

PUBLIC RELEASE

The RoboBees

What is FIRST and FRC?

FIRST (For the Inspiration and Recognition of Science and Technology) is an organization committed to changing our culture to further the recognition of Science, Technology, Engineering, and Mathematics (STEM) in popular culture. The FIRST website for all its associated programs can be found at www.firstinspires.org.

One of the major programs in FIRST is the FIRST Robotics Competition (FRC). Combining the excitement of sports with the rigors of science and technology, we call FRC the ultimate sport for the mind. High-school students call it “the hardest fun you’ll ever have.” Under strict rules, limited time, and resources, teams of students are challenged to raise funds, design a team “brand,” hone teamwork skills, and build and program industrial-sized robots to play a difficult field game against like-minded competitors. It’s as close to real-world engineering as a student can get.

The main, or varsity level, team is FRC Team 836: The RoboBees. This team is made up of approximately 30 students with priority being given to returning students in good standing with the team, followed by returning FTC team students moving up in age group, and finally, new students who apply during the open enrollment meeting. Students joining this team will be asked to focus on major and minor subject areas (i.e. Mechanical, Media, and Command & Control) by joining a sub-team. Each sub-team has a limited number of students that it can support. Students wishing to join a sub-team will be given the same priority as listed above with the exception that students returning to that sub-team have the highest priority.

The RoboBees are growingSTEMS’ well-known and successful FRC Team in the Chesapeake District area, which encompasses Maryland, Virginia, and DC. Every year, our mentors donate an estimated 18,000 hours to the students of our organization.

Our objective is to inspire our community to celebrate science, technology, engineering and mathematics by teaching skills related to STEM careers in a fun environment and providing an opportunity to apply this knowledge.

Team History

FIRST® Team 836, The RoboBees was founded in October of 2001 with 11 eager students and one dedicated mentor. Since then, our team has more than doubled in size. We strive to give every student a hands-on experience to learn engineering and life skills while enjoying the best FIRST® experience possible. We are based out of the Hive, a growingSTEMS center, located in Hollywood, Maryland. Our mentors are primarily engineers, scientists, and business professionals based out of the Patuxent River Naval Air Station, a major engineering naval base located at the southern end of St. Mary’s County. Our county is a diverse community composed of a mixture of military, contractors, and farmers.

As our community looks to increase its involvement in technological development, The RoboBees play a vital role in providing the next generation of STEM innovators and leaders by fostering excitement in students for STEM. At the Tech Expo in 2015, hosted by the Patuxent Partnership and Naval Air Warcraft Center - Aircraft Division (NAWCAD), the Commander of NAWCAD, Rear Admiral G. Dean Peters said that STEM organizations, such as The RoboBees, were essential to the future mission of the Navy in general, and NAWCAD in particular. His words reinforce our belief that our mission and vision is so important.

The RoboBees are a preeminent team in the Chesapeake District. We serve as an example of a team that others aspire to be. Over the past 25 years, the team has won nearly 70 awards for team and robot performance. A listing of our awards can be found below.

Award	Year	Competition
Leadership in Control Award	2003	Chesapeake Regional
RadioShack Innovation in Control Award	2005	Chesapeake Regional
Judge's Award	2007	Chesapeake Regional
Motorola Quality Award	2008	Chesapeake Regional
Team Spirit Award	2010	Chesapeake Regional
Regional Chairman's Award	2011	Chesapeake Regional
Regional Finalist	2011	Chesapeake Regional
Website Design Award	2012	Chesapeake Regional
Motorola Quality Award	2012	Washington D.C. Regional
Regional Finalist	2012	Washington D.C. Regional
Regional Chairman's Award	2012	Chesapeake Regional
Entrepreneurship Award	2013	Palmetto Regional
Regional Finalist	2013	Palmetto Regional
Regional Chairman's Award	2013	Palmetto Regional
Engineering Excellence Award	2013	Washington D.C. Regional
Motorola Quality Award	2014	North Carolina Regional
Regional Finalist	2014	North Carolina Regional
Engineering Inspiration Award	2014	Greater Pittsburgh Regional
Regional Winner	2014	Greater Pittsburgh Regional
Engineering Excellence Award	2014	FIRST® Championship
Regional Chairman's Award	2015	Palmetto Regional
Creativity Award	2015	Chesapeake Regional
Regional Finalist	2015	Chesapeake Regional
District Event Winner	2016	Greater DC District Event
District Event Winner	2016	Central Maryland District Event
Engineering Inspiration Award	2016	Central Maryland District Event
District Championship Winner	2016	Chesapeake District Championship
Engineering Inspiration Award	2017	Northern Maryland District Event
Entrepreneurship Award	2017	Chesapeake District Championship
Excellence in Engineering Award	2018	Central Maryland District Event
District Event Finalist	2018	Central Maryland District Event
Innovation and Control Award	2018	Central Virginia District Event
Industrial Design Award	2018	Chesapeake District Championship
District Event Winner	2019	Owings Mills District Event

