest in STEM-related careers but also instilling them with essential workplace skills. With its four youth programs spanning

PreK to grade 12, FIRST has a global reach, inspiring over 853,000 young people during the previous 24-25 season.

While robots are a big part of their programs, FIRST is much more than that. FIRST encourages a philosophy known as “Gracious Professionalism®”, promoting hard work, respect, and the value of others. Being graciously professional whether in victory or defeat is a core principle cultivated in all of FIRST participants. Through this core value, students who participate in FIRST learn skills and values essential to any workplace. For more information, visit <https://www.firstinspires.org/>

About FIRST Tech Challenge (FTC)

FTC, or FIRST Tech Challenge, is one of FIRST's three major youth robotics programs, with over 7,000 teams competing worldwide. Each year, a new challenge is released in which teams design, manufacture and program robots to compete in a 2-vs-2 alliance format. Matches last two minutes and thirty seconds and are divided into autonomous, tele-operated and endgame periods, with alliances competing to achieve the highest score.

Team members work alongside academic and industry mentors, as well as FIRST alumni, to design and build advanced competition robots. Following the annual game reveal in September, teams undertake an intensive and rigorous engineering process, using computer-aided design (CAD), programming and modern manufacturing techniques to rapidly develop their robots. Throughout the season, teams continuously test, iterate and improve their designs, often through multiple redesigns, before competing in tournaments and double-elimination playoffs. Depending on the country's competition structure, successful teams may advance through regional and national events to the FIRST Championship.

The season culminates at the FIRST Championship, where the world's leading teams compete for the world title and push the limits of the game through new strategies, designs and record-breaking performances.

University and Career Opportunities

FIRST programs help young people learn to work collaboratively, manage time and budgets efficiently, and bring out the best in one another. Many prospective university students and employees have found participating in FIRST programmes can be a real boost not only on their CV but to build invaluable skills as well.

Each year, the FIRST Scholarship Program makes continuing education more accessible by offering millions of dollars in college scholarships from nearly 200 providers and institutions. Learn more at <https://www.firstinspires.org/scholarships>

ADDRESSING ILLNESSES

Please do not come to robotics if you are ill. We follow KCLMS' instructions and restrictions regarding illnesses for the flu and related illnesses.

Please either contact any of our student leads through Discord for any unavailability or get parents to email our team at kclmsftc@gmail.com

OUR MISSION AND VALUES

Our Mission

We aim to cultivate the necessary skills in a wide range of people through technical excellence, particularly for people in disadvantaged backgrounds looking into engineering and robotics.

Our Values

Being a member in Volcanix means carrying the set of COREO values that are detailed below:

Collaboration:

Work together effectively in a workplace-esque environment, communicate openly, and support one another to achieve the best possible **team** result.

Ownership:

Take initiative, be proactive and accept responsibility for work and commitments without waiting to be asked. Also hold your work to a standard that you would be proud of.

Respect:

Treat teammates, mentors, judges and opponents with gracious professionalism, valuing different perspectives and fostering a supportive learning environment for the team.

Excellence:

Strive for high-quality work by paying attention to detail whilst always pushing to improve.

Organization:

This team effectively operates as a small tech startup, for this reason organization and formality is of utmost importance to effectively slot into the team.

TEAM ORGANIZATION

Team Coaches:

Unlike many other FIRST Teams around the world, we are an entirely student-run club! This means that we do not have any coaches/people from school that directly manage and oversee our meetings, logistics and organisation. However, we are still loosely connected to KCLMS and any high level/over-arching decisions involving the school are still run through the necessary adults.

Mentors:

Volcanix has a well-rounded, ever-growing group of mentors who are professionals and academics in the fields of mechanical, electrical, robotics, manufacturing, computer aided design (CAD), computer programming, business, marketing, and finance. Our mentors give technical advice as well as communicative advice for awards like the Inspire Award and Think Award.

We would like to highlight our non-technical mentorship roles as currently we lack some coaches for day-to-day logistics and operations, and we would greatly appreciate any support. These roles are certainly not only open to individuals in technical sectors, but parents of members or family members might even be preferred due to their proximity.

If you are interested in becoming a mentor, please reach out to kclmsftc@gmail.com for more information as we have a separate document for prospective mentors.

Student Leadership:

For the 26-27 BioBuzz Season the following are the student leadership positions with the indicated personnel:

- Co-Team Leads
 - o Aichen
 - o Carskey
 - o Kishi

- Co-Programming Leads
 - o Kavan
 - o Kishi
- Co-Mechanical Leads
 - o Aichen
 - o Carskey
- Outreach and Finance Lead
 - o Aidan
- Public and Personal Relations Officer
 - o Luxman

The student leadership team is the most involved group of people in keeping the team operational. Each of our student leads are extremely passionate individuals, being held to highly rigorous and strict standards based around the COREO values. The team usually consists of returning students and therefore mainly Y13's. Near the end of the season prospective leads will undergo an application process led by the current leads to determine positions for the following season.

