

Rebels Team Handbook

Kitchener-Waterloo Youth Robotics — FRC Team 2702

Location: Google Community Space, 25 Breithaupt St., Kitchener, ON

Contact: info@2702rebels.com

Welcome to the Rebels!

If you are a student, mentor or parent/guardian (prospective or current), this handbook is designed for you. You do not need any prior experience in robotics or engineering to understand this guide.

This handbook is a stand-alone document that details exactly how our team operates, what is expected of you, how we handle safety and emergencies, and what the robotics season looks like.

Rebels Team Handbook.....	1
Welcome to the Rebels!.....	1
Section 1: Introduction to FRC & Team 2702.....	2
Section 2: Joining the Rebels (Intake Pipeline & Requirements).....	3
Section 3: Team Mission, Vision & Core Values.....	7
Section 4: The Mentor & Student Dynamic.....	8
Section 5: Meeting Schedule & Attendance Policies.....	10
Section 6: Financial Commitments & Fundraising.....	12
Section 7: Parent & Family Commitments.....	14
Section 8: Workshop Facility & Safety Guidelines.....	15
Section 9: Travel, Hotel Guidelines & Conduct Standards.....	21
Section 10: Conflict Resolution & Safe Communication.....	24
Section 11: Disciplinary Protocol & Handbook Enforcement.....	25
Section 12: Student Roles Directory & Selection Process.....	28
Section 13: Looking Ahead.....	31
Section 14: Handbook Agreement & Sign-Off.....	31
Appendix A: Quick Reference Links.....	32
Appendix B: Welcome to the FRC Ecosystem (A Guide for New Joiners).....	33
Document History.....	35

Section 1: Introduction to FRC & Team 2702

1.1 What is FRC?

FRC stands for the **FIRST Robotics Competition**, an international high school program organized by *FIRST* (For Inspiration and Recognition of Science and Technology).

*Note: If you are new to robotics, navigating the scale of the global FRC community can feel like learning a whole new language. You do not need to memorize every FRC acronym, technical term, or vendor name immediately. For a helpful overview of the wider FRC ecosystem, including hubs, tracking sites, and hardware vendors, please refer to **Appendix B (Welcome to the FRC Ecosystem)** at the end of this handbook.*

- **The Challenge:** Every January, FRC releases a brand-new game. Teams worldwide have just a few weeks to design, build, program, and test a large (~125 lb) robot to compete in matches against and alongside other teams.
- **The Competitions:** FRC matches are played on a basketball-court-sized field by alliances of three robots each. Robots score points by performing tasks (such as shooting balls, placing gears, or climbing ropes) autonomously and under driver control.

1.2 Who is KW Youth Robotics?

Kitchener-Waterloo Youth Robotics is an independent, community-based not-for-profit corporation registered in Ontario. We operate FRC Team 2702 (The Rebels). Unlike school-run teams, we draw students and mentors from various high schools across the Waterloo Region, whose home high school does not have an FRC team.

We are hosted at the Google Community Space in Kitchener. No prior technical experience in robotics or engineering is required to join. Our pre-season is designed to teach you everything from using hand tools to software development. We also have business, graphics, strategy, and scouting roles!

1.3 Who is WWFIRST?

WWFIRST (Waterloo-Wellington FIRST) is a local community hub currently comprising 8 teams in our Region (Hub of Waterloo/Wellington Region). It was created to bring the local teams together, help rookie teams grow and learn, and work towards building and maintaining a shared practice field each year for all teams to use. WWFIRST relies heavily on volunteer representatives from each team and community sponsors.

1.4 Core Philosophies

- **Gracious Professionalism:** This means competing fiercely but treating everyone with respect, kindness, and integrity. We never celebrate others' failures, and we help our competitors succeed.
- **Coopertition:** A blend of cooperation and competition. We will actively assist other teams in the pits (lending tools, parts, or software help) even if we are playing against them in the next match.



Section 2: Joining the Rebels (Intake Pipeline & Requirements)

2.1 Eligibility & Age Requirements

- **Grade Levels:** The team is open to high school students (Grades 9 through 12) living in the Kitchener-Waterloo area. Grade 8 students can join the waitlist at the end of their school year to begin onboarding as incoming Grade 9 students in the fall.
- **School Restrictions:** The Rebels is a community-based team intended strictly for students whose home high schools do not have their own active FRC teams. Prospective members should consult the [WWFIRST Teams Directory](#) to verify whether their high school already has an active team before applying.
- **Homeschooled Students:** Homeschooled high school students in the Kitchener-Waterloo area are fully eligible to join the Rebels.
- **Elementary & Middle School:** The FRC team is strictly for high schoolers. For younger students (Grades 4-8), we recommend checking out local FIRST Lego League (FLL) or FIRST Tech Challenge (FTC) programs.

2.2 Team Size & Roster Sustainability

To ensure every student receives a high-quality, hands-on learning experience and adequate mentor guidance, the Rebels cap the active student roster at **40 members**.

Because a high school student base naturally turns over every four years, we prioritize roster sustainability and continuous knowledge transfer to maintain team capabilities:

- **Sustainable Pipeline:** Our primary recruitment focus is on incoming Grade 9 and 10 students. Recruiting younger members ensures they have time to develop technical, business, and leadership skills under the guidance of veterans and mentors before taking on major responsibilities.

- **Upper-Year Onboarding:** While our intake prioritizes younger grades to maintain roster balance, we welcome Grade 11 and 12 applicants on an exceptional basis. These candidates are considered if roster space permits and they demonstrate strong initiative and commitment during the application process.
- **Knowledge Transfer:** This balanced roster structure prevents capability gaps when senior members graduate. It ensures that the next generation of Rebels is always trained, experienced, and ready to step into leadership roles, keeping the team sustainable and competitive year after year.

2.3 Student Intake & Onboarding Pipeline

Joining the Rebels is a three-phase journey designed to give incoming students hands-on exposure to team expectations, technical workflows, and safety requirements before the formal FRC Build Season begins.

- **Student Initiative:** Initial inquiries must come directly from the prospective student rather than a parent, demonstrating personal motivation. Students must email registration@2702rebels.com with their name, grade, school, and reason for wanting to join.
- **Recruitment Window:** The team runs its main intake once per year during the summer. We do not accept new student members mid-season (October through April).
- **Waitlist Policy:** Inquiries received outside the recruitment window are placed on a waitlist and emailed registration materials in early July when the next intake cycle opens.

Phase 1: Application (July)

1. **Confirm Expectations (Early July):** Students review the handbook at 2702rebels.com/handbook and sign the Expectation Form. Upon submission, the official Student Application link is issued.
2. **Student Application (Mid-July):** Prospective students submit their school details and personal motivation responses.
3. **Application Review (Late July):** Mentors review student applications against roster limits and sustainability priorities (Section 2.2). Applicants receive an invitation to join as a Provisional Member or a notification of waitlist placement.

Phase 2: Provisional Membership & Fall Training (August – November)

4. **Registration, Forum & Waivers (Mid-August):** Accepted provisional members and their families finalize onboarding. Parents/guardians must register on the FIRST Dashboard, agree to all terms and policies outlined in the Team Handbook, sign the team liability waiver and join the team forum (forum.2702rebels.com).

5. **Fall Pre-Season & Safety Training (September – November):** Provisional members are eligible and expected to participate in all fall pre-season meetings and mandatory Saturday tool safety training sessions. This phase allows students to explore different interest areas, demonstrate reliability, and gain required safety certifications.

Phase 3: Official December Acceptance & Final Roster

6. **Roster & Involvement Review (December):** In early December, mentors conduct a formal review of each provisional member's participation. To achieve full acceptance and earn a spot on the official FRC Build Season roster, provisional students must meet three core expectations:
 - **Attendance:** Consistent attendance and engagement across fall pre-season meetings and training sessions.
 - **Safety Verification:** Successful completion of tool orientation and badge safety punch requirements.
 - **Communication:** Active registration and regular activity on the team forum.