Award	Year	Competition
Autonomous Award	2019	Oxon Hill District Event
Autonomous Award	2019	Chesapeake District Championship
Autonomous Award	2020	Haymarket District Event
Autonomous Award	2021	Helium Group At Home Challenge
Skills Competition Finalist	2021	Helium Group At Home Challenge
Digital Animation Award Finalist	2022	FIRST® Championship
District Event Winner	2022	Greater DC District Event #1 Day 1
Excellence in Engineering Award	2022	Greater DC District Event #1 Day 1
District Event Winner	2022	Greater DC District Event #3 Day 1
Autonomous Award	2022	Greater DC District Event #3 Day 1
District Championship Winner	2022	Chesapeake District Championship
Judge's Award	2022	Chesapeake District Championship
Innovation in Control Award	2022	FIRST® Championship Roebling Division
Digital Animation Award Winner	2023	FIRST® Championship
Safety Animation Award Winner	2023	FIRST® Championship
District Event Finalist	2023	Bethesda District Event
Quality Award	2023	Bethesda District Event
District Event Winner	2023	Timonium District Event
Team Sustainability Award	2023	Chesapeake District Championship
Autonomous Award	2023	FIRST® Championship Galileo Division
Championship Division Finalist	2023	FIRST® Championship Galileo Division
Creativity Award	2024	Ashland District Event
District Event Finalist	2024	Owings Mills District Event
Creativity Award	2025	Portsmouth District Event
Engineering Inspiration Award	2025	Alexandria District Event
District Event Winner	2025	Alexandria District Event
District Championship Finalist	2025	Chesapeake District Championship
Excellence in Engineering Award	2025	Chesapeake District Championship
District Event Finalist	2026	Pasadena District Event
FIRST Leadership Award Semi-Finalist	2026	Pasadena District Event
Engineering Inspiration Award	2026	Pasadena District Event
District Event Winner	2026	Severn District Event
District Championship Winner	2026	Chesapeake District Championship
Excellence in Engineering Award	2026	Chesapeake District Championship
Championship Division Finalist	2026	FIRST® Championship Johnson Division

Season Breakdown

growingSTEMS begins its fiscal and operational year on July 1st and ends its year on June 30th. This was selected to generally align with the academic calendar as well as cleanly splitting the calendar year in half during the summer.

Summer Offseason

After the team has finished with official competitions for the year, students and mentors focus our efforts on our community outreach programs. We hold community events every year and impact thousands of other individuals. These outreach efforts are a large part of the success of our program. We hold events year-round, but the majority of them are throughout the summer and fall months.

Summer is used for preparing for the upcoming season.

Fall Offseason

During the preseason R&D session, our team is training students on all aspects of robot design. We also spend that time developing new concept ideas for possible future use on competition robots.

During this period, every student goes through various training activities designed to teach and reinforce instruction of team organization, the FIRST Robotics organization, robot systems, the engineering design process, and shop safety.

Build Season

The build season takes place in January and February. The FRC kick-off, which generally takes place on the first non-holiday Saturday in January, is when the annual game is unveiled to the world. On this day all FIRST teams learn what the game is about, how it is played, and what the rules are. This is all detailed in a very long game manual released to the teams. The game manual for the 2025-2026 season can be found [here](#).

Once the game has been announced, every team around the world starts scrambling to learn the game and design, build, and test that robot. The aim is to complete this process in a short six-week period. It is at this time the team begins to meet on Mondays, Thursdays, and Saturdays (at least).

The build season generally follows the notional schedule below.

- Week one should have each team focus on getting their ideas together and deciding on how they want to play the prescribed game. They are also beginning to develop concept ideas.
- Week two should consist of prototype development and testing of concept ideas.
- Week three should see the completion of prototyping and the finalization of robot designs and concepts. The acquisition of materials is also an important part of this on-time manufacturing process.
- Week four should consist of robot assembly.
- Week five should see the end of construction of the robot to allow for testing of the robot in week six.
- Week six should be used for the testing of the robot and allowing time for modifications and driving skills development.

This build schedule varies from year to year. This used to be a hard deadline! Each team had to bag and tag their robot at the end of six weeks. However, the bag day was retired at the end of the 2018-2019 season. Since 2020, teams have been able to work on their robot up until, during, and after their first event.

Competition Season

The competition season generally takes place in March and April. The FRC competition season takes place over eight weeks. For the district model, which we participate in, weeks one through five typically involve district qualifier events. For 2026, The RoboBees participated in week two and four events. Weeks six and seven are typically the District Championships. In 2026, the Chesapeake District Championship took place in week seven. Week eight typically comprises the FIRST Championship (aka Worlds).

Schedule Example

The schedule for the 2026 build and competition season can be found below. Future FRC schedules will follow a similar format but may differ depending on the kick-off and competition dates.

Phase	Task/Milestone	Start	End
Planning	Kickoff and Game Reveal	10-Jan	10-Jan
	Game Strategy Agreement	10-Jan	11-Jan
	Early Prototyping	12-Jan	14-Jan
	Subsystem Concept Sketching	15-Jan	16-Jan
	System Requirements Review	17-Jan	18-Jan
	Robot Layout Agreement (PDR)	18-Jan	18-Jan
Development	Prototyping & Detailed Modeling	18-Jan	23-Jan
	Subsystem Modeling	18-Jan	26-Jan
	CAD/Software Review and Approval (CDR)	27-Jan	30-Jan
	Manufacturing	27-Jan	3-Feb
Integration	Mechanism Assembly	3-Feb	12-Feb
	Full Robot Integration	12-Feb	16-Feb
	Testing and Troubleshooting	16-Feb	26-Feb
Practice/Iteration	Drive Team Selection	26-Feb	26-Feb
	Drive Team Practice	27-Feb	13-Mar
	Refinement of Mechanisms	26-Feb	8-Mar
	Design Freeze	9-Mar	13-Mar
	Competition and Documentation Preparation	10-Feb	13-Feb
	Post-Event Iteration #1	16-Mar	27-Mar
	Post-Event Iteration #2	30-Mar	8-Apr
	Post-Event Iteration #3	13-Apr	24-Apr
	Trailer Transit to FIRST Championship	24-Apr	29-Apr
Competition	FCH District Pasadena MD Event	13-Mar	15-Mar
	FCH District Severn MD Event	27-Mar	29-Mar
	FIRST Chesapeake District Championship	9-Apr	12-Apr
	FIRST Championship	29-Apr	2-May

Competition Format

We participate in the FIRST Chesapeake District. The RoboBees will attend two district events with the

goal of qualifying for the FIRST Chesapeake District Championship. From the district championship, we hope to qualify for the FIRST Championship.