For the 26-27 BioBuzz season, we specifically chose not to have an over-arching 'Team Lead' position and rather a set of three people as Co-Team Leads. This is to ensure more people's voices are heard from different perspectives as well as to cultivate a approachable team culture where each co-team lead can complement each other's strengths and weaknesses.

Our team operates on a leadership democracy. Any major decision must be voted on by the leadership team with weighted votes for leadership positions one holds. A regular member of the team does not have a vote within major decisions; however, can offer ideas and inspiration.

Additionally we have introduced numerous 'officer' roles that are meant to further specialize and make it clearer which person is responsible of what, these do not represent leadership positions.

As we are a developing team, we have not imposed rigid structuring on any organizational structure, and we have made it flexible for each year's leadership team to change as they see fit.

Additionally, all our student leads are extremely knowledgeable and open to discussing with parents any concerns they might have about their child joining Volcanix. For any enquiries, please email kclmsftc@gmail.com.

Sub-teams:

All of our leadership positions bar team leads concern the management of a sub-team of students who work on specific tasks within the team. Students are assigned to a sub-team based on their application preferences; however, this may be subject to change as the leadership sees fit.

For the 26-27 BioBuzz season we have the following sub-teams:

- Mechanical
 - o CAD and Design
 - o Building and Manufacturing
- Programming
- Finance and Marketing
- Media and Outreach

At Volcanix we believe in specialization and that mastering one role has a better return on time as compared to an all-rounder. For this reason, we only allow members to be part of either the mechanical or programming sub-teams alongside either finance/marketing or media/outreach. However, if members do not wish to work on

technical matters, a pure finance/marketing or media/outreach member is also allowed in special cases.

We will attempt to assign mentors to each sub-team as a quick point of contact in case the appropriate personnel relevant to the sub-team on the leadership team is unavailable or unable to answer enquiries.

The specifics of team organization will be further explored in each sub-team's onboarding sessions.

TEAM PARTICIPATION

Team Meetings:

Whole team meetings are held weekly at 4:15 pm on Tuesdays in TBD. Meetings usually run until 6:15pm but are extremely variable to that week's circumstances. It is mandatory that members to attend these meetings. Any absences must be reported either through Discord to any of the leadership team or through an email to kclmsftc@gmail.com.

Additionally, we run booster sessions everyday besides Tuesday with alternating leads attending each session. The aim of these sessions is to provide a space for students to do work in a team environment.

Mandatory Events:

Throughout the year we have various events that are mandatory to attend unless extenuating circumstances bar a member from attending.

- Weekly Team Meetings
- FTC Kickoff – Early September (may clash with Bushcraft, in that case would be allowed)
- HASU FTC Regionals – Early June
- UK Nationals – Late June

This list is subject to change as various outreach and finance events occur during the year. Any absences should be discussed with the leadership team beforehand at least two weeks in advance of the event.

Additionally we have a team schedule which we will share to students and interested families on what events are upcoming and how the progress of the team is going.

Communication:

All members are required to have an extremely active Discord account to join our team's server. Messages and announcements will be put out directly through Discord and tasks will be put directly into a shared OneNote between KCL accounts.

Consistent failure to respond to announcements and maintain activity can be grounds for punishments and potential removal from the team. Failure to read the proper communication channels is not an excuse to miss required activities or deadlines.

Specific sub-team communication will be explored further in their respective onboarding sessions.

On-Season Attendance Policy:

All members are expected to be active members of Volcanix in some significant way. This may mean spending extended amounts of time and sacrificing other commitments. However, we understand, especially at a maths school, that sometimes there are simply not enough hours in the day to fully satisfy all commitments with adequate attention. For this reason, we do not expect 2+ hours every day, but we do expect at least a consistent 6-hour effort throughout the week, as we believe reliability is one of our most important values.

This figure is approximate and should adjust accordingly to what the team requires. For example, near design deadlines for the CAD team may be subject to 6+-hour efforts throughout the week.

A lack of commitment in time is also grounds for punishments or possible removal from the team.

We require 90% attendance for both sub-team and general meetings combined. We will be taking track of attendance.

Off-Season Attendance Policy:

All members are expected to attend online and/or in person meetings throughout holidays and breaks. The weekly hours put in should amount to around a total of 3-4 hours. We will be accommodating individuals on holiday in different time zones, hence the online nature of meetings, however the off-season/breaks are not an excuse to miss mandatory events.

We will not be tracking off-season/holiday attendance, but consistent lack of commitment will be noted.

Dress Code:

The dress code must be maintained at competition and events at all times. Maintaining the dress code on meetings is encouraged but not necessary in order to raise awareness at school. For more detailed information on the actual dress code please speak to the Public and Personal Relations Officer.