Post-Acceptance Event & Logistics Steps

Once officially accepted onto the December roster, families complete the final logistical steps for the upcoming build and competition season:

7. **Event Attendance Form (December):** Parents confirm whether the student will attend out-of-town competition events and select hotel rooming occupancy preferences. The logistics team uses this data to lock in overall team travel counts and reserve hotel room blocks.
8. **Roommate Preferences & Travel Payments (January):** Parents and students submit specific roommate requests, and families pay for travel, hotel accommodation, and food fees via the Rebels Store. Detailed Kickoff and event itineraries are also released at this stage.
9. **Volunteer Driver Form (Just-in-Time / Mid-Season):** Completed only by adults volunteering to transport students to off-site events (details in Section 7.3 & 8.6).

2.4 Program Intensity & Commitment Expectations

Prospective students and their parents/guardians should understand that FRC Team 2702 is a high-intensity, high-commitment program.

- **Not a Casual Club:** While academic success always comes first, the Rebels is not a casual after-school club. We design, build, and program a competitive 120-pound robot under tight timeframes, which requires active engagement, consistent meeting

attendance, and personal accountability. Ultimately, the more effort and dedication a student puts in, the more rewarding and impactful their experience will be.

- **Personal Motivation:** Prospective students must be personally interested and motivated to participate. Experience shows that students who join because of parental pressure rather than their own interest quickly experience burnout or drop out. We ask that students apply only if they are personally excited to commit.
- **No Prior Experience Required:** Although the program is intense, no prior technical or robotics knowledge is expected. Students can learn, explore, and try out different technical and non-technical fields. FRC is "more than robots"—we have critical roles in business, graphic design, writing, video media, and scouting strategy. Many of our most successful alumni joined the team with zero experience, discovered their passion, and developed skills that launched their post-secondary education and careers.

2.5 Onboarding Details & Gmail Requirement

- **Roster Referrals:** If you know anyone interested in joining the Rebels, please have them contact the team directly by emailing registration@2702rebels.com first. Rather than sharing registration forms directly, please direct friends and interested individuals to email the team so that mentors can guide them through the official intake process.
- **Gmail Account Requirement:** All registered students and mentors must use a personal Gmail account (not a school-board or employer email address). School emails block external file sharing and drive access, preventing students from accessing team CAD models, code repositories, and schedules.

2.6 Team Forum

We use an official web forum for primary team communication and scheduling updates: forum.2702rebels.com.

- All students, parents, and mentors must register accounts on this forum.
- Notifications must be configured so updates, meeting changes, and announcements are not missed.
- The final step of the intake process—receiving the "Welcome to the Team" confirmation—is posted exclusively on this forum.

2.7 Year-End Surveys

To help the team evaluate its performance and continue growing:

- All returning students, parents, and mentors must complete their respective Year-End Surveys.

- Completion of these surveys is a mandatory prerequisite to finalize registration for the upcoming season.

2.8 Mentor Intake Process

Prospective adult volunteers must complete a formal intake process before joining the team:

1. **Application & Interview:** Candidates submit an application detailing their background and availability, followed by an interview with Lead Mentors and Directors.
2. **Review:** The mentor core reviews the application and interview feedback to ensure alignment with team culture and current capability needs.
3. **Screening & Training:** Upon acceptance, new mentors must complete all safety prerequisites before attending meetings. This includes registering on the FIRST Dashboard and completing all Youth Protection Program (YPP) requirements—the policy agreement, the online training module, and the Sterling Backcheck screening—as outlined in Section 8.6.



Section 3: Team Mission, Vision & Core Values

3.1 Mission & Vision Statements

- **Mission:** To provide opportunities for students to explore and discover their passion through mentor-based competitive robotic teams.
- **Vision:** Create awareness and make FIRST available to all interested members of our community. Set an example and inspire the passionate makers of tomorrow.

3.2 Core Values

- **Respect:**
 - Respecting all stakeholders (students, mentors, parents, sponsors, volunteers, event staff) and acting in a way that inspires respect in us.
 - Valuing diversity and the unique contributions of all people, opinions, and ideas.
 - Respecting equipment, tools, facilities, and the practice field.
 - Doing the right thing — even if it means not winning.
 - Working collaboratively as a single team.
- **Learning:**
 - Acquiring new technical and life skills.
 - Learning through hands-on experience and trial-and-error.
 - Teaching and mentorship; developing self-confidence.

- Dedication, commitment, and perseverance in the face of difficulties.
- Leadership development and role modeling.
- Sharing what we learn to improve the local and global community.
- **Fun:**
 - Ensuring team participation is meaningful, rewarding, and positive.
 - Taking pride in individual and team accomplishments.
 - Maintaining satisfaction, fulfillment, enthusiasm, and energy.
 - Making a positive impact on others.
 - Sharing our passion with the wider community.
- **Innovation:**
 - Being creative, imaginative, and thinking outside the box.
 - Being iterative and adaptive in our design and strategies.
 - Persevering through setbacks and challenges.
 - Going beyond the expected for everything, including technology, game strategy, teamwork, fundraising, sponsorship, and community outreach.

3.3 Inclusion & Accommodations

Our team is dedicated to providing an inclusive, safe, and accessible environment for all students. We welcome students of all abilities and learning styles, including those who are neurodivergent or on the autism spectrum.

Because our team is run entirely by volunteers and not associated with any school board, we do not formally collect or manage school Individual Education Plans (IEPs). Instead, we work directly with families to implement appropriate accommodations.

If your student requires environmental accommodations (such as sensory breaks or noise-reduction tools), alternative task structures, or needs a dedicated support person to accompany them to events, please discuss this directly with a Lead Mentor so we can ensure the shop and event layouts support their success.



Section 4: The Mentor & Student Dynamic

Our program relies entirely on adult mentors who volunteer their time, holidays, and personal funds to support the team. The relationship between mentors and students is built on mutual respect, patience, and collaborative learning.

4.1 Guidelines for Mentors

Rebels mentors are dedicated volunteers from various backgrounds, including university students, industry professionals, and retired specialists. Mentors commit to:

- **Provide Guidance:** Mentors use their professional and technical expertise to guide the team through complex tasks. However, they are part of the team and do not have all the answers.
- **Be Respectful:** Mentors set a positive example of the behavior expected of students by showing respect to everyone at all times.
- **Share Experiences:** Mentors join because they are passionate about STEM. Sharing their career and life experiences helps inspire students to pursue interesting paths.
- **Time Commitment:** As a general mentor, our minimum expectation is that you attend at least 1 meeting per week during the build season (January to April). Any additional time you can donate is highly valued.
- **Provide Hands-On Learning:** Mentors are not teachers in a classroom, but are knowledgeable guides. When opportunities arise, they explain how academic subjects relate to practical engineering work.
- **Be Understanding:** Mentors understand that learning involves making mistakes. They will remain calm, patient, and understanding when errors occur, treating them as part of the learning process.

4.2 Expectations of Students

To get the most out of their time on the team, students are expected to:

- **Prioritize Schoolwork:** School comes first. If a student has assignments, exams, or tests due the next day, they must stay home to study. Effective time management is essential.
- **Be Respectful:** Show respect to everyone at all times.
- **Be Involved:** Rebel meetings are for Rebel activities. The more effort a student puts in, the more skills they will acquire. If a student is unsure what to do, or if their regular mentor is busy, they must seek out other areas of work. There is always work to be done in sponsorship, CAD, graphics, electrical, programming, and media.
- **Ask Questions:** Students must be patient and ask questions. Mentors and experienced students are always glad to assist.
- **Solve Disputes Constructively:** Students must use negotiation, talking, and compromise to solve disagreements, and strictly avoid verbal or physical aggression.