District Qualifiers

Every team that registers under the district model competes in at least two district qualifier events. Each event involves approximately 35 teams competing in approximately 70 qualifications matches, leading into alliance selection and a double-elimination bracket.

District Championship

The Chesapeake District Championship, as of 2026, draws 54 teams from the Chesapeake region (Maryland, DC, and Virginia). From that event, 19 teams qualified for the FIRST Championship.

The RoboBees typically perform very well at the district championship level. The RoboBees hold the record for winning the [most Chesapeake District Championships at four wins](#). We won the inaugural Chesapeake District Championship back in 2016, as well as in 2022, 2024, and 2026. We were also finalists in 2025. The next best team has only two Chesapeake District Championship wins.

FIRST Championship

The FIRST Championship is the culmination of the entire season. This event is an enormous spectacle, drawing teams from across the world. Billed as the world's largest K-12 robotics event, it brings FIRST's three programs (FRC, FTC, and FLL) under one roof. The [FIRST Championship website](#) notes that the 2025 FIRST Championship had 50,000 attendees from 66 counties, including 19,000 students across 1,055 teams and 1,000 event volunteers.

FIRST Championship has been in Houston in some form since 2017. Between 2017 and 2019, two FIRST Championship events took place, with one in Houston and the other in either St. Louis (2017) or Detroit (2018 and 2019). FIRST Championship did not take place in 2020 or 2021. When it returned in 2022, it came back as a single event located in Houston. In 2026, it was [announced](#) that the FIRST Championship will remain at the George R. Brown Convention Center (GRB) in Houston through 2034.

The RoboBees have attended FIRST Championship since 2011. We hold the dubiously prestigious record as one of the teams to have attended FIRST Championship the most without making it to the playoffs (the Einstein field). In 2023 and 2026, we were division finalists. We hope to break this record in the future!

Off-season

Off-season events are typically one-day events that feel similar to a smaller district qualifier event. These take place in the summer and fall and are hosted outside of FIRST. The RoboBees typically treats off-season events as learning experiences for new students. Events that we have attended in recent years include Rumble in the Roads, The Battle o' Baltimore, and the Chesapeake Robotics Invitational.

Team Structure

For many years, The RoboBees operated under a traditional (for FRC teams) subteam model. This meant that subteams were built around the skillset that they were focused on teaching. For example, mechanical, command and control (C&C), Community Outreach and Public Relations (COPR), or media.

While this structure produced functional robots and led to success for a small handful of highly driven students each season, it has also come with significant limitations, especially around communication, cross-functional learning, and broad engagement, as it led to siloing of information. Students tended to work in isolation from each other, which often meant design decisions were made without full understanding of code constraints, and programmers were handed hardware without context. Year after year, only a few students would emerge as truly successful. These were those who could self-manage, fill in the gaps, and connect the dots across the divide.

Starting in the 2024-2025 season, the mechanical subteam piloted an integrated product team (IPT) based approach, focused on the work products developed by the students. This was highly successful and, for the 2025-2026 season, led to an expansion of the program across the entire team. The team currently operates under the IPT model, which closely aligns with how government and industry operates.

Students are still aligned with their areas of interest. Those who want to program still end up writing code. Machinists still spend most of their time in the shop. However, in addition to their technical community, each student is now aligned to at least one IPT and has a clear goal for what to be developing and “owning” throughout the season.

We’ve found that this structure puts students in closer contact with each other, fosters better communication, and gives them ownership over a complete subsystem. In addition, there are substantially more leadership positions available for those who are interested. Each IPT lead role is an opportunity for a student to practice decision-making, collaboration, and technical coordination.

This organizational structure is not perfect. We still work through issues of varying levels of participation and commitment, which can negatively impact the schedule and performance of each IPT. However, we’ve found that this realignment has been a net positive for the team.

Integrated Product Teams

Frame and Drive IPT

The team exists to design, develop, and integrate the drivetrain and electronics placement of the robot. This includes creating the drivetrain system, determining optimal locations for electronics (e.g., motor controllers, RoboRIO, power distribution, sensors), and ensuring reliable integration with programming and other robot systems. This team’s goal is to complete a robust drivetrain and electronics layout early in the build process so that other subteams (e.g., manipulators, wiring, software) can proceed in parallel with a stable foundation.

Game Piece Acquisition IPT

This team's purpose is to pick up any game piece on the field that the team deems necessary to pick up. This includes prototyping, designing, manufacturing, assembling, and programming. The intake must be lightweight while also strong and easy to use from the driver's side.

Game Piece Handling IPT

The team exists to design, develop, and integrate game piece mechanisms on the robot. This includes rapid prototyping of potential solutions, modeling components in SOLIDWORKS, fabricating components, and ensuring reliable integration with programming and other robot systems. The objective is to create mechanisms that work in tandem with others that optimizes game piece movement after acquisition, while also ensuring reliability. Mechanisms can include elevators as an example.

