



TEAM HANDBOOK
5549
GRYPHON ROBOTICS

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Introduction

Welcome to FRC Team 5549, Gryphon Robotics! We are Marshall High School's robotics team. Gryphon Robotics is a school club but has many similarities with a conventional sports team: we have team members, captains, regularly scheduled practice, a season, and organized competitions with other teams.

Who is this Handbook for? This handbook outlines the rules, roles, and expectations of everyone on and involved with Gryphon Robotics. It also contains other important information that might be useful for parents, sponsors, mentors, prospective team members, other FRC teams, and anyone who wants a comprehensive guide to how the team operates. All team members are expected to read and agree to the structure and rules outlined in this handbook.

Mission Statement Our goal at Gryphon Robotics is to inspire students in a multitude of learning pursuits including leadership, project management, engineering, cooperation, and business skills. We prepare students for technical and STEM-related careers by offering the opportunity for hands-on development of practical skills that they will take with them for the rest of their lives.

About Gryphon Robotics Gryphon Robotics is a student-run robotics team based out of George C. Marshall High School in Falls Church, VA. We compete through a robotics program called the FIRST Robotics Competition. As a part of FIRST, our team is about more than just robots; we strive to uphold FIRST values in everything we do and work to inspire students to pursue STEM careers.

Team History Gryphon Robotics (formerly Gryphons.exe) was founded in 2015 at George C. Marshall High School. We competed in the challenge Recycle Rush and made it to the world championship on the Rookie All-Star Award. From there the team has grown from a group of dedicated seniors to a large, diverse community of people passionate about STEM. The team continues to make our mark on the community today! For more on our team history visit frc5549.org

Notable achievements include:

- 2015 Greater D.C. Regional Rookie All-Star Award
- 2015 Greater D.C. Regional Highest Rookie Seed Award
- 2017 Dean's List Semifinalist - Elena Bachman
- 2018 Northern Virginia District Event Semifinalists
- 2018 Central Maryland District Event Semifinalists
- 2018 Safety Award Honorable Mention
- 2018 Dean's List Semifinalist - Elena Bachman
- 2019 Northern Virginia District Event Semifinalists
- 2019 Safety Award Honorable Mention
- 2019 Imagery Award
- 2019 Spirit Award
- 2022 Woodie Flowers Award Nominee
- 2022 Greater D.C. District Event Finalists

FIRST (For Inspiration and Recognition of Science and Technology) was founded in 1989 by Dean Kamen to spark kids' interest in STEM fields through an engaging robotics competition. The organization runs multiple programs for different ages to engage in STEM fields. However, the FIRST mission is about way more than just robots. It's about learning life skills and values like fair play and camaraderie within and across teams. FIRST has two terms that sum up their values:

Gracious Professionalism "is a way of doing things that encourages high-quality work, emphasizes the value of others, and respects individuals and the community. With *Gracious Professionalism*, fierce competition and mutual gain are not separate notions. Gracious professionals learn and compete like crazy, but treat one another with respect and kindness in the process. They avoid treating anyone like losers. No chest thumping tough talk, but no sticky-sweet platitudes either. Knowledge, competition, and empathy are comfortably blended." (FIRSTTM)

Coopertition "is defined as displaying kindness and respect in the face of fierce competition. *Coopertition* is founded on the concept and a philosophy that teams can and should help and cooperate with each other even as they compete. *Coopertition* involves learning from teammates. It is teaching teammates. It is learning from Mentors. And it is managing and being managed. *Coopertition* means competing always, but assisting and enabling others when you can." (FIRSTTM)

On Team 5549 we work to uphold these values in everything we do and everywhere we go.

Team Organization

Gryphon Robotics is a student lead robotics team. We have a student leadership board composed of two team captains and a leader for each subteam. The team captains (Admin and Robot) oversee the entire team while each leader runs their respective subteam.

Expectations of the Leadership Board Students serving on the leadership board (see table below) are expected to uphold FIRST values (gracious professionalism and coopertition) in all aspects of their jobs. In addition, they pledge to listen to all members of the team to the best of their ability. Students in leadership positions are expected to attend 75% of all meetings and attend competitions/ outreach events. Leadership meetings organized by the team captains are held throughout the year. The entire Leadership Board is expected and required to attend all meetings. Meetings will be announced in advance in the #captains chat in discord. Exceptions may be made on a case-by-case basis by the Admin or Robot captain.

Leadership Eligibility Leadership eligibility requirements are as follows: must have attended all competitions for the previous challenge, attended a minimum of 75% of meetings held for the previous season, completed at least 5 hours of outreach for our team, and helped write documentation for the area you want to lead.

