

TroBots
FRC Team #3668
Whitmore Lake High School

2017-2018
Team Handbook

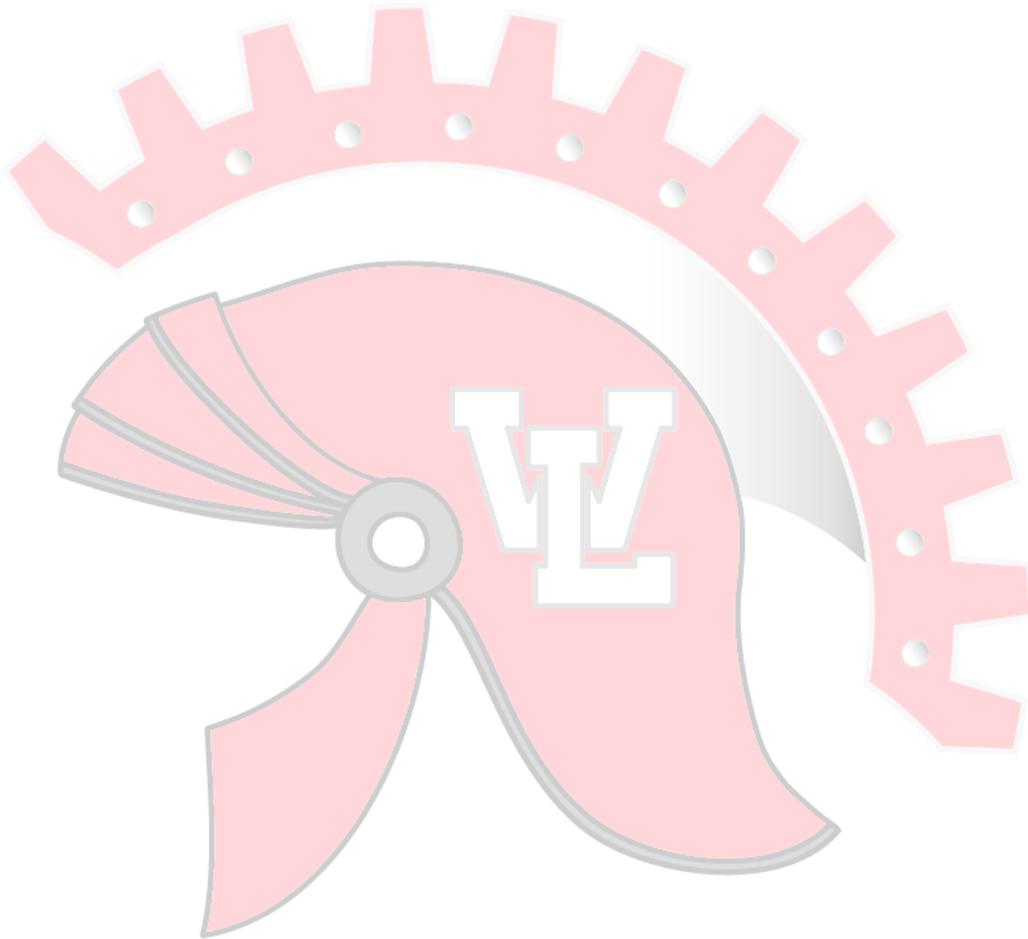


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Part I: Who We Are and Why We're Here

Team Overview

The TroBots is a club organization sponsored by Whitmore Lake Public Schools. It has been in existence since 2011. Team membership is open to any current 9-12th grade student who meets the guidelines set forth below.

The Team competes as part of FIRST Robotics and follows the rules and timelines established by FIRST. The robot build and competition season begins in January of each year and ends in April. The off season comprises the rest of the year. Each team member is expected to participate in both build and off season activities.

Mission Statements

FIRST Mission Statement

The mission of *FIRST* is to inspire young people to be science and technology leaders, by engaging them in exciting Mentor-based programs that build science, engineering, and technology skills, that inspire innovation, and that foster well-rounded life capabilities including self-confidence, communication, and leadership.

Team Mission Statement

To be created by Students during 2016-2017 Season.