Game Piece Scoring IPT

The team exists to design, develop, and integrate game pieces mechanisms on the robot. This includes rapid prototyping of potential solutions, modeling components in SOLIDWORKS, fabricating components, and ensuring reliable integration with programming and other robot systems. The objective is to deliver a reliable game piece scoring mechanism that optimizes scoring potential, while ensuring reliability.

Human Interface IPT

The team exists to design, develop, and integrate human interfaces for this competition season. These systems, which could include things such as controllers and drive station layouts, require a unique mix of programming, electrical, and mechanical skills that cannot be handled effectively within single capability-aligned groups. The IPT structure ensures collaboration across disciplines and efficient delivery of an integrated solution.

Sensing and Vision IPT

This team exists to design, place, develop, and integrate all vision and sensors.

Technical Communities

Command and Control (C&C)

This team is responsible for developing the robot's electrical platform and programming the control systems. This includes all wiring of system components and determining power distribution throughout the robot. Various software programs are used to develop our control systems. Java is our

primary control system programming language. Other tasks that may be required by this team include, but are not limited to:

- Develop the electronics platform for all prototype robots and the final robot entry
- Implement and authorize electrical allocations for all sub-team components
- Maintain all prototype and final robot entry electrical operations
- Maintain and inventory a neat and organized electrical toolbox and components box
- Develop operational and control programming for the robot
- Test sensors, cameras, actuators, etc. to ensure functionality
- Maintain full documentation of C&C processes, work efforts, and diagrams as needed
- Assist with the VEX IQ programming efforts

Mechanical Design & Manufacturing

This team is responsible for developing all of the designs for the mechanical structures of the robot. This includes the drive system platform and arm and end effectors. Some tasks required are as follows:

- Develop all preliminary sketches and ideas from sub-teams
- Develop all draft and final drawings
- Develop a final bill of materials for competition entry
- Develop a 3D model of the final robot design
- Coordinate with the electrical team on the wiring diagram
- Maintain a weight budget for the robot
- Help develop a fabrication schedule for the robot

This team is also responsible for the fabrication and assembly of all mechanical subsystems of the competition robot, as well as any prototype systems. Other tasks required may be as follows, but not limited to:

- Develop and maintain the robot frames for all robots
- Develop all playing field mock-ups for robot testing
- Develop the robot shipping crate
- Maintain and inventory a neat and organized mechanics toolbox and components box

Media

This team is responsible for developing, collecting, and archiving all multimedia items for the team. This includes but is not limited to:

- Take/collect pictures/videos for the website
- Responsible for leading team award documentation efforts.
- Creation of a Robot Reveal video, dependent on robot availability
- Capture match video while at competitions
- Handles any other team videography and photography needs
- Responsible for the creation of team graphics (including t-shirts and robots)
- Responsible for team animation award submissions
- Develops and maintains the team branding guide

Leadership Roles

We have official leadership positions on the team, which are determined by the mentors in coordination with the students. It is important, however, to mention that despite these fancy titles these positions rarely come with extra power, only more responsibilities.

For example, a student serving as an IPT lead does magically gain the ability to force decisions “because they say so,” nor can they veto a decision that they don’t like that is made by the rest of their IPT.

The team is about modeling a healthy working environment that is consistent with industry. Very rarely will a successful STEM professional or leader lead through dictation. Well respected leaders remain positive when working with their teammates, take initiative, lead by example, follow policies, help to educate their teammates, keep our workspace tidy and respectable, etc. Leaders do not talk down to nor about their teammates and do not push others aside.

It is also important to note that everyone on the team can be a leader, with or without a title. This can range from leadership on an IPT to simply setting an example of attitude. Leadership is about building up yourself and others. You don’t need a fancy title to do that!

Organization Chart

The organization chart (org chart) for the 2026 FRC season can be found below. The names will change from season to season. Additionally, IPTs may be added, removed, or changed as needed.



Student vs Mentor Led

At the 1998 FIRST Competition Kickoff Workshop on January 10, 1998, the founder of FIRST, Dean Kamen, provided this valuable insight into the philosophy behind the organization.

I don’t know how many ways to try and continue to say it. What this organization is about is not education per se. I heard a lot of people, even last night, and I think they mean well, and I understand what you’re saying, there needs to be a balance, but I heard people saying “Well sure that other team did great, but that’s because the engineers did all the work. The kids didn’t build the robot.” I have to tell you, FIRST is not an educational institution. It’s okay if the kids build the whole robot, it’s okay if they don’t touch it. FIRST ought to be to education what the NFL or the World Series is to little league.”

In a January 19, 2024 [blog post](#) on the FIRST website Collin Fultz, the FRC Senior Director, made the following comments regarding the role of mentors in FRC.

Every year, the same question is raised: “How much involvement in building the robot should the mentors have?”

Every year, the answer is the same: “However much is needed to inspire the youth on the team.”

Our mission is to create programs that give young people skills, confidence, and resilience to build a better world, and mentors are a key component to that in FIRST® Robotics Competition. Adult mentorship is part of what makes FIRST® so effective, and it's been core to our programs from the very beginning. This is also true for the support given to teams by non-technical mentors in areas like logistics, business planning, fundraising, and outreach.

... Remember that FIRST is about Inspiration. It's about being to STEAM what the NFL is to sports or Taylor Swift is to music. Team mentors have been a key part of that mission from the beginning, and we don't see that changing.