Section 5: Meeting Schedule & Attendance Policies

5.1 Pre-Season (September to December)

Pre-season meetings focus on onboarding, machine training, and design fundamentals.

- **Schedule:** Meetings are held twice per month, alternating between Mondays and Wednesdays from **6:00 PM to 9:00 PM**.
- **Saturday Tool Training:** A mandatory Saturday session (date TBD) dedicated to safety training and power tool onboarding.
- **Roster Review:** In December, mentors will conduct a formal review of attendance, student involvement, and forum activity to finalize the team roster for the build season.
- **Off-Season Events:** The team decides each season which off-season events to attend based on interest and budget. Examples of events the team has participated in in the past include:
 - [Robots at Mary Ward](#) (Scarborough, ON) – typically held in September.
 - [STEMley Cup Championship](#) (Hamilton, ON) – typically held in late October or early November.

5.2 Build Season (January to February)

Build season is the core period where the robot is designed, manufactured, and programmed.

- **Kickoff Weekend (Early January):** Kickoff is the global event when FIRST releases the game video and rulebook, marking the official start of our build season. Attendance is **mandatory** for all members as we analyze the new game rules.
- **Build Schedule:** Students should **plan to attend most meetings** to fully engage with the build process and contribute meaningfully to the team. While 2 meetings per week (e.g., one weekday evening and Saturday) is the bare minimum requirement, it should not be viewed as the target expectation. The more time you invest, the more skills you will learn and the bigger impact you will have. We meet:
 - Mondays, Wednesdays, Fridays: 5:00 PM – 9:00 PM
 - Saturdays: 9:00 AM – 6:00 PM
- **Holidays & Special Sessions:** Extra meetings are scheduled during PD Days, Family Day weekend, February 27th (evening build), and potentially during March Break.

5.3 Competition Season (March to April)

The competition season is the most exciting and high-energy part of the year. This period features an alternating rhythm: competition weekends are intense, fast-paced, and incredibly fun, while the weeks in between are spent refining the robot and our operational systems.

- **Event Structure:** This is the period where we compete in two District Events plus the Provincial Championships in an Ontario Location (if we qualify). In the weeks leading up to and in between events, the focus shifts to testing, driver practice, making incremental adjustments, and perfecting our match strategy.
- **Schedule & Workspace Dynamics:** The meeting schedule remains similar to the build season (weeknights and Saturdays). Because the robot is frequently stationed at the WWFIRST practice field (which has a small footprint and can only accommodate the Drive Team and select Pit Crew members), workspace activity is divided. While drive practice and robot tuning happen at the practice field, regular meetings continue at our main Google build space for the rest of the team. These sessions are critical for final event preparation, focusing on essential non-robot tasks such as marketing, documentation updates, scouting preparation, and logistics.

5.4 World Championships (Late April/Early May)

- The FIRST Robotics Competition World Championships will be held in Houston, Texas for the next several years. Due to the significant time commitment, travel expenses, and considerations regarding international border crossings and student travel safety, the team has decided not to travel to the World Championships even if we qualify.
- We plan to have an "**Einstein Watch Party**" so team members can watch the final matches of the World Championships.

5.5 Post-Season (May to August)

- **Ad-Hoc Meetings:** The team does not hold regular meetings during the post-season. Occasional sponsor visits or ad-hoc meetings may be scheduled and will be advertised on the forum for those who are interested.

5.6 Reporting Absences

If a student is unable to attend a meeting, they must record their absence and provide a valid reason in advance using the **Validated Absence** tab on the Rebels Attendance App.

5.7 Volunteer & CAS Hours

Student participation on FRC Team 2702 can count toward the 40 mandatory Ontario high school community involvement hours or IB CAS (Creativity, Activity, Service) hours. Specifically, hours can be claimed for participating in team outreach events (such as sponsor visits or public demonstrations), provided these activities take place outside of regular school hours. Mentors can sign off on your accumulated participation hours.



Section 6: Financial Commitments & Fundraising

6.1 Operating Budget Context

To remain accessible to all local youth, Kitchener-Waterloo Youth Robotics **does not charge any student a registration fee** to participate on FRC Team 2702.

However, operating a competitive robotics team requires significant financial resources. We must raise approximately **\$55,000 annually** through corporate sponsorships, community grants, and donations to pay for operational costs:

- *Robot parts & manufacturing*: \$11,000 (motors, gears, raw aluminum, sensors, control board)
- *2 District Competition Registrations*: \$9,000 (official entry fees for Ontario events)
- *Provincial Championship Registration*: \$4,500 (entry fee if the team qualifies)
- *Off-season event registrations (Mary Ward, STEMley)*: \$2,500
- *Practice Field (WWFIRST space & rent)*: \$3,500
- *Administration (insurance, shipping, bank, accounting)*: \$4,500
- *Shop Tool & Tech Updates*: \$20,000 (Goal)

We share this operating budget to highlight that **sponsorship funds go entirely to keeping the team running and building the robot**. There are no dues or registration fees for regular team membership (tools, robot parts, and registration fees are covered by team sponsors). Families are only responsible for the mandatory \$35 competition T-shirt and individual travel expenses. Because these corporate funds are fully committed to operational costs, they cannot be used to pay for individual travel. This is why families are responsible for covering their own student's personal travel expenses.

6.2 Costs Paid Directly by Families

- **Competition T-Shirt (\$35)**: Purchased at registration. It features team sponsor logos and must be worn on the outside at all events. It must not be cut or altered.
Non-refundable.
- **Saturday Food Duty Contributions**: Families are expected to sign up for Saturday build season lunch duty (typically four times per family) and are responsible for covering the cost of purchasing and preparing the food for their assigned team meal slots.
- **Competition Travel & Accommodations (Estimated ~\$900 total)**: Families cover personal hotel stays and event meals for competitions.

6.3 Travel, Accommodations & Event Meals

While our team does not charge annual registration fees, families are responsible for covering travel, hotel accommodations, and student meals during away competitions.

- **Estimated Seasonal Cost:** A typical season involves three competitions. For a student attending all events, the total estimated cost for hotel stays and event meals is approximately **\$900** (note that our local Waterloo district event does not require hotel accommodations). Travel fees are collected on the Rebels Store in February during the build season, and **are non-refundable** once booked.
- **Rooming Configurations:** Students room together (double or quad occupancy). Subject to availability, parents can select either double or quad occupancy. Costs vary according to the room occupancy selected. Inclusion and safety of all students is taken seriously. Our goal is to ensure roommate assignments prioritize student comfort and safety. In general, we aim to pair students of similar age and gender identity (as disclosed). We invite students or parents to provide any information or suggestions that would inform decision-making and the goals of comfort and safety in any specific case.
- **The "Pay It Forward" Fund:** Our priority is ensuring that financial constraints never prevent a student from traveling and competing with the team. If covering these travel costs is a barrier for your family, please reach out directly and confidentially to the **Lead Mentor**. You can apply to have these expenses partially or fully covered out of our community fund. Requests will be approved based on the number of requests and the size of the fund. To protect your family's privacy, these requests are kept strictly confidential—other mentors, parent volunteers, and students are never informed of who receives support.
- **Supporting Your Teammates:** For families who are in a position to help, we invite you to contribute to the *Pay It Forward Fund* on the Rebels Store. 100% of these contributions go directly into the travel fund to cover rooms and meals for students who might otherwise miss out on the tournament experience.

6.4 Fundraising Expectations

All students and parents/guardians are expected to actively participate in fundraising campaigns and sponsorship outreach. This help is vital to ensure our team's continuance and to secure new technology for our robot and shop tools.