Succession Captains who are seniors will pick another team member who meets the leadership eligibility requirements and trains them to fill the leadership role the following year. This is done so that the leadership for the following year has some experience before inheriting the responsibility. If a leadership position becomes vacant during the year, for any reason, elections for that position will be held. To fill the leadership position, a person must be nominated and seconded by two other members of the team. The person can then accept or deny the nomination. They will make a short speech about why they should have the position. Voting will happen after all the nominees have made speeches. The person with the simple majority wins. All nominees must meet the leadership eligibility requirements.

Subteams and Functions Gryphon Robotics is broken up into subteams, each with its own area of responsibility and its own student leader (subteam captain) Every person on the team is expected to choose a subteam on which to focus their efforts. It is possible for a member to be on more than one subteam, please talk to the Admin Captain about doing that. Because our goal is to maximize the time we have, people who are not working on team-related tasks during robotics will be given a task or asked to leave. If you find yourself nothing to work on, ask around and find something to do - even if it is not for your subteam. There is always lots to be done!

2020-2021 Leadership

Business Captain- Paulo Lebron-Castillo	<ul style="list-style-type: none"> - Oversees business subteams and maintains communications between them - Stays in contact with team parents - Helps new members acclimate to the team
Robot Captain- Pranav Bhimaraju	<ul style="list-style-type: none"> - Oversees all robotic subteams - Makes sure robotic sub-teams are communicating with each other. - Helps design and build the robot.

2020-2021 Captains

Build Captain- David Howard	<ul style="list-style-type: none"> - Plan, layout, and build the robot - Maintain the 3D CAD files
Electrical Captain- Elizabeth Aakesson	<ul style="list-style-type: none"> - Plan, layout, and wire the robot including the sensors and pneumatics - Maintain 3D CAD files
Programing Captains- Pranav Bhimaraju and Shaunak Sinha	<ul style="list-style-type: none"> - Write and develop code for the robot - Create drive and subsystem controls - Create autonomous modes
Strategy and Scouting Captain- Julia Barna	<ul style="list-style-type: none"> - Analyze game rules - Research league strategies and best practices - Gather data (scouting) on other teams at competitions

Safety Captain- Hadi Benkorah	<ul style="list-style-type: none"> - Set safety rules and procedures at competitions and in the workshop - Go for safety award at the competition
Finance Co-Captains- Joaquin Fernandez & Shrey Desai	<ul style="list-style-type: none"> - Manage team budget - Find and maintain corporate sponsors - Organize team fundraisers
Outreach and Awards Captain- Robert J. McCarthy	<ul style="list-style-type: none"> - Maintain team presence in the community and help spread FIRST and STEM - Write and supervise award applications
Imagery Captain- Kathleen Bailey	<ul style="list-style-type: none"> - Manage our team's public appearance by creating and maintaining our teams brand

Expectations of Team Members All team members are expected to follow the rules outlined in this handbook and act in a Graciously Professional manner while at meetings and away representing the team. Remember you represent our team! If you have any questions/concerns about any of the rules listed in the handbook please talk to the admin captain.

Attendance There are no attendance requirements for membership, but members are encouraged to attend as many meetings as possible. Attendance is heavily considered when selecting pit crew, as well as travel to competitions. Prospective subteam captains are expected to at minimum attend 75% of meetings and complete 5 hours of outreach for our team.

Team Communication

- Our team uses Discord as a platform for most communication. All members should download the app, create an account and join our server to be a part of discussions and receive important announcements.
- We use email to communicate with parents.
- There is a subscribable team google calendar that has all of our events on it.
- Files and documents are stored on a shared Google Drive account.
- Task management lives in Trello, a collaborative to-do list management tool Team members are required to use the resources provided to keep in contact with the rest of

the team. Free accounts are required for team communication tools, and most require an invite or addition by an administrator. With over 100 students and mentors involved in the team, these tools are critical to coordination, logistics, and organization.

Members who are not on Discord will not be informed on all the happenings of the team.

General Rules:

- Respect the space that we work in and follow all rules set by the teacher who allows us to work in their classroom. - All school rules about clubs outlined in the SR&R apply.
- Club dues are **\$85**, they will be due Oct 31st and are mandatory in order to participate in Gryphon Robotics unless you are on free/reduced lunch, then please talk to a coach or the admin captain about waiving dues. Club dues go towards t-shirts, robot materials, and the registration fee (\$5000/team) to compete through FIRST.
- **All members must read the handbook and then print and sign the agreement at the end (with a parent/guardian) by October 31st in order to participate in Gryphon Robotics.**
- All members must turn in the following forms by October 25th in order to participate in Gryphon Robotics: **Handbook agreement, health form, and member info google form.**
- Computers in B106 are for robotics-related tasks *only*.
- Club members will be **required to volunteer two hours to the robotics team events**

Shop Rules:

- Closed-toed shoes and safety glasses are required in the build room at all times. Long hair must be pulled back and loose clothing secured.
- All members must pass the safety tests before entering the build room.
- Before using any tools/equipment, all members must be signed off on the shop tools. They also must have gone through the training and completed all the safety tests. Mentors, team captains, and safety captain reserve the right to kick people from the build room who they feel are acting in an unsafe manner.