The reason that this is brought up is because it is a source of continuing confusion about the program. FRC is not a program focused on finding the high school students who can build the best robot without adult help. It's a program that is focused on partnering students with adults, especially those in industry, and building excitement and enthusiasm for STEM careers the same way that professional athletes build excitement and enthusiasm for sports careers.

The RoboBees operate on the model of building a partnership between students and mentors. We believe that our students are smart enough to struggle through the development of a robot on their own, if necessary. However, why would we want to watch students fail when we have the opportunity to help them succeed? We believe strongly in the concept of instructional scaffolding and raising the students up to reach their potential. As a result, the students don't build the robot and neither do the mentors. The team builds the robot.

This is not a universal philosophy. If you are in FRC long enough, you will hear robots (perhaps even ours) described as "mentor built." This phrase is not meant charitably and is generally used to devalue the extraordinary effort that each team makes into developing a robot that can successfully compete at the highest levels of FRC. It fails to recognize and appreciate the service that mentors provide as they work in partnership with the students and fails to recognize the exemplary work that high school students are capable of. It is not appropriate or professional to judge other teams on how they choose to run their team.

Similarly, you may also hear robots described as "toaster bots" or "BLTS" (brave little toasters). This is likewise not appropriate or professional. FRC is a competition and each team puts in an extraordinary level of effort to ensure that their robot represents the best work that they can do. Some robots are, admittedly, less competitive than others. However, it is wildly inappropriate to devalue the work of others. We do not do that on The RoboBees.

Finances

Overall Budget

According to the 2025 FIRST Chesapeake Impact Report, there are a total of 112 FRC teams in the Maryland, Virginia, and DC region. Of those teams, the overwhelming majority of them are school-based (83) vs community-based (29). The FIRST Tech Challenge (FTC), a smaller program with a much lower financial footprint, has double the number of teams at 266. While the majority of those are also school-based (148), a much larger number than FRC are community-based (118).

The likely reason behind this disparity is this simple fact. FRC is not a cheap program. Just the registration alone, assuming a team attends each competition, can run upwards of \$16K. Unlike those

school-based programs, community-based programs do not have the benefit of space provided by a larger educational institution. For FRC, the physical footprint required to run a high-performing team is substantially higher than FTC.

We are incredibly lucky that we are able to continue to offer FRC. We are the only team based out of St. Mary's County and one of only two currently operating FRC teams in Southern Maryland. We believe that our dedicated and talented students and mentors provide an experience that is unmatched in the region. Unfortunately, this means that the budget of The RoboBees pushes \$66K. The 2025-2026 FRC budget can be found below.

Line Item	Cost
CHS District Registration	\$6,300.00
District Championship Registration	\$4,000.00
FIRST Championship Registration	\$5,750.00
Rent Share	\$36,000.00
FRC Robot Build	\$6,000.00
FRC Field Build	\$1,500.00
Awards / Media	\$1,000.00
Food and Decoration	\$350.00
Office Supplies	\$550.00
Shop Supplies	\$ 1,000.00
T-Shirts	\$ 2,000.00
Special Purchases	\$ 1,000.00
Total	\$65,450.00

We cover about a third of that cost with yearly dues to be on the FRC team. Currently, that cost covers approximately 35% of the FRC budget. The rest of made up of individual, corporate, and government sponsorship (e.g., DoDSTEM covers a portion of the District registration and all of the FIRST Championship registration cost).

Additional information about the finances of The RoboBees, or growingSTEMS as a whole, can be found on the website or on Slack. Any questions can be directed to the growingSTEMS Treasurer, Dr. Andrew Koch (ankoch@growingstems.org).

Student Dues

Dues for the year are \$800 per student. As mentioned in a prior section, this helps to cover the operating cost of the program. These dues can be paid on the website. An invitation coupon code will be required at checkout to complete the payment process. Invitation coupon codes are provided once a member application has been submitted and the student has been accepted to our roster.

Payments can be processed online or via check, in accordance with the growingSTEMS Payment Policy). Students have the option of paying in half or full increments. Payment is due on the following dates (or within 7 days of initial registration). If a student registers between dates, the latest amount that has not passed is due.

- September 9th: Minimum \$400 due
- November 1st: Full payment due

Financial Assistance

We're aware of the hardship that the cost presents to many families, and we strive to make the team affordable for all those who wish to participate. The RoboBees and growingSTEMS will not turn anyone away because they cannot pay, and we have means in place to award scholarships to students based on financial need.

To the best of the organization's ability, genuine financial burden will not prevent any student who is fully participating in this team from attending competitions or events with the team. However, students must be in good standing for hours and requirements to be eligible to receive assistance.

These requests are evaluated by the board of directors of growingSTEMS. To request assistance, please contact the Executive Director, Zach Stachelczyk.

Travel Cost

growingSTEMS will provide transportation to and from each location, but students will be responsible for hotel fees, meals, and incidentals. It is normally less than what you would have to pay out-of-pocket to go on your own. If a student is unable to pay for an event, please contact the Lead Mentor.

General estimates are provided at the beginning of each season. The cost may increase or decrease slightly as we have a better understanding of how many people are attending. Travel costs tend to solidify once the season competitions have been announced. Please note that some team members will arrive at the competition early, but no additional cost is associated with that.

Estimated travel costs are:

- Local Competition (2x) - \$185/each
- District Championship - \$300
- FIRST Championship - \$1200 (including flights to Houston TX)

Fundraising and Sponsorship

The RoboBees solicit sponsorships and funds throughout the St. Mary's County business community. In addition to our current sponsorships, we pursue new sponsors via local engineering and technical businesses.