Section 7: Parent & Family Commitments

7.1 Meeting Attendance

- **Mandatory Parent Meetings:** At least one parent/guardian must attend all scheduled parent information nights alongside their student.
- **Team Open House (2702 Day):** Held on the evening of February 27th. Parents are strongly encouraged to attend and view the robot.

7.2 Saturday Build Food Duty (Shared Meals)

On Saturdays and holiday builds (9:00 AM – 6:00 PM), the team provides a shared lunch to keep students and mentors working together.

- **The Rule:** Each family is required to provide at least **4 dishes** over the course of the build season:
 - 1 Main Dish (e.g., lasagna, chili, or pasta)
 - 1 Side Dish (e.g., salad, garlic bread, veggies)
 - 1 Dessert (e.g., cookies, brownies)
 - 1 Free Choice dish
- **Portion Size Guidelines:** Because we feed approximately 60 students and mentors, the best practice is to bring **20 portions** (roughly equivalent to a 6-quart crock-pot) of whatever item you are assigned to prepare. This represents 1/3 of the total main, side, or dessert required for a meeting.
- Parents must sign up for dates on the Food Sign-Up Sheet in the [Parent Folder](#) on Google Drive. When providing the main dish, parents are expected to stay to help set up and clean up, and are encouraged to eat with the team.

7.3 Volunteer Driving Policy

Parents volunteering to transport students to competitions or practices must complete the **Volunteer Driver Form** and meet these criteria:

- **Insurance:** Minimum of **\$2,000,000 in public liability and property damage coverage** is required. Parents must email a confirmation letter from their insurance broker proving this limit to info@2702rebels.com.
- **Rule of Three:** To protect students and adults, a driver must **never** transport a single student alone. There must be at least two (2) students in the vehicle (one of whom can be your own child).
- **Vehicle Limit:** 9+ passenger vans are strictly prohibited for transporting students due to safety risks.

- **Youth Protection Clearance:** Parent drivers must register as "Team Volunteers" on the FIRST Dashboard and successfully complete all FIRST Youth Protection Program (YPP) requirements, including the training module and background screening (details in Section 8.6).

7.4 Attending Competitions (Spectator Support)

Just like any competitive high school sport, we highly encourage parents, siblings, and friends to come out to our competitions to cheer on the Rebels! FRC events are high-energy, incredibly exciting, and completely free for spectators to attend.

Seeing the robot compete on the field and experiencing the atmosphere of the arena is the best way to understand exactly what your student has been working so hard on all season. We would love to see you in the stands bringing the noise and wearing our team colors (**black shirts or Rebels spirit wear**)!

Important Event Seating Guidelines:

- **Arrive Early:** Venues fill up extremely fast. If you wish to sit near the team, you must arrive early in the morning. Attempting to find seating for a group later in the day (e.g., arriving at 1:00 PM) is usually impossible.
- **Team Priority:** Our top priority in the stands is ensuring that our active student team can sit together. Because of this, seating with the team block is never guaranteed for family or visitors.
- **Making Space:** If the stands become crowded, visitors and family members may be asked to move or give up their seats to ensure there is enough space for the team to sit together.

As a representative of the Rebels, spectators are expected to abide by the terms of this Handbook. For example, Gracious Professionalism requires that we cheer for all teams.



Section 8: Workshop Facility & Safety Guidelines

8.1 Drop-Off & Pickup at Google Space

Our build facility is hosted at the **Google Community Space (25 Breithaupt St., Kitchener)**. Because this is a secure corporate facility, we must strictly adhere to their access policies to maintain our use of the workspace.

Regular Team Access (Students & Mentors)

- **Access & App Sign-In:** All badged students and mentors must sign in and sign out using the Rebels Attendance App at the door every time they enter or leave.
- **Badges:** Google Badges are Google property. They must be worn on your shirt or belt and be easily visible to mentors, security guards, and cameras at all times while in the space. Badges **must never leave the building**. Leave them on the badge bin when signing out.
- **No Tailgating:** Do not walk in behind a Googler, even if they hold the door for you. Do not let anyone tailgate behind you.
- **Front Door Hold:** Do **not** hold the front door open for more than 15 seconds, as it will trigger a security alarm.

Visitor Access (Parents, Sponsors, Guests)

STRICT VISITOR POLICY (72-HOUR RULE) ALL parents, sponsors, siblings, and guests (anyone without an official Rebels badge) MUST pre-register with the team at least 72 hours prior to arriving. You must show a valid photo ID at check-in.

- **Zero Exceptions:** This is a concrete Google security rule. It applies regardless of the reason or length of your visit — including quick stops like dropping off a forgotten lunch, delivering Saturday food duty, or popping in to see the robot.
- **If you are not pre-registered 72 hours in advance, you will not be allowed into the building.**

Meeting Conclusion

- **Pickup Time:** Meetings end promptly at 9:00 PM (weeknights) or 6:00 PM (Saturdays). Parents must arrange for prompt pickup so mentors and Google hosts can lock up and go home.
- **Clean Up:** Students are expected to help clean up any tools, materials, and mess before leaving a meeting. A robotics workspace is a shared environment, and everyone is responsible for leaving it ready for the next session.

8.2 Google Office Space Security Policy

Any student who attempts to enter Google's private employee offices (via the secure elevators or interior glass doors) will be **expelled from the team immediately**.

8.3 Shop Safety & PPE (Personal Protective Equipment)

FRC Team 2702 operates under task and proximity-based safety guidelines. Safety requirements depend on the tasks you are performing and your proximity to active mechanical work:

- **Active Robot & Tool Work:** Safety glasses are mandatory at all times for anyone actively building, wiring, operating tools, or inside the Robotics Cage. Closed-toe and closed-heel shoes (no sandals, crocs, or mesh footwear) are mandatory. Long hair must be tied back, and loose clothing, drawstrings, or dangling jewelry must be tucked in or removed.
- **10-Foot Proximity Rule:** Anyone standing within **10 feet** of the robot (when powered) or any active tool use must wear safety glasses and follow all active safety requirements.
- **Laptop & Desk Work:** Students doing programming, writing, business, or scouting at laptop tables are exempt from safety glasses. They may wear mesh shoes, sandals, or other comfortable footwear; PPE is not a factor for desk-based work. (Meetings are quite dynamic in tasks and work. Err on the side of having appropriate footwear for working around tools and the robot even if you only initially intend on desk work.)
- **Orientation and Equipment:** Safety is our number one priority. Students are not permitted to operate tools without undergoing training by a mentor and receiving badge punch sign-offs. Mentors visually supervise all power tool operations, and all safety glasses, tools, and safety equipment are provided by the team and mentors..

8.4 Tool Training & Punch Card Safety System

To prevent injuries and establish a team-wide baseline of safety, all students must be trained and authorized before using any tools in the shop.

- **Mandatory Tool Orientation:** All students on the team must attend the full-day Tool Orientation session (typically held on a Saturday in mid-November from 10:00 AM to 5:00 PM). This training is **mandatory for everyone**, even if a student does not initially plan to use tools or work on the mechanical subteam. Student interests often change as the season progresses, and we frequently need extra hands during crunch times. Establishing this foundational safety and operational knowledge ensures anyone can step in safely when needed.
- **Tool Supervision:** Students are strictly prohibited from working in the shop or using any tools alone. A mentor must be present, and power tools require a qualified mentor nearby.
- **Safety Punch Card System:** FRC Team 2702 utilizes a badge punch system to track and authorize tool use.

- **Badge Tools List:** Specific tools or tool groups are printed directly onto each student's team badge.
- **Training & Sign-Off:** To operate any tool, students must first learn how to use it from a mentor or an experienced student. Once a student demonstrates proficiency, a mentor will formally sign off and "punch" the corresponding slot for that tool or tool group on the student's badge.
- **Independent Use:** A student is only authorized to use a tool or tool group independently once their badge has been punched for it.
- **Badge Requirement:** Students must have their team badge visible or on their person at all times in the workshop to operate tools.
- **Machine-Specific Safety Protocols:**
 - *Drill Press:* Workpieces must always be secured in a vice or clamped to the table. Never hold a workpiece by hand while drilling. Remove the chuck key immediately after tightening the bit.
 - *Saws:* Keep hands at least 4 inches away from the blade's path. Securely clamp workpieces before cutting. Wait for the blade to come to a complete stop before retrieving your cut part.
 - *Lathe & Mill:* Tie back long hair, tuck in drawstrings, and remove any loose jewelry. **Do NOT wear gloves** when operating rotating machinery, as they can get caught in the spindle. Ensure safety shields are closed.
 - *Soldering:* Wear safety glasses (flux can splatter). Always return the soldering iron to its stand when not in hand.
- **Clean-As-You-Go Policy:** Walkways and work surfaces must be kept clear of clutter, sawdust, and metal shavings. The last 15 minutes of every meeting are dedicated to a mandatory shop-wide cleanup. If you're leaving early, spend the last 15 minutes cleaning up before you go.

8.5 Practice Field Safety

The WWFIRST practice field is an extension of our build space. All safety protocols, disciplinary guidelines, and behavioral expectations outlined in this Team Handbook apply equally when operating at the practice field.

When using the WWFIRST practice field:

- **Additional Waiver:** All students and volunteers must have a signed WWFIRST-specific liability waiver on file before accessing the space.
- **Standard Safety:** Safety glasses and closed-toe shoes are mandatory.
- **Supervision:** A mentor must be present at all times.

- **Scheduling & Pickup:** Mentors set the specific schedule determining who will be at the practice field and when. Students and parents are expected to ensure that rides are arranged for prompt pickup at the scheduled end time.
- **Conduct:** No running, jumping, or horsing around.
- **Cleanliness:** Keep the space clean and throw away all trash before leaving.

8.6 First Aid, Medical Emergencies & Incident Reporting

While our safety protocols are designed to prevent accidents, it is critical that all team members know how to respond if an injury occurs.

- **First Aid Kit Locations:** A fully stocked first aid kit and an AED (Automated External Defibrillator) are available on-site at the Google Community Space. During competitions, the team travels with a portable first aid kit, which is always kept visible and accessible at the team's Pit station.
- **Minor Injuries (Cuts, Scrapes, Burns):** Any injury, no matter how small, must be immediately reported to a mentor. A mentor will assist the student with basic first aid. Students should never attempt to silently treat their own injuries and hide them from the team.
- **Major Emergencies:** In the event of a serious injury, mentors will immediately halt all shop or pit work. Emergency services (911) will be called, and the student's parents/guardians will be contacted right away using the emergency contact information provided during registration.
- **Medical Information & Epipens:** Parents/guardians are responsible for ensuring that all medical conditions, allergies, and emergency contacts are completely up-to-date in the FIRST Dashboard. Students who carry EpiPens, inhalers, or other emergency medications must ensure the Lead Mentors know where these items are kept while at the workspace or events.
- **Treatment & Youth Protection (YPP):** In alignment with FIRST YPP guidelines, if a student requires first aid that involves physical contact (such as applying a bandage, cleaning a cut, or examining a scrape), it must be performed in an open, observable area with at least two individuals present (preferably two mentors, or a mentor and an experienced student), unless it is an immediate life-threatening emergency.
- **Incident Reporting:** For any injury requiring more than a standard adhesive bandage, an incident report must be completed by the attending mentors.
 - **Local Incidents:** If the injury occurs at the Google Space or the WWFIRST practice field, the report is submitted internally to the Lead Mentors.
 - **Event Incidents:** If the injury occurs at an official FIRST competition or event, an official FIRST Medical Incident Report must be completed and submitted to FIRST headquarters (via Pit Admin), with a copy retained by the Lead Mentors.

While the team endeavors to have members with first aid certification present at all meetings and events, guaranteed coverage is not always possible.

8.7 Youth Protection Program (YPP) Registration & Clearance

To ensure a safe environment, all adult mentors and volunteer parent drivers must register on the [FIRST Dashboard](#) and obtain full **YPP Clearance** before participating.

Achieving YPP Clearance requires completing three steps on your dashboard:

1. **Youth Protection Policy:** Reviewing and agreeing to the FIRST code of conduct.
2. **Youth Protection Training:** Completing the required online safety training module.
3. **Youth Protection Screening:** A mandatory background check processed securely and free of charge through FIRST's Canadian screening partner, **Sterling Backcheck**.

How to complete your YPP Clearance:

1. Log in to your FIRST Dashboard.
2. Click on "**Youth Protection**" in the left-hand navigation menu.
3. Under the "General Youth Protection Requirements" section, you will see three boxes for the Policy, Training, and Screening. Complete the policy and training modules, and follow the prompts to request your screening (which will redirect you to Sterling Backcheck's portal).

Screening processing may take up to 5-10 business days, after which your approved status will automatically reflect on your FIRST Dashboard. Mentors and drivers must show an active, cleared status before working with students.

8.8 Digital Communication Safety ("Rule of Two")

- To ensure the safety of students and mentors, the team enforces the "Rule of Two" for all digital communications (forum, email, text).
- No adult mentor may initiate a 1-on-1 private message with a student. All digital communication must include a second adult (mentor or parent) or occur in public team channels.



Section 9: Travel, Hotel Guidelines & Conduct Standards

9.1 Competitions Layout

We expect all students to fully participate in the entirety of our scheduled events which typically include:

1. **Waterloo District Event** (Kitchener/Waterloo) – held in March.
2. **Out-of-Town District Event** (Ontario location; varies annually) – held in March.
3. **Provincial Championships** (Ontario location; varies annually) – held in late March/early April (if the team qualifies).

Competition schedules vary between 2 to 3 full days, plus additional travel and load-in time. Some competitions conclude on Saturday, while others conclude on Sunday. Precise event dates and itineraries will be shared during the season. Depending on the event schedule, students may be required to miss one or more days of school to attend.

9.2 Travel Supervision & Passes

At events, students are assigned to specific mentor supervision groups. Students must stay at the venue or the hotel. Students may not leave the competition site or hotel without a mentor, unless signed out directly to their parent(s)/guardians. We use a strict pass system at events (pit passes, washroom passes, quiet room passes, time limits, and muster points) which will be detailed at our competition meeting.

9.3 Hotel Rooming Policies

- **Inclusive and Safe Rooming:** Inclusion and safety of all students is taken seriously. Our goal is to ensure roommate assignments prioritize student comfort and safety. In general, we aim to pair students of similar age and gender identity (as disclosed). We invite students or parents to provide any information or suggestions that would inform decision-making and the goals of comfort and safety in any specific case. Mentors will not share rooms with students who are not their children. To ensure a safe and comfortable environment for all students, students in an intimate and/or romantic relationship will not be permitted to share a hotel room during team travel under any circumstances.
- **Open-Door Socializing:** If students are socializing in a hotel room, the room door **must remain wide open**.
- **Curfew:** Students must be in their assigned rooms by curfew and remain there until morning, except in emergency situations. Team rooms will be taped at curfew; if the tape is broken, the entire room will be sent home.

- **Professional Behavior:** Horseplay, running in corridors, or disruptive behavior is strictly prohibited. Safe and appropriate conduct is expected at all times.
- **Respect:** Students must treat their roommates with respect. This includes being mindful of the impact of your behaviour on others and refraining from behaviour that is disrespectful, disruptive, or makes others feel uncomfortable.
- **Safety and Behavioural Expectations:** Students will not open their hotel room door for someone unknown or unexpected. Alcohol or drug use is not permitted and will result in the student being sent home.

9.4 Dress Code

Rebels represent the team at all times and must dress professionally, cleanly, and safely. Religious attire that meets safety requirements is permissible. All team wear must remain unaltered and in good condition (no stains, holes, or rips). Other worn clothing items must also be in good condition (no stains, holes or rips). The [FIRST Safety Manual](#) provides additional details regarding event safety requirements.

1. Task & Proximity Safety Requirements (Workspaces & Pits)

- **Active Work & Pits:** Safety glasses, closed-toe and closed-heel shoes (no sandals, crocs, or mesh footwear) are mandatory for anyone actively working on the robot/tools, entering the Robotics Cage, or entering the competition Pits. Long hair must be tied back, and loose clothing/jewelry must be secured.
- **10-Foot Proximity Rule:** Anyone standing within 10 feet of a powered robot or active tool use must adhere to the same safety requirements as active workspaces (including safety glasses, closed-toe/non-mesh footwear, and secured hair/clothing).
- **Desk & Laptop Work:** Outside of active work zones and the 10-foot proximity boundary, PPE is not a factor for desk-based work (programming, business, scouting). Desk workers may wear sandals, mesh shoes, and are exempt from safety glasses.

2. Workspace & Event Categories

Category	Tops	Bottoms	Notes
Competitions & Public Events	Current competition t-shirt (students) or polo (mentors). Team-branded sweater/hoodie layered overtop.	Full-length pants or knee-length shorts/skirts (jeans, cargo, dress wear). Form-fitting activewear (such as yoga pants or	Coats must not be worn inside the venue; they are stored in team duffle bags. First-year students may wear a plain black shirt until team shirts are issued.

Category	Tops	Bottoms	Notes
		leggings) is permitted provided it is made of opaque material. No sweatpants or gym shorts. Bottoms must fit appropriately and not be sagged or overly baggy.	
Team Meetings & Build Sessions	T-shirts (Rebels/FRC swag preferred). Long sleeves must be easily rolled up.	Full-length pants or knee-length shorts/skirts.	Google Badges must be worn at all times at the Google Community Space.
Hotels	Clean casual shirts.	Clean casual pants or pajamas.	Footwear must be worn outside rooms (no bare feet or socks in case of evacuation).

9.5 Outreach, Sponsor Visits, WWFIRST events

- Students must wear the **current year Competition t-shirt** and dress according to the dress code.
- Professional Behavior:** Horseplay, running, or disruptive behavior is strictly prohibited. Safe, respectful and appropriate conduct is expected at all times when representing the Rebels. This includes being mindful of the impact of your behaviour on others.
- Personal Dynamics:** While it is expected that students will form close friendships during the year, students are expected to separate personal dynamics from team responsibilities. Personal dynamics must not:
 - Disrupt meetings, competitions, or travel activities.
 - Create discomfort, exclusion, or distraction for other team members.
 - Influence leadership decisions, awards, or team assignments (to prevent favoritism or conflicts of interest)
 - Affect team operations.

9.6 Emergency & Fire Logistics at Competitions

- **Coat Storage & Fire Evacuation:** At travel events, student coats are packed away in team duffle bags. In the event of a fire alarm or evacuation, these team duffle bags must be brought directly to the designated team muster point.
- **Muster Point Awareness:** The team will be briefed on the exact location of the muster point before the event. If duffle bags are stored outside the venue (e.g., in a vehicle), the vehicle shall be parked near the designated muster point to ensure quick access to coats during an evacuation.



Section 10: Conflict Resolution & Safe Communication

We are committed to maintaining a positive, cooperative learning environment built on mutual respect and Gracious Professionalism. When interpersonal disagreements, conflicts, or concerns arise, they must be handled constructively.

10.1 Dispute Escalation Ladder

If a student, parent, or mentor experiences conflict with another team member, the following escalation path will be used:

1. **Level 1: Peer-to-Peer Mediation:** If safe to do so and the incident involves only students, the individuals involved should first attempt to address the issue directly and politely in private, using respectful language and focusing on resolving the behavior rather than personal attacks.
2. **Level 2: Student Leadership Support:** If the issue remains unresolved, students should approach a Logistics Mentor/Director or their Subteam Lead. Student leaders will act as neutral mediators to help find common ground.
3. **Level 3: Lead Mentor Escalation:** If student leaders are unable to resolve the conflict, or if the dispute is between a student and a mentor, the matter must be brought to the Lead Subteam Mentor. Mentors will keep Directors informed of conflicts in a timely fashion.
4. **Level 4: Directors Review:** For persistent conflicts, severe disputes, or issues that cross into Team Handbook violations, the matter is referred directly to the Board of Directors of Kitchener-Waterloo Youth Robotics for formal resolution.

10.2 Safe Reporting & Anti-Retaliation Policy

- **Safe Reporting:** Any member of the Rebels community (student, parent, or mentor) who witnesses or is subjected to safety violations, harassment, bullying, or discrimination has a responsibility to report it immediately to any Director or Lead Mentor.
- **Anti-Retaliation:** Retaliation of any kind against an individual who reports a concern, files a complaint, or participates in an investigation is strictly prohibited. Engaging in retaliatory behavior (such as exclusion, gossip, or intimidation) will result in immediate suspension from the team.



Section 11: Disciplinary Protocol & Handbook Enforcement

We recognize that small and unintentional violations of our Team Handbook may happen due to carelessness or misunderstanding. In these cases, mentors are committed to offering guidance to help students learn and improve. However, for significant, intentional, or repeated violations, the team enforces a progressive disciplinary protocol.

11.1 Due Process & Investigation Procedure

To ensure fairness, all reported violations of the Team Handbook are investigated using the following due process:

- **Fact Gathering:** Upon receiving a report, the Directors will collect facts from all parties involved, including requesting written statements if necessary. To ensure a fair, informed, and appropriate review, the Directors may consult with individuals who have relevant experience, expertise, or training related to the matter under consideration. Any consultation will be conducted in a manner that respects privacy and confidentiality to the greatest extent reasonably possible.
- **Witness Interviews:** Directors may interview witnesses or mentors who were present during the incident.
- **Discussion with Parents:** Before any disciplinary suspension is finalized, Directors will discuss the incident and findings with the student's parent/guardian.
- **Review Meeting:** The Directors will review the gathered information collectively and vote on the appropriate disciplinary consequence based on the severity of the violation and the student's history.

11.2 The Tiered Disciplinary System

A tiered disciplinary system is used when the investigation concludes that a student has violated the Team Handbook. The actions taken will depend on the seriousness of the violation. As discussed in greater detail under section 11.4, certain very serious incidents will result in bypass of the tiered disciplinary system.

The tiered disciplinary system for students is as follows:

1. **First Intervention:** The student's parent/guardian is notified of the infraction. A formal discussion is held between the student and directors/mentors to review the Team Handbook expectations.
2. **Second Intervention:** The parent/guardian is notified. A suspension period away from all robotics builds, meetings, and digital workspaces is established. A formal **Amends Meeting** is scheduled. During this stage, the Directors will evaluate whether the student's behavior choice disqualifies them from representing the team at travel competitions or outreach events. Student and parent/guardian responses are taken into consideration in determining length of suspension.
3. **Third Intervention:** The parent/guardian is notified. A longer suspension period is established. The student is restricted from attending team outreach events and competitions. The student may be asked to sit out the remainder of the season or removed from the team. Student and parent/guardian responses are taken into consideration in determining length of suspension and whether any further steps like expulsion are required.

11.3 Definition of Suspension Conditions

When a student is placed on suspension:

- They may **not** enter the Google Community Space or attend any team meetings.
- Their access to team resources and accounts such as the team forum and shared Google Drive folders is temporarily deactivated.
- They may **not** travel with the team or enter the team pit at competitions.
- Parents/guardians are responsible for picking up their student from travel venues immediately if a suspension is triggered while away, at their own expense and with no refunds.