Part II: Team Organization

The team is composed of a group of adults providing mentorship and direction with students who participate in various ways. Each student is placed into one or more sub-teams based on their interest, willingness to learn, and available resources to best support our FIRST season. Each sub-team has an adult mentor as a guide, as well as a Student Lead.

Mentors

The mentors are divided into two categories, each with a Lead Mentor, as follows:

- Technical – oversees Electrical, Build, Controls, Safety, Drive, Game Elements, and Scouting sub-teams
- Business – oversees Finance, Marketing, and Media/Spirit sub-teams

Students

The student sub-teams and a brief definition of each are as follows. Each of these sub-teams will have a Lead position that will be filled by a student. Lead positions are primarily determined by mentors.

- Electrical – students who do the wiring of the robot (example: soldering of components)
- Build – students who do the mechanical build of the robot
- Controls – students who do the programming and logic for the robot
- Safety – students who manage all safety components, both with the robot and general tool handling
- Drive – students who drive the robot at competition**
- Game Elements – students who build replicas of the FIRST game for robot practice and testing
- Scouting – students who develop a process and execute scouting of alliance partners
- Finance – students who work with financial reconciliation
- Marketing – students who develop sponsor relationships, community outreach and other team branding
- Media/Spirit – students who manage the team social media presence and competition spirit activities

The Drive Team is selected each build season and is expected to attend **all competition events¹. Every team member is eligible to apply for the Drive Team.

Drive Team selection is highly competitive and will require extra effort on the part of the student. Selection follows these criteria: highest ranking scores of written tests that assess knowledge of the FIRST game, mandatory attendance of at least 75% of all scheduled build season meetings, 50% of off season meetings and outreach activities, overall driving skill, and team participation. The final Drive Team member roster is decided by the Technical Lead and Drive Coach.

¹ Exceptions will be made for extenuating circumstances.

Student Leadership

In addition to the sub-team roles and leads, students may express interest one of the following student leadership positions. Due to the additional time commitment for students in leadership positions, it is recommended that a student only fill one leadership position. However, students may run for multiple positions, though they may only be elected to one of them.

Students running for these positions should be aware that they will be expected to perform extra duties which may require extra time and effort on their part. If a student is not fulfilling the duties of their position(s), they may receive additional coaching from a Mentor and/or be removed from their position, at the discretion of the Mentor Group.

Team Captain

At the beginning of each off season, the team as a whole will elect by simple majority the Team Captain. The student elected for this position will have that role for one year.

To be eligible to run for Team Captain, the student must:

- Have a minimum of 2 years of experience on an FRC team
- Have been a Sub-team Lead for at least 1 year
- Have been a member of Team 3668 for at least 1 year

The responsibilities of the Team Captain are:

- Liaison between students and mentor leadership
- Keeping team members on schedule for build season milestones
- Work with mentor leadership on skills clinics or other team activities for off season
- Communicate information to the team (via email)
- Set the agenda for special team meetings, to be coordinated with mentor leadership
- Participate in sub-teams as described above
- Monitor websites (FIRST, Chief Delphi) for vital information
- Reach out to and interact with other FRC teams, peers, and schools throughout the Season

Team Co-Captain

To be eligible to run for Team Co-Captain, the student must:

- Have been a member of Team 3668 for at least 1 year

The responsibilities of the Team Co-Captain are:

- In the absence of the Team Captain, the Co-Captain will represent the team.
- Take meeting minutes and work with communications mentor to distribute to team
- Lead and manage team's corporate sponsorships and funding efforts
- Develop and maintain relationships with the team's sponsors
- Help organize Outreach and other events, activities
- Monitor websites (FIRST, Chief Delphi) for vital information

Team Treasurer

To be eligible to run for Team Treasurer, the student must:

- Have been a member of Team 3668 for at least 1 year

The responsibilities of the Team Treasurer are:

- Work with Accounting Lead to ensure that finances are adequate for team expenses
- Report to the full team on status of finances, if requested
- Submit required FIRST forms
- Submit Annual Report before Build Season starts
- Act as the Financial Lead

Team Safety Captain

To be eligible to run for Team Safety Captain, the student must:

- Have been a member of Team 3668 for at least 1 year

The responsibilities of the Team Safety Captain are:

- Plan, create, and present annual team safety seminar and supervise quizzes
- At all competitions, monitor pit safety and proper tool use
- Distribute and collect safety glasses; insure safety glasses are packed for outreach events and competitions.
- Monitor websites (FIRST, Chief Delphi) for vital information
- Coordinate safety of tools and oversee tools management.
- Download and print-out current year safety manual, including safety (SDS) information about batteries. This information should be available in the workshop and at competitions as part of information shared with Judges
- Maintain Safety Captain Notebook to Technical Lead at end of season
- Maintain current CPR/First Aid certification
- Act as the Safety Lead

Part III: Student Requirements

Eligibility

Any student enrolled in grades 9-12 in good standing with school administration and has paid their entry dues is eligible to participate with the team.

Expectations

Attendance

Team members are expected to participate regularly at meetings. If a team member is going to be absent from a regular meeting, it is the student's responsibility to inform the Team Captain and/or the Business Lead mentor before the start of a scheduled meeting². After 4 absences without contact, the team member will receive a written warning and possible reassignment at the discretion of the mentor group.

Students are expected to attend a minimum of 50% of all meetings/activities throughout the year.

Fundraising

It is required that each team member participate in at least one team sponsored fund raising event (i.e., U of M concession stand, bottle drive, or other fundraiser).

Sponsor Visits

Students are expected to attend at least one Sponsor Visit. This could be done to solicit contributions or it could be done at the end of the year to thank Sponsors. Students are encouraged to attend multiple Sponsor Visits.

Recognition

FIRST Robotics is considered to be a Varsity sport. Students participating on Team 3668 can earn a Varsity Letter in one of two ways:

- Path 1: Complete the following:
 - Attend at least one fundraiser
 - Attend at least one Sponsor Visit
 - Attend at least 50% of regular meetings
 - Attend at least 50% of Competitions (District, State (when applicable), and World (when applicable))
- Path 2: Be a Subgroup Lead for one year

Subsequent years, students earn a Robotics pin.

Any additional Team Awards may be given as mentors find appropriate.

Student Assessment

(See Attachment 1)

Once annually, each team member will be expected to complete and discuss with mentor leadership the attached Student Development Form to assess skills, interest and talent for the team.

² Or as soon as possible, in case of an unforeseen event.

Code of Conduct

The TroBots foster a culture of inclusion, open communication, learning and fun. To accomplish this, we expect all of our members to abide by the WLPS Student Code of Conduct and the following:

- Know and abide by FIRST Code of Conduct (<http://www.firstinspires.org/about/code-of-conduct>)
- Attend the team meetings
- Participate fully (in mind and body)
- Be respectful to everyone
- Share ideas
- Ask questions
- Teach those around you
- Make robots FUN!
- Under no circumstances will a Team member give out any personal information about themselves or another Team member while using any Team-related form of communication. This includes directly or indirectly, via any form of social media (webpage, email, Twitter, Facebook, etc.). Any student posting to any of the Team's social media pages should be aware that their actions and posts reflect on Team 3668. Posts should at all times reflect the ideals of FIRST and Gracious Professionalism.

Safety

Safety is incredibly important. Students involved with Team 3668 agree to the following:

- Team members will act in a safe manner at all times. This includes any team-related activity, including, but not limited to: Team meetings, fundraising events, sponsor meetings, outreach activities, travel to and/or from any event, and during competitions.
- Horseplay of any kind will not be tolerated at any time.
- Team members will be respectful of the Safety Captain(s) and follow to reasonable requests made.
- Team members are required to observe the following rules regarding attire:
- Teams members are to wear safety glasses at work sites and in the pit area at all competitions.
- Teams members are required to wear closed heel and closed toe shoes to all meetings and competitions.
- Team members may be required to wear additional safety equipment during certain tasks, including, but not limited to: gloves, face masks, and ear protection.
- Work areas will be cleaned at the end of each meeting. This includes sweeping, cleaning work surfaces, putting away tools and materials, throwing away trash, and other activities as needed.
- Team members are required to pass a Safety Quiz before using any power tools or equipment. Power tools and/or equipment may only be used under the supervision of an adult mentor.
- Failure to follow any of these rules may result in student(s) being removed from their position on the Team, from the Team itself, and/or having to leave a Competition.

Conflict

If conflict exists between two or more Team members that cannot be resolved between them, the students agree to bring it to the attention of the Team Captain for mediation. If this does not solve the problem, the Team Captain will bring the issue(s) to the Mentor Group.

If conflict exists between a student and their Group Mentor(s), the student has the option of approaching either the Technical Lead Mentor or the Business Lead Mentor (at the student's discretion) for mediation.

Part IV: Parent Requirements

Fundraising

Parents agree to assist with some fundraising throughout the season. This might include, but is not limited to: chaperoning students on sponsor visits, working at various Concession Stands, and assisting with the Team Garage Sale.

Meetings

Parents agree to be called upon to assist with Team Meetings, if necessary. No special skills are required for this; there just may be times that we need to have an additional adult present.

Build Season

During the 6-week Build Season, the Team eats dinners together on Friday nights. Each week, one family signs up to provide dinner for the Team. There may be a variety of food allergies to be taken into consideration; these will be disclosed at the time of the sign up.

FIRST Volunteering

Team 3668 is expected to provide volunteers for each District Competition. We are responsible for filling 2 slots on Fridays and 2 slots on Saturdays. Parents do not need to volunteer both days, but can if they choose to.

Student Pick Up/Drop Off

Most of the time, our meetings are pretty consistent. You are responsible for providing transportation for your student at the scheduled time(s).

Travel back from competitions can sometimes be flexible: we will do our best to let you know when we expect to return. If that time should change, we will notify you as soon as possible.

Conflict

If parents feel there is a conflict, they should notify either or both of the Lead Mentors. If this fails to resolve the issue(s), Lead Mentor(s) will bring the matter to the Mentor Group.

Part V: Robotics Calendar

The Robotics season is divided into three categories: Off Season, Build Season, and Competition Season. Each Season has unique goals and activities. The following breakdown is meant to be an overall guide to what the year looks like; it is not all-inclusive and is subject to change.

Off Season

Off Season consists of any time during the calendar year that is not Build Season or Competition Season. During this time, the Team meets once a week, generally on Saturdays, for 2-3 hours. This time is used to plan fundraising events/activities, visit Sponsors and Potential Sponsors, clean/organize/maintain our meeting space, train and educate members on various tools and computer-related activities, and perform community outreach. This is an important part of each season, and as such, students are expected to abide by the attendance policy.

Off Season typically covers May-December.

Build Season

Build Season is the 6-week period of time that starts at the Annual Kick-Off in early January. During this time, the team is heavily involved in designing and building the robot(s), writing the programming needed to make it (them) functional, building the practice field, and applying the skills they learned during the Off Season. The Team typically meets 3-4 days per week (approximately 10-15 hours), with the potential to meet more often if it is necessary to complete the robot.

Build Season typically covers early January to mid/late February.

The Annual Kick-Off for 2018 will be January 6, 2018.

The Annual Kick-Off for 2019 will be January 5, 2019.

FIRST Competition Season

Competition Season begins when Build Season finishes. During this time, the Team will travel to 2 or 3 District Competitions within Michigan. Competitions are three (3) days in length, beginning with Setup on Thursday afternoon/evenings and ending with the Event Awards Ceremony on Saturday evening. Overnight travel is not required or expected for District Competitions. In weeks that do not have a competition, the Team will meet as required to be ready for the next competition.

If qualified, the Team will travel to the State Championship. The team travels to Grand Rapids, MI on Wednesday afternoon and will return either late Saturday night or possibly Sunday morning.

If qualified, the Team will travel to the World Championship. The team travels to St. Louis, MO on Tuesday morning and will return Sunday evening.

Competition Season typically covers late February to late April.

Event	Date(s)	Location	Travel Dates
District Competition #1	TBD	TBD	n/a
District Competition #2	TBD	TBD	n/a
District Competition #3	TBD	TBD	n/a
2018 State Championship	April 11-April 14, 2018	TBD	Add one day after.
2018 World Championship	April 25-April 28, 2018	Detroit, MI	TBD
2019 World Championship	April 24-April 27, 2019	Detroit, MI	TBD
2020 World Championship	April 29-May 2, 2020	Detroit, MI	TBD

Part VI: Competitions

The Team will compete in at least 2 competitions each season. Our performance at these District Competitions will determine if we qualify for the State or World Competitions. Students are expected to be on their best behavior and portray Gracious Professionalism in all interactions with other Teams, Judges, and Event Volunteers.

Scouting

Scouting is important because it lets us see other teams' strengths and weaknesses. These are helpful to us in Qualifying Matches, but also when it comes time to choosing our Alliance Team Members. All Team members may be expected to perform Scouting duties at a competition. The number of teams that will be scouted will vary from student to student (depending on other responsibilities).

Down Time

Students will have designated areas where they are allowed to hang out when they don't have other assignments to be working on. Students should not be outside of these areas without permission from a Team Mentor. This is so that we are able to find our Team Members when we need them.

Areas will vary from event to event, but will be communicated via email prior to the event, and again at the event. Students should never venture outside of the venue building without permission.

Guests

Parents, family members, teachers, and friends are highly encouraged to come to any of our competitions! This is a great time for others to see the end result of our weeks of hard work.

Guests are expected to follow the rules of good sportsmanship. Guests should also be aware that their behavior reflects on our Team and should act accordingly.

Travel

The Team will cover as many of any travel-related expenses as possible. For longer events, the Team may request assistance from students/families in various ways, including, but not limited to: money/donations for food/supplies, snacks for the Team, hotel expenses, chaperones, or vehicles for travel.

Travel to District Competitions typically does not involve overnight stays. Most events are within an hour's drive from Whitmore Lake. Students will likely miss at least one day of school for each District Event. These are considered to be an excused absence, so they will not negatively affect the student's attendance. The student is responsible for completing any missed work according to school policy.

Travel to the State and/or World Championship involves multiple overnight stays. Students may be assigned to a room without an adult in it, but there will be an adult assigned to watch over them. Students are assigned to rooms in the most economical way possible. Anyone wishing to share a room with fewer or no other students should be prepared to cover the extra cost of the rooms themselves. In no cases will a male and female student be alone in a room together. Students will miss multiple days of school for this excused absence. The student is responsible for completing any missed work according to school policy. In order to be eligible to travel to overnight competitions, students must have met the attendance requirements during the Off and Build Season.

Problems

Any issues with or between students will attempt to be resolved by the Mentors. Any issues that cannot be resolved will result in parents of the student(s) involved being asked to pick up their child(ren).

Part VII: The Business of Being a Team

Having an FRC team is an expensive undertaking. This section will explain the financial responsibility of each student, regular costs that the Team incurs each season, and how our Sponsors help to make our Team possible.

Team Member Dues

There is a pay-to-play fee of \$150 to be a member of the TroBots. This fee covers the cost of joining the team, your team t-shirt, all off-season and competition season meetings, competition events, hotels for States and Worlds (if qualified), some other travel expenses (to be determined), and the End of Year Banquet. This fee does not include any additional travel expenses, donations of snacks and/or meals during competition meetings and/or events, or souvenirs.

Dues are payable on or before September 1 for returning team members. Dues for new team members are due when they join the team.

Team Fees

Each year, the team has many fees to participate with FIRST. Listed below are a few (not all) of our annual expenses:

FIRST registration (2 District competitions and robot kit-of-parts)	\$5,000 ³
State Championship (if qualified)	\$4,000 ⁴
World Championship (if qualified)	\$5,000 ⁵
Robot Construction	\$7,500
Travel Costs	\$7,000 ⁶
Outreach Events	\$1,000
Team Promotional Items	\$1,000
Total Costs:	\$30,500

Sponsors

Each year, the Team is required to secure financing from corporations and other business entities. We are incredibly thankful for the generosity of our Sponsors; without them, we would never be able to compete!

Sponsors donations are highly appreciated. Sponsorship levels are below:

Level	Amount	Recognition
Bronze	To \$749.99	On our Team website
Silver	\$750-\$1499.99	Bronze Level, plus logo on Team t-shirt
Gold	\$1500-\$2499.99	Silver Level, plus logo on Team Banner
Platinum	\$2500 or higher	Gold Level, plus logo on Robot

³ This is an entrance fee. It only covers the ability to participate in an event, not anything that we need for the event.

⁴ This is an entrance fee. It only covers the ability to participate in an event, not anything that we need for the event. If we do not qualify for this competition, we do not have to pay this fee.

⁵ This is an entrance fee. It only covers the ability to participate in an event, not anything that we need for the event. If we do not qualify for this competition, we do not have to pay this fee.

⁶ Travel costs should only be incurred if we qualify for the State and/or World Competition.

Part VIII: Important Dates in TroBots History

2011

Formed Team 3668, The TroBots

Week 4 Competition	March 25-26	Skyline	Place: 31 out of 40
Week 5 Competition	April 1-2	Livonia	Place: 40 out of 40

2012

Week 4 Competition	March 23-24	Northville	Place: 40 out of 40
Week 5 Competition	March 30-31	Livonia	Place: 38 out of 40

2013

Week 1 Competition	March 1-2	Kettering	Place: 34 out of 39
Week 5 Competition	March 29-30	Livonia	Place: 27 out of 39

2014

Week 3 Competition	March 14-15	Howell	Place: 18 out of 40	Advanced to Quarterfinals
Week 5 Competition	March 28-29	Livonia	Place: 15 out of 40	Advanced to Quarterfinals

2015

Week 1 Competition	February 26-28	Howell	Place: 12 out of 40 ⁷	Advanced to Semifinals
Week 3 Competition ⁸	March 12-14	Woodhaven	Place: 5 out of 39 ¹	Advanced to Semifinals
Week 6 Competition	April 2-4	Bedford	Place: 29 out of 40 ⁹	Advanced to Quarterfinals
State Championship	April 8-11	Grand Rapids	Place: 80 out of 102	
World Championship	April 22-25	St. Louis, MO	Place: 26 out of 76	

2016

Week 1 Competition ¹⁰	March 3-5	Southfield	Place: 2 out of 39 ¹	Advanced to Quarterfinals
Week 5 Competition	March 31-2	Howell	Place: 25 out of 40 ³	Advanced to Finals
State Championship	April 13-16	Grand Rapids	Place: 75 out of 102	

2017

Week 2 Competition	March 9-11	Ann Arbor	Place: 13 out of 40 ⁷	Advanced to Quarterfinals
Week 4 Competition	March 23-25	Mason	Place: 14 out of 40	Advanced to Finals ¹¹

⁷ Alliance Team Captain

⁸ Quality Award sponsored by Motorola

⁹ Picked for Alliance

¹⁰ Excellent in Engineering Award sponsored by Delphi

¹¹ As Backup Robot

Attachment 1 – Student Development Form

Student Name:	Mentor reviewer:
Date:	TroBot Season:
Grade:	Skills achieved:

- Which sub-team(s) did you participate on this season?
- What new skills did you learn from each sub-team?
- What do you wish you learned more about from each sub-team?
- What skills or interests do you have that would help with team success?
- What challenged you this season?
- What did you do this year that was new to you?
- What skills have you passed on to other students?
- How can the team do better next season?
- What sub-team or Leadership Position do you aspire to be on/have?
- Overall, rate your experience from 1-5 (with 5 as the highest score). Explain your rating.
- Any other comments?

Attachment 2 – Acknowledgement of Receipt of Handbook

STUDENT:

I, _____, agree that I have received and read the TroBots Team Handbook, and that I understand and will abide by the guidelines specified within.

Phone Number: _____

Email: _____

Signed: _____

Date: _____

PARENT:

I, _____, agree that I have received and read the TroBots Team Handbook, and that I will abide by the guidelines specified within.

Phone 1: _____

Phone 2: _____

Email 1: _____

Email 2: _____

Signed: _____

Date: _____

Please remove this page, sign (both student and parent), and return to a Lead Mentor.