Team sponsors are the most crucial part to having a functional team and are the reason ours still exist. Without funding from local companies, corporations, and community members, the team could not afford the yearly expenditures accumulated, such as robot development, software licenses, and robot construction and maintenance. In addition, our sponsors are responsible for supporting our building. We also have support from sponsors in non-pecuniary ways, like tools, computer, and software donations.

Our sponsors are the reason our program still exists, and the reason growingSTEMS has been able to expand the number of programs it hosts and the reason that The RoboBees are still able to continue being a world class team.

It is expected that all students, mentors, and parents do their best to ensure the short and long term

sustainability of the team.

Payment Process

Dues and travel fees can be paid by check (made out to growingSTEMS), through Zelle, or via PayPal on our website. Cash is discouraged, as it tends to not have good traceability. With limited volunteers in place to ensure proper handling of

Student Expectations

Academic

Students are expected to maintain a minimum of a C in every class. This is a standard requirement of any varsity team and, because we view ourselves as a varsity team, we hold our students to this expectation. We also expect our student leaders to "set the standard" and, as a result, we ask them to hold a higher GPA of 3.0. Students who are in danger of falling below a C in a class or who are below a C will be expected to seek assistance or tutoring sessions during team meetings. As a community-based organization, we have no direct insight into a student's performance in school. However, we rely on the honesty of the students and the supervision of the parents to ensure compliance with this policy..

Behavior

The RoboBees strive to be a professional organization and we need people that will represent us well. We are a well-known team and seek to set a good example for others at all times. Rules are set forth for the safety and well-being of our team members

All students are expected to remain engaged and put forth their best effort during all team activities. The RoboBees operate on a busy schedule and require a lot of quality time from its students. This quality time is defined as time spent working toward the team's goals. While we are at a team event, we expect students to be working on team-related activities. If required, due to schedule or workload issues, students may be asked to help with a task that is outside of their normal responsibilities. Students are expected to complete these tasks to the best of their abilities and support the team in any way they can.

Students are expected to remain engaged with the team outside the normal team activities, albeit in a limited manner. Students are expected to receive and check Slack and email for team-related messages once a day. The number one way our team communicates is via Slack for day-to-day correspondence. Important announcements will also be sent via email. While updates are often also sent out via email, a Slack message is often the fastest and first way to find out about team business. Sometimes updates are time-critical, such as meeting cancellations, and the ability to receive and check team messages at least once a day is critical.

Like any other organization, it is important to have the information that we need on hand and on time. As a result, we ask that the paperwork be filled out and returned to our Lead Mentor by the required due date.

Mentor/Volunteer Expectations

At all times, the mentors are responsible for ensuring that all decisions (including but not limited to: robot design, student participation levels, work group makeup) are made in the best interest of the majority of students and the team as a whole.

Students, mentors, and parents understand that this is a learning environment. Because the team is also a competitive team, not every idea, design, or thought by a student/mentor/parent may be realized. The team will listen and respect all ideas presented, but not all will be put into practice.

Based on time, funding, and labor constraints, as well as the dynamics of the challenge, some decisions may have to be made by the mentors to ensure the team can build a robot in six to eight weeks that can successfully play the game to the level that the team expects. It is the expectation that the mentors help the team make these hard and often unpopular decisions.

Mentors and volunteers are expected to guide students through the season by providing skills and knowledge based on their education and experience. The mentor relationship with students is informal and more casual than that of a teacher or parent. However, while most are not teachers, mentors are also not a student's "best friend." The mentor-student relationship should generally be focused around the growingSTEMS activities. Mentors and volunteers are role models for the students and are expected to act as such.

Over the course of time, mentors and students often become friends through the development of mutual trust and respect for one another. A strong working relationship between the mentors and the students is expected and even encouraged. However, those individuals must be careful to understand the limitations of those relationships, avoid the appearance of impropriety, and put the needs of the students and the team above any friendship between the two groups. All mentors are responsible for the safety and well-being of the students and are expected to act in the best interests of both them and the team.

The RoboBees welcome mentors of all ages and backgrounds. However, there is one key area of concern. The team strongly encourages that freshman college students do not return as mentors. That is, graduating seniors should take a year off before coming back as a mentor on the team.

Exceptions are made on a case-by-case basis after being discussed by the current mentors on the team. This policy is in place to encourage those graduating seniors to look beyond FIRST, experience college, and explore other opportunities available to them. It also helps to create a sense of ownership for existing students on the team as they become upperclassmen instead of having them become dependent on graduated team members' experience.

For those college freshmen who have a burning desire to stay involved with the organization, and who feel like they can manage their college experience along with robotics, we encourage you to join our combat robotics program with Team Honey Cracked.

Parent Expectations

In general, parents are responsible for ensuring that students arrive and depart the meeting on time. The team will ask for volunteers to complete crucial tasks that help keep the organization running smoothly. These tasks may include:

- Supplying potluck lunches
- Facilitating transportation to and from events
- Serve as a mentor for the team.
- Assist in submitting grants and sponsorship requests on behalf of the organization.

The last responsibility of all our parents is to help their students balance robotics activities with schoolwork. As a community-based organization, we have no direct insight into a student's performance in school, but our priority is school first and robotics second.

Events and Travel

General Expectations

When students travel for competitions, they are to represent the team and the organization. Students attending events are required to attend the entire duration of the event. Late arrivals or early departures are prohibited unless explicitly approved in advance. This type of behavior disrupts the ability of the team to function, impacting things like scouting and pit rotations.

Only students who have paid team dues or travel fees by the stated deadlines are allowed to participate in team activities or travel with the team. The Executive Director may make exceptions on a case-by-case basis for a limited duration. If students are not able to pay dues or travel costs in full due to financial hardship, the situation should be brought to the attention of the director of programs to determine if the student is able to receive financial assistance from growingSTEMS in order to continue participating in the program. This is described in-depth in another section of the manual.

Travel Eligibility

Students who plan to attend travel must be in good standing with the team. As stated before, The RoboBees strive to be a professional organization and we hold our students to high expectations. Good standing means (but not limited to) the following:

- Follow all team policies
- Good academic standing
- No disciplinary problems
- Positive interactions with the team and others

All students who are in good standing will be invited to attend all district events (pending event regulations). Attendance at any particular event is optional; however, competitions are a major part of the team experience. Therefore, every FRC student will be required to attend, at a minimum, a district qualifier or the district championship.

Sometimes our team is unable to invite every student to the FIRST Championship event due to the associated cost and mentor requirements. If this occurs, the following will result:

- Mentors will recommend students for travel based on their contributions and efforts during the current season.
- The number of students recommended for travel will be determined by the Lead Mentor based on team needs.

As soon as competition dates are announced, it is each student's responsibility to check for scheduling conflicts and to bring them to the attention of team leadership as soon as possible in order to resolve those conflicts as quickly as possible.

Travelling With the Team

It is heavily encouraged that students travel with the team and stay with other students. Travel as a group helps to build team cohesion and provides the students with limited independence, facilitating some growth and increased maturity. We can't promise miracles, but we do our best.

If students are unable to travel with the team, this must be coordinated ahead of time with the Lead Mentor. They will need to be explicitly escorted by their own parent/guardian, who is responsible for physically signing them in and out with a team adult. It is up to the parents to attend the event and arrange lodging. The team, based on hotel room availability, may be able to help with this by booking family rooms. More information on this can be found below.

While FRC competitions are public events, students will be denied permission to participate with the team (in pits, stands, or in the field) at the competition if they do not travel with the team. Students can't just show up at a competition with no notice and expect to participate.

Lodging for Students

Lodging costs make up the majority of the travel budget. Extensive effort is made to reduce the cost of lodging to ensure that travel fees are kept affordable. Students are almost always placed three to four to a room.

Students will be assigned a room based on a variety of factors considered by the mentors. Generally, the input of the students is not taken into consideration during this process. The opportunity to select hotel roommates is a very special privilege that is sometimes afforded to students by the team. The team may change student room assignments at any time for any reason (e.g., to consolidate underpopulated rooms to minimize the total cost incurred by the team).

Lodging for Mentors

The team seeks mentors who can be unlimited participants in each of the competitions that the team attends. Mentors who are unable to attend an event the entire time are welcome to come when they can, however the team is unable to guarantee these mentors a spot in the team hotel unless space happens to be available.

Generally, the cost for mentor lodging is picked up by the team and subsidized by student travel fees. However, should mentors wish to share a room with any non-mentors, the team has instituted the following rules: Unless otherwise requested, mentors will share a hotel room with another mentor (2 mentors per room). Exceptions to this policy will be made based on gender, permitting a single mentor to have their own room. If they do not wish to share with another mentor, mentors may request their own room (or a room to share with family members) based on room availability. In such a case, the mentor will absorb the entire cost of the room and will pay for the room individually.

Lodging for Parents

Lodging for parents who wish to travel with the team can usually be very easily accommodated if known ahead of time. In most cases of travel by family, they are asked to reimburse the team with the flat rate for the hotel across the length of the competition.

Parents wishing to reserve their own room outside of the group booking may do so; however, the parent will absorb the entire cost of the room at the “rack rate” and will pay for the room individually.

If spaces are available, the team may also propose that a parent share a room with a mentor of the same sex. If this occurs, the parent will only be responsible for 50% of the cost of the room.

In cases when parents choose to share a room with their child, the team has implemented the following policies:

- The parent is still responsible for the entire cost of the room.
- Since the cost of student participation in the event is flat regardless of the amount spent to actually house that student, there is no effect on the student’s trip fee. The student is still responsible for the full amount of the student fee. While the bulk of the cost of travel is associated with lodging, student fees still help to defray a wide array of the team’s expenses for participation in the event, such as mentor lodging, trailer transport fees, and team meals at the event.

Hotel Conduct, Curfews, and Room Policies

Prior to the official night curfew, if students wish to gather socially or study, they must do so in designated hotel common spaces or in a room with a coach's express permission. If gathering in a hotel room, the door must remain wide open (never propped or closed).

Once the designated bed check hour hits, students must be inside their assigned rooms. They are strictly forbidden from leaving their rooms for any reason until the morning wake-up call, except in the case of a verified emergency.

Students are prohibited from changing room assignments, swapping keys, or allowing non-team members (including friends from other FRC teams) into their hotel rooms.

Accountability During Travel

Students will not leave the assigned place (competition venue, hotel, restaurant, etc.) without appropriate mentor or parent supervision.

If a student desires to leave the team travel area and deviate from the published itinerary, they must provide notification in the event channel in Slack. This notification must describe the who, what, where, when, and how of the situation. An example is provided below.