11.4 Immediate Suspension / Expulsion Triggers

Certain severe violations bypass the progressive tiers and result in immediate suspension or expulsion from the team. These include:

- Attempting to enter the Google office space (elevator or interior doors) or trespassing on Google property.
- Harassment, bullying, or discrimination of another student, mentor, sponsor, volunteer, or event staff.
- Abusive language, threatening behavior, or disrespect toward mentors, volunteers, other teams, or event staff at Rebels events.
- Repeated unsafe use of tools, machinery, or violating workshop safety rules.
- Violations of travelling expectations (hotel curfews, open-door policies, leaving the venue without a mentor, team expectations, inappropriate behaviour as determined by mentors).
- Any illegal activity, including theft, vandalism, or drug/alcohol use.

11.5 Non-Student Disciplinary Protocol

Because this Handbook applies to "all team members and families, regardless of their role," violations by adults are handled as follows:

- **Mentors:** Any violation of safety, YPP, or respectful conduct policies by a mentor will be reviewed immediately by the Board of Directors. Consequence options include a formal warning, suspension of mentoring privileges, or immediate revocation of team membership and removal from the FIRST roster.
- **Parents/Guardians:** If a parent or guardian violates safety rules, volunteer driver guidelines, or demonstrates abusive, hostile, or repeatedly disrespectful behavior toward team members, event staff, or volunteers, they may be restricted from attending team meetings, builds, and competitions, as well as participating in volunteer roles like food duty or driving students. Because parents and guardians are representing the team, in cases of severe or ongoing misconduct, the Board of Directors reserves the right to sever ties with the family entirely, which will result in the immediate dismissal of their student from the team.

11.6 Amends Meeting Framework

To be reinstated following a suspension, the student must complete a formal Amends Meeting:

- **Participants:** The student, their parent/guardian, and at least two Directors.
- **Accountability:** The student must verbally acknowledge the rule they broke and discuss the impact of their action on the team.
- **Restoration Plan:** The student must write and submit a brief, actionable plan detailing how they will ensure the behavior does not recur and how they will actively support their peers moving forward.

11.7 Travel Expectations

When travelling with the team for out-of-town events, under some circumstances, it becomes necessary to remove students from the hotel.

- **Students who become ill:** Parents/Guardians to be contacted, and the student is expected to be picked up in a timely manner. Parents/guardians are responsible for all return transit arrangements and costs, and travel/accommodation fees **are non-refundable**.
- **Students removed from hotel for policy violations:** Parents/Guardians to be contacted, and the student is expected to be picked up in a timely manner. Parents/guardians are responsible for all emergency return transit arrangements and costs, and travel/accommodation fees **are non-refundable**.

Section 12: Student Roles Directory & Selection Process

Every student is encouraged to take ownership of their role. Below is the directory of student roles available on the team, categorized by build season, competition, and business/outreach operations.

12.1 Build Season & Development Roles

These roles focus on the design, software development, and assembly of the robot during the build season. The team organizes its technical work around subsystems, with robot software and vision treated as subsystems alongside mechanical components.

- **Subsystem Lead:** Coordinates the design, prototyping, CAD, manufacturing, software programming, testing, or vision integration of a specific robot subsystem (e.g., drivetrain, intake, climber, robot control code, or vision tracking). Guided by build and software mentors.
- **Subsystem Contributor:** Contributes to subsystem fabrication, physical assembly, wiring, software writing, or vision testing. Helps complete tasks, maintains a safe workspace, and keeps tools and code repositories organized.
- **Scouting App Developer:** While not part of the physical robot directly, the scouting app has similar development dynamics. Developers design interfaces to collect match data, write programming code, and build, test, and deploy the scouting software used for match strategy. Guided by strategy and software mentors.

12.2 Competition Event Roles & Selection Process

These roles are assigned mid-season. While select key roles (such as Driver, Operator, Scouting Lead, and Pit Spokesperson) are highly coveted and competitive, other support roles (such as Scout and Event Volunteer) are open to all interested students who meet the team's attendance requirements.

No Formal Tryouts: FRC Team 2702 does not conduct formal, one-off tryouts, mock interviews, or written exams for competitive student roles (such as Drive Team, Pit Crew, or Scouting Squad). Instead, **active participation and engagement during the season is the tryout.** To earn one of these roles, you must participate consistently, stand out, and have a positive impact on the team. Selection decisions are made by the lead mentors of each subteam based on this season's contributions and engagement.

1. Drive Team (Student)

- **Driver:** Controls the robot's physical motion on the field. Must be coachable, calm under pressure, fluent in game rules (to represent the team in the referee Question Box), and demonstrate excellent reaction times.
- **Operator:** Controls secondary robot mechanisms and performs on-the-fly troubleshooting.
- **Human Player:** Manages game pieces and field elements at the human player station, feeding them to the robot and adapting to live strategy changes.
- **Technician:** Transports the robot, executes pre-match checklists, coordinates match debriefs, and manages battery charging.
- *Selection:* Selected by the Drive Coach based on season engagement and driving practice, with input from Build mentors.

2. Pit Crew (Student)

- **Pit Crew Member:** Works under tight time constraints to perform preventative maintenance, diagnose issues, and repair the robot in the pit. Must be a hands-on expert with the robot, demonstrating strong proficiency in assembly, disassembly, fast-paced mechanical repairs, and tool safety.
- **Spokesperson:** Engages judges and visitors, presenting the robot's technical details and team attributes to secure judged awards.
- *Selection:* Selected by the Lead Pit Mentors based on technical subsystem knowledge, tool safety, composure, and mechanical troubleshooting skills, with input from Build mentors.

3. Scouting & Strategy (Student)

- **Scouting Lead & Field Representatives:** Lead the team's data-driven match play analysis and alliance selection strategy. Field Representatives represent the team on the field during alliance selection, interacting directly with other teams to execute our picklist.
 - *Selection:* Selected by Strategy and Scouting mentors. Candidates must demonstrate deep gameplay comprehension, an understanding of complex match dynamics and team matchups, active engagement in scouting research (such as watching other regional events to analyze robot designs and trends), and the ability to formulate strategic alliance options.
- **Scout:** All other team members. Every student on the team is expected to participate in scouting rotations at competitions. Scouts gather match data on competitor robots using the custom scouting app, helping the team compile the data needed to make informed strategic decisions and draft our alliance selection picklist.

4. Event Media & Volunteers (Student)

- **Match Filming:** Records match videos and photographs team activities for strategy review and public branding.
- **Event Volunteer:** Registers on the FIRST Dashboard to volunteer at events (queuing, field reset, safety glasses desk).

12.3 Business, Outreach & Ambassador Roles

These roles manage sponsorships, community relations, graphics, and regional leadership.

- **Sponsorship & Fundraising:** Identifies local sponsor prospects, drafts outreach letters, and coordinates team fundraisers (EcoCoffee, FundScrip). Guided by Business & Fundraising Mentors.
- **Grant Writing:** Researches municipal, provincial, and federal STEM grants and drafts applications. Guided by Sponsorship & Grants Mentors.
- **Team Graphics & Design:** Designs online and printed documents, merchandise, stickers, and pit banners using free design software. Guided by Design & Media Mentors.
- **Media & Social Media:** Storyboards and edits team videos (including teaser reveals before late February). Guided by Media Mentors.
- **WWFIRST Youth Council:** Acts as a team ambassador to the Waterloo-Wellington regional hub. Maximum of 2-3 students (2-year term). *Requirement:* Must be a team member in good standing with a strong knowledge of the team, capable of collaborating effectively and representing the Rebels brand. Guided by Outreach Mentors.