T-Shirts are not complementary when joining the team and must be paid for by the member themselves.

FAMILY INVOLVEMENT

Lack of Fees and Dues:

At Volcanix we aim to provide exposure to engineering through a free program unlike FIRST teams. Our annual budget exclusively comes from sponsors, grants, and donations. For these reasons, we do not require payment from families.

Travel Expenses:

The only expenses that the team does not cover are transport to and from events and competitions. Usually, these expenses will not amount to a large sum however if the team performs well in the season, we may get the opportunity to go to events like World Championships in Austin, Texas or European Premier Event in Eindhoven, Netherlands.

Unless otherwise stated, transportation to events should be organized by individuals.

The expenses for these events are not covered by the team unless large surplus funds are amounted to from sponsorships, grants, and donations.

Family Support & Volunteering:

We have a variety of volunteering and supportive activities that parents can do if they wish to be more involved in Volcanix. It is not required but encouraged for parents and families to at least participate in one of the following.

- Coach/Logistics Officer
- Volunteering at events
 - o May require additional safeguarding procedures from KCLMS, which will be facilitated by us nearer to the time after gauging interest.
- Prepare/Serve food at stands/events/meetings
- Event setup and cleanup

These volunteering opportunities are generally open for all meetings, but for all our events we will email a volunteering form to gauge if families can help.

Parent's Form:

The following form is to gain essential information about families and to confirm that both students and families understand the demands and responsibilities of Team 32981: Volcanix.

Parent's Form:

[Parents Form for FTC Team 32981: Volcanix – Fill out form](#)

Family Communication:

Our main form of communication to parents is through our monthly email newsletter, Instagram, and our website, all of which are regularly updated. The form above is essential for parents and carer's emails so we can carry out this.

APPLICATION PROCESS

Our Methodology:

We would love to allow all applicants to join the team, however at Volcanix we cap the size of our team to between 15-20 members as we have found there to be an inverse correlation between the number of members and efficiency above approximately 15 individuals.

The size limitation is one of our constraints; we also aim to select members with a variety of skills that complement the team, not necessarily the most skilled individual at a particular time.

For the 26-27 BioBuzz season we aim to have an even split of Y13 to Y12 members, 8 to 8.

Our Requirements:

As one of our main missions in Volcanix is widening participation in engineering and STEM, we try not to consider prior experience in robotics and FTC. At Volcanix we believe that the intelligence and curiosity of KCLMS students can greatly accelerate the learning and development of skilled technical individuals in both Mechanical and Programming.

We do not aim only to provide extracurricular to write on the university statement as we believe Volcanix is a great way to meet new people, especially for Year 12's, and gain the necessary technical and soft skills required in the workplace.

We only ask applicants that are extremely passionate about collaboration, learning, and excellence with sufficient commitment to apply to Volcanix.

Missing the application deadline for forms will remove the applicant from consideration, without negotiation.

Additionally, we do not aim to significantly hinder a student's academic performance at school, which is why we require exam performance to be above a certain threshold. A **minimum grade of B** must be met in K-assessments to continue with the team.

New and Returning Applicants:

Due to the short timeframe at KCLMS we only accept new applicants from the incoming Y12 pool. If you are a new Y13 applicant, we will not accept your application.

Returning applicants coming into Y13 who have finished the prior season *in good standing*, must complete a returning member application form to be considered for the new season.

Students who were members for previous seasons who did not finish the year in good standing will be considered as a special consideration case as the only new applicants in the Y13 pool.

Keep in mind it is highly unlikely that a new Y13 applicant will get a position for the following season.

Summer Interns:

Due to the nature of sixth forms and the brief two years that members get with our team, we board the most proactive and interested offer holders for KCLMS as interns. We set a task for interns to do and choose the most promising one as a member for the new season. We will consider the likelihood of the student accepting or rejecting the offer to KCLMS.

Additionally, even if interns are unsuccessful to become members through our summer internship program, they are welcome to reapply after school starts. The number and nature of internships depend on the necessities of the team coming into the new season.

Accepting an Offer:

The key dates for the application process should look like the following:

- July-September – Summer intern roles available
- School Starts – Handbook and Application forms released to students and their parents and carers
- 13th September – Student Application Form is due
- 17th September – Offers sent out to applicants
- 21st September – Parent's Form is due (only to be done if offers were received)

- 22nd September – Confirmation of position

Student Application Form:

By completing this form, you acknowledge that the information in this handbook has been thoroughly read by both you and your parent/guardian.

[Student FTC Team 32981: Volcanix Form – Fill out form](#)

This marks the end of our handbook. If parents, carers, or students have any further questions please do not hesitate to get in contact with us either through our email, website or in person.

Kind regards,

Team 32981: Volcanix