Andrew, Carson, and Collin are leaving right now (1:15 PM) to drive to the nearest Best Buy. We need to buy a replacement controller before the next match. We expect to be back by 2:00 PM

When the group returns, they must send a message in that thread to announce the group's return. This is intended to ensure accountability of all students travelling with the team.

Mentors and parents travelling with the team are not required to follow this process, as the team is not responsible for the safety of adults. However, it is strongly recommended that you consider following this process to both ensure your own safety and allow the team to keep track of your location.

Discipline During Travel

Minor infractions typically result in a loss of privileges. This can include, but is not limited to, reassignment to other duties (e.g., drive team to pit support).

Major infractions, such as breaking curfew, entering the room of a member of the opposite sex, or violating drug/alcohol policies, result in immediate suspension from the event, and the student's parents are contacted to physically pick them up from the venue city at their own expense.

Competition Venue Expectations and Behavior

While at the venue, students must actively watch matches, scout, analyze strategies, or look at other teams' robots to learn. Engaging in unrelated activities (e.g., playing handheld video games, leaving the venue to wander) without express mentor permission is forbidden.

Parents, alumni, and friends cheering in the team's block must adhere to the same professional codes of conduct as the students and mentors.

Competition Schedule

The schedule for each event can differ but generally follow an accepted format. District qualifier events take place over two official days, with a load-in-day for the advance team. The schedule below is replicated from the 2026 Pasadena qualifier.

Friday - March 13th, 2026		
Advance team leaves The Hive		4:00 PM
Pits and inspection open/load-in	5:00 PM	9:00 PM
Fields open for calibration	8:00 PM	8:30 PM
Saturday - March 14th, 2026		
Students arrive at The Hive		5:30 AM
Depart The Hive		5:45 AM
Arrive in Pasadena, MD		7:45 AM
Pits and inspections open		8:00 AM
Field open for calibration		8:00 AM
Drivers' meeting		8:30 AM
Safety Captain meeting		9:00 AM
Practice matches		9:00 AM
Opening ceremonies		10:30 AM

Start of qualification matches		11:00 AM
Lunch	1:00 PM	2:00 PM
Qualification matches		2:00 PM
Pits close / return to hotel / dinner		8:00 PM
Team meeting		10:00 PM
Room check and lights out		11:00 PM
Sunday - March 15th, 2026		
Leave Hotel		7:30 AM
Pits open		8:00 AM
Opening ceremonies		9:00 AM
Qualification matches		9:30 AM
Alliance selections (8 minutes after last qual match)		12:30 PM
Lunch	1:00 PM	2:00 PM
Playoff matches and awards		2:00 PM
Pits close / leave for The Hive		7:00 PM
Return to The Hive		9:00 PM

The District Championship takes place over two official days, with a load-in-day allowed for an advance team and three days of matches. The schedule below is replicated from the 2026 Chesapeake District Championship.

Thursday - April 9th, 2026		
Advance team leaves The Hive		3:00 PM
Pits and inspection open/load-in	5:00 PM	9:00 PM
Practice fields are open	6:00 PM	8:30 PM
Fields open for calibration	8:00 PM	8:30 PM
Friday - April 10th, 2026		
Students arrive at The Hive		5:00 AM
Depart The Hive		5:15 AM
Arrive in Petersburg, VA		7:45 AM
Doors open, team load-in, and on-field camera calibration		8:00 AM
Drivers' meeting		9:30 AM
Safety Captain meeting		10:00 AM
Practice matches		10:00 AM
Lunch		Noon
Qualification matches		1:00 PM
Pits close / return to hotel / dinner		7:00 PM
Team meeting		10:00 PM
Room check and lights out		11:00 PM
Saturday - April 11th, 2026		
Leave Hotel		7:30 AM
Doors open		8:00 AM
Practice field opens		8:30 AM
Opening ceremonies		9:00 AM
Qualification matches		9:30 AM
Lunch		Noon

Qualification matches	1:00 PM
Pits close / return to hotel / dinner	7:00 PM
Team meeting	10:00 PM
Room check and lights out	11:00 PM
Sunday - April 12th, 2026	
Leave Hotel	7:30 AM
Doors open	8:00 AM
Practice field opens	8:30 AM
Opening ceremonies	9:00 AM
Qualification matches	9:30 AM
Alliance selections	11:30 PM
Lunch	Noon
Playoff matches and awards	1:00 PM
Pits close / leave for The Hive	6:00 PM
Return to The Hive	10:00 PM

Travel To and From Events

Parents and mentors are expected to help transport the students to the events. The only acceptable route for a student to arrive or depart a competition is via a vehicle that has been arranged by the team or in a vehicle driven by the parent of the student in question. If travelling with a parent, this must be arranged ahead of time with the Lead Mentor.

Students are not permitted, with extraordinarily rare exceptions approved by both the Lead Mentor and Executive Director, to drive themselves to events. This is true regardless of license level, age, or presence of passengers.

Towing the Trailer

A volunteer is always needed to help transport the trailer to and from the competition. The trailer has an empty weight of 2,150 lbs. and a GVR of 7,000 lbs. When driven to outreach events and not fully loaded, the trailer can often be towed by an SUV. However, when fully loaded for competition events a pick-up truck is almost always needed to safely move the trailer.

An appropriately licensed adult, mentor, or other volunteer are the only people who are permitted to tow the trailer. Students are not permitted to tow the trailer.

From:
<https://wiki.growingstems.org/> - **growingSTEMS**

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Last update: **2026/06/27 00:38**