12.4 Intellectual Property, CAD & Code Release Policy

- **Ownership:** All software code, CAD models, electrical schematics, and strategic designs developed by team members (students and mentors) for the purpose of FRC Team 2702 are the property of Kitchener-Waterloo Youth Robotics.
- **Open-Source Release:** Following FRC best practices (and to support FIRST's mission of open education), the team intends to release its robot CAD models and control system source code publicly after the completion of each season.
- **In-Season Sharing Restrictions:** To maintain the team's competitive standing, current season CAD files, strategy databases, and code repositories must be kept private. Members may not share internal designs or code with competing teams during the active build and competition seasons unless explicitly authorized by a mentor.



Section 13: Looking Ahead

While the robot is the focal point of our season, the true purpose of FRC Team 2702 is to build confidence, capability, and community. The build and competition seasons will be demanding, fast-paced, and challenging, but they also offer one of the most rewarding, collaborative experiences for our students, parents, and mentors alike.

Our team operates on the belief that everyone has something to learn and something to contribute. Whether you are a student programming your first line of code, a parent coordinating meals, or a mentor troubleshooting a mechanism, we are all here to support, guide, and celebrate one another.

Bring your enthusiasm, ask questions, share your expertise, and look out for one another. We can't wait to see what we build and accomplish together this year!

Welcome to the Rebels!



Section 14: Handbook Agreement & Sign-Off

By participating on this team, students, mentors and parents/guardians are joining a community built on mutual respect, safety, and accountability.

This handbook outlines the core operational policies, travel guidelines, safety protocols, and behavioral expectations of our team. Compliance with these standards is required to maintain a

safe, productive workshop environment and to participate in team travel and competition events.

Document Updates: As our team evolves, this handbook may be updated. Minor updates and clarifications will be communicated via the team forum. In the event of a major version update, all members and families will be required to review the new terms and formally re-sign their agreement.

14.1 Our Shared Commitment

- **Students & Mentors:** I have read this handbook and agree to all terms, operational policies, and behavioral expectations outlined within it. I understand that my participation—including the privilege of traveling to events for students—depends on my daily choices, behaviour, and respect for everyone in the team community.
- **Parents/Guardians:** I have reviewed this handbook with my student. I understand the team's operational structure, financial frameworks (including travel and meal costs), and safety policies. I agree to support the team's volunteer mentors in upholding all terms and standards set forth in this document.
- **Written Signatures & Waivers:** While this digital handbook serves as our operational guide, all students and parents/guardians are required to sign a physical agreement attesting to your agreement with this Handbook, as well as a team liability waiver at the mandatory parent meeting prior to the start of the season.

By completing the team registration/onboarding form, you acknowledge that you have read, understood, and agree to be bound by all terms, policies and operational procedures outlined within this Team Handbook.



Appendix A: Quick Reference Links

Team 2702 Resources

- **Team Website:** www.2702rebels.com
- **Team Forum (Discourse):** forum.2702rebels.com (Primary communication hub & schedule)
- **Register for the team:** registration@2702rebels.com
- **General Contact Email:** info@2702rebels.com

- **Rebels Store:** 2702rebels.com/store (For mandatory T-shirts, travel fees, and team swag)
- **GitHub Organization:** github.com/2702rebels (Source code and technical documentation)

FIRST & Regional Resources

- **WWFIRST (Waterloo-Wellington FIRST):** wwfirst.ca (Regional hub and high school directory)
- **FIRST Inspires Dashboard:** my.firstinspires.org/Dashboard/ (For parent/guardian and mentor registration)
- **FIRST Safety Manual:** info.firstinspires.org/hubfs/web/program/all/safety-manual.pdf (Official safety and dress code guidelines)
- **FIRST Youth Protection Program (YPP):** firstinspires.org/programs/youth-protection-program (Safeguarding standards and policies)

Appendix B: Welcome to the FRC Ecosystem (A Guide for New Joiners)

Welcome to the FIRST Robotics Competition (FRC)! Navigating the scale of the global FRC community can feel like learning a whole new language. To help you get familiar with how everything works, we have compiled the essential resources, tracking tools, community hubs, and technical platforms used across the global FRC ecosystem.

1. The Big Picture & Local Training

If you are brand new to the program, start here to understand the structure of the competition and access high-quality video tutorials created right in our backyard.

- **[FIRST Robotics Competition Official Site](https://www.firstinspires.org)** – The global home of FRC. This is the best place to learn about the overarching mission, parent resources, and how the program bridges youth robotics with university and career paths.
- **[WWFIRST Training Playlists](#)** – A local goldmine of training videos provided by Waterloo Wellington FIRST, breaking down foundational concepts in design, fabrication, electronics, and software.

2. Community Hubs & Forums

FRC is a massive global community built on the concept of "Gracious Professionalism"—teams actively helping other teams.

- [Chief Delphi](#) – The ultimate global forum for FRC, used daily to discuss strategy, troubleshoot software bugs, share open-source CAD designs, and debate game rules.
- [The FRC Discord](#) – A fast-paced, student-heavy global community chat platform for real-time discussion across programming, design, media, and strategy.

3. Data, Scouting & Match Tracking

FRC is heavily driven by data analytics. During a competition, teams scout every match to determine strategy and pick alliance partners for the playoffs.

- [The Blue Alliance \(TBA\)](#) – The historical database for all things FRC. You can look up any team to see their event history, match videos, award wins, and historical alliance selections.
- [Statbotics](#) – A data science platform that applies an Elo rating system to FRC teams, predicting match outcomes and ranking teams globally.
- [FRClocks](#) – A website for tracking district strandings and estimating progression.

4. Technical Platforms (CAD, Software & Code)

Whether you want to design robot parts, program the robot, or build strategy tools, these are the core engineering hubs used by the team.

- [SolidWorks](#) – The industry-standard 3D CAD (Computer-Aided Design) software used by the team to model the physical robot, run stress simulations, and export manufacturing drawings.
- [WPI Lib Documentation](#) – The official, comprehensive library and tutorial base for FRC software development, covering setting up VS Code, robot programming, path planning, and computer vision.
- [GitHub](#) – The industry-standard version control platform where FRC teams (including ours) host and collaborate on robot code.
- [Team 2702 Scouting App Stack](#) – Our custom scouting software is built from the ground up using a modern web stack: **React**, **TypeScript**, **TailwindCSS**, and **shadcn/ui** for the user interface, powered by a **Node.js** backend and **Firebase** for real-time database syncing and hosting. While some general software or programming experience is expected for students interested in this role, prior knowledge of this specific web stack is not required.

5. Common Hardware & Vendor Resources

Modern FRC robots are built using commercial, off-the-shelf components specifically engineered for high-performance youth robotics.

Major Mechanical & Ecosystem Vendors

- [**REV Robotics**](#) – Suppliers of the REV ION build system, control system hardware, and brushless motor ecosystems.
- [**WestCoast Products \(WCP\)**](#) – Creators of high-performance drivetrain kits, swerve drive modules, and specialty competition mechanisms.
- [**AndyMark**](#) – Suppliers of field components, official game pieces, robust gearboxes, and the standard FRC chassis.
- [**CTRE \(Cross The Road Electronics\)**](#) – Designers of high-end motor controllers (such as the Talon FX) and CAN-bus system architectures widely used for precise robot movement and sensor feedback.

Specialized Component Frameworks

- [**NVIDIA Jetson / Custom Vision Systems**](#) – Embedded computing boards (such as Jetson Nanos) running custom cameras and vision software to track field targets, calculate distances, and drive autonomous targeting loops.

Document History

Version	Date	Description
1.0	July 27, 2026	Initial publication.

© 2026 Kitchener-Waterloo Youth Robotics. All rights reserved.