Competition Rules:

- All members are highly encouraged, but not required to attend competitions.
- There is a dress code that all members are expected to follow. All members are required to wear a current team t-shirt or jersey and black/grey/khaki bottoms. We encourage people to add additional spirit.
- All members are prohibited from swearing/cursing and expected to act in a positive and gracious professional manner at all times during competitions.
- Closed-toed shoes and safety glasses are required in the pits at all times.
- Members who don't comply with this rule will be asked to stay in the stands.
- Do not enter the pit if there is no safety captain present.
- Members not on pit crew or scouting should refrain from being in the pits because there is limited space.

- Do not talk to the judges unless you have been briefed on what to say. The judges decide who gets awards at competitions and we want to make the right impression. The pit crew will be briefed on what to say before the competition and specific people will be tasked with talking to the judges. If someone is talking to a judge, don't bother them or interrupt the conversation.

Competition Roles:

- Pit Crew
 - The pit crew is composed of the best from mechanical, electrical, and programming sub-teams. They perform any necessary repairs on the robot during competition, normally under pressure and with time constraints. The pit crew is decided by the team captains with input from the head mentors. Pit crew selection is done based on expertise, ability to work under pressure, and commitment to the team.
- Drive Team
 - The drive team consists of a driver, operator, drive coach, and human player, who operate the robot during matches. Selection for the drive team is based on experience, technical skill, a person's ability to work with others and perform under stress.
- Scouting
 - The scouting team collects information on the other teams' robots, abilities, and game strategies. Scouting is essential because it allows us to create a better strategy working with/against specific teams. The majority of data is collected by watching the matches, but some are collected by walking around the pits and talking to teams.

Mentors

While our team is almost entirely student-run, mentors are an integral part of keeping our team up and running. Without our mentors, we wouldn't have a team. They provide experience and perspective that our students don't have. They help in all aspects of our team, from design to budget, to interpersonal skills, to building bumpers. **The mentors for the 2020-2021 season are as follows:** Sam Allen; slallen@fcps.edu Patrick Ander; pjander@fcps.edu Josh Yalowitz; joshua.yalowitz@frc5549.org Sam Steele; jsamuelsteele@gmail.com Russell Waddell; russwaddell@gmail.com Benjamin Ward; ward.programm3r@gmail.com Joanne Muir; joannemuir2014@gmail.com Teresa Springer; tlspringer2@verizon.net

Expectations of Parents/Guardians Nothing we do would be possible without the wonderful support of team parents, participation is highly encouraged in whatever form is possible. All parents are encouraged to contribute to the team by providing food during build season, carpool for events, and additional supervision when necessary. There will be ways to sign up to help with all of the things listed above. We will hold four parent meetings throughout the year:

[Sept 21st]: Introduction the team and how we operate [Dec 7th]: Build season logistics [Feb 22nd]: Competition season logistics [April 21rd]: Post competition debrief and end of year plans
Parent meeting dates are subject to change but will be updated on the robotics calendar.

Please note: we are not able to provide reimbursement for any purchases made for the team. Purchases made outside the team account will be taken as in-kind donations.

Timeline A robotics year breaks down into 3 seasons; Pre-Season, Build Season, and Postseason.

Pre-Season: Preseason starts the first day of school (August 26) and goes until kickoff (January 8). During this time the team recruits and trains new members. We prepare for the build season and compete in offseason events. Our meeting days during pre-season are Tuesdays and Thursdays right after school.

Build/Competition Season: Build season starts on the first Saturday in January (kickoff day). This year it is January 4th. The team will have roughly six weeks after kickoff to design and build a robot that will compete in the annual challenge. Although there is no end to the build season, we would like the robot to be completed within those six weeks. Competition season starts, February 19. The length of the competition season depends on how well our team performs. At best, it lasts all the way until April 29th with the World Championships.

Post-Season: Post-Season begins when competition season ends and lasts until the end of the year. Post-season is when we wrap things up and prepare for the next year. Violations of the rules outlined in the handbook will result in consequences/penalties depending on the severity of the infraction.

Handbook Agreement:

By signing this paper I confirm that I have read and agree to abide by all rules and regulations expressed in the Gryphon Robotics handbook.

Student Name Student Signature Date

Parent/Guardian Name Parent/Guardian Signature Date

Comments, questions, or concerns: