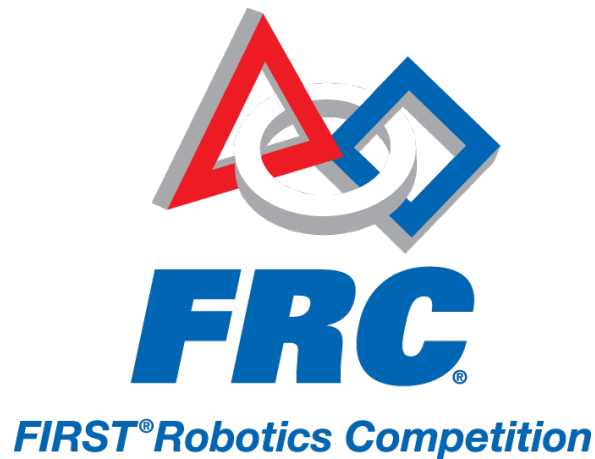


Watertown High School
Team 237 Black Magic Robotics
***FIRST* Robotics Competition Handbook**



Questions? Email: team237@gmail.com

Table of Contents

1.0 - WELCOME	4
2.0 - ABOUT FIRST ROBOTICS	4
3.0 - ABOUT TEAM 237 BLACK MAGIC ROBOTICS	4
4.0 - TEAM MEMBERSHIP	6
4.1 - ACTIVITY PARTICIPATION.....	6
4.2 - ACADEMICS	6
4.3 - BEHAVIOR.....	6
4.4 – PUBLIC DISPLAYS OF AFFECTION (PDA).....	7
4.5 - BULLYING.....	7
4.6 - ACTIVITY ATTENDANCE	7
4.7 - SAFETY	7
4.8 - TEAM IMAGE.....	8
4.9 - DELIBERATE DAMAGE OF PROPERTY	8
4.10 - DISCIPLINARY ACTION	8
4.11 - COMPLETED AND SIGNED APPLICATION	8
5.0 - TEAM ACTIVITIES	8
5.1 - BASIC SCHEDULE:	8
5.2 – PRE-SEASON	9
5.3 - KICKOFF	9
5.4 - BUILD SEASON	9
5.4.1 - <i>Subteams</i>	9
5.4.1.1 - Mechanical Team.....	9
5.4.1.2 - Electrical / Programming Team	10
5.4.1.3 - Communications Team.....	10
5.4.1.4 - Woods Team.....	10
5.4.2 – <i>Build Season Dinner</i>	10
5.5 - COMPETITIONS AND COMMUNITY TEAM ACTIVITIES.....	10
5.5.1 - <i>Official Competitions – District System</i>	11
5.5.2 - <i>Official Competitions – Regional System</i>	11
5.5.3 – Official Competitions – World Championship.....	11
5.5.4 – Hotels and Travel for Long Distance Competitions	11
5.5.5 - <i>Off Season Competitions</i>	11
5.5.6 – <i>Team Member Roles at Competitions</i>	12
5.5.6.1 - Pit Crew	12
5.5.6.2 - Drive Team.....	12
5.5.6.3 - Scouting Team.....	12
5.5.6.4 - Spirit Crew	12
5.5.6.5 – Safety Captain	13
5.5.7 - <i>Community Activities</i>	13
6.0 - TEAM STRUCTURE	13
6.1 - STUDENT TEAM MEMBER.....	13
6.1.1 - STUDENT TEAM CAPTAIN AND CO-CAPTAIN	13
6.1.1.1 - <i>Election of the Student Team Captain and Co-Captain</i>	13
6.2 - ADULT MENTORS	14

6.2.1 - EXECUTIVE BOARD	14
6.2.2 - SCHOOL SYSTEM FACULTY ADVISOR.....	14
7.0 – FINANCIAL.....	14
7.1 - NON-PROFIT STATUS	14
7.2 - WATERTOWN PUBLIC SCHOOLS.....	14
7.3 - CORPORATE SPONSORSHIPS.....	14
7.4 – FUNDRAISING	14
7.4.1 - Individual Fundraising	15
7.4.1.1 – 237 Donation.....	15
7.4.2 - TEAM FUNDRAISERS	15
7.5 - TEAM MEMBER FUNDRAISING ACCOUNT	15
7.5.1 – Team Member Fundraising Account Money Usage.....	15
7.6 – PAYMENT FOR TEAM ACTIVITIES.....	15
8.0 - HEALTH/HYGIENE	16
9.0 - DRESS CODE	16
9.1 - SCHOOL.....	16
9.2 - COMPETITIONS/COMMUNITY	16
10.0 - OFFICIAL COMMUNICATION.....	16
10.1 - TEAM EMAIL ACCOUNT	16
10.2 - ONLINE CALENDAR	17
11.0 - MORE INFORMATION	17
11.1 - SUGGESTED TOOLS	17
11.2 - TEAM 237 CONTACT INFORMATION	17
11.3 - FIRST ROBOTICS INFORMATION.....	17
11.4 - FIRST ROBOTICS SCHOLARSHIPS	17
11.5 – OTHER RESOURCES	18
12.0 - AUTHORITY OF THE HANDBOOK AND CONTRACT	18
12.1 - LIVING DOCUMENT.....	18
12.2 - FAILURE TO FOLLOW HANDBOOK.....	18
13.0 - FORMS TO RETURN TO TEAM 237	19
13.1 - STUDENT/PARENT/LEGAL GUARDIANS HANDBOOK AGREEMENT + PHOTO RELEASE.....	20
13.2 - RISK WAVIER.....	21
13.3 - PARENT/LEGAL GUARDIAN/STUDENT CONTACT INFORMATION	22
13.4 - MEDICAL RELEASE FORM	23

1.0 - Welcome

Welcome to the exciting world of *FIRST* Robotics and our Watertown High School team Black Magic Robotics Team 237. This handbook is intended to give you an understanding of the program, rules and responsibilities of being a team member on Team 237. In the following pages you will find information relating to team history, selection process, team rules, team guidelines, organization at events, travel and many other aspects of our team. Team 237 requires that both the students, parents/legal guardians, and mentors all read and understand the information in this handbook as it represents the rules, structure and process that Team 237 goes through each year.

A frequent question that Team 237 is asked is what their student needs to know, or be able to do, before joining the robotics team. Team 237 takes pride in the fact that no experience with tools, software, or design are required before joining. The adult mentors and school faculty advisor on the team will teach the students everything they need to know. We encourage student members to be attentive and to ask as many questions as they want. This allows them to experience the whole program and to learn about what they are interested in working on. Skills that student members typically learn over the course of four years are: critical thinking, metalworking, woodworking, presentation skills, teamwork, problem solving, 3D modeling and much more.

Upon completion of reading this handbook, every team member is required to complete the forms in Section 13.0 "Forms to Return to Team 237" before participating in any team activities. These forms allow us to enforce rules and have information required to keep everyone safe at the school and at other team activities. Please review all the information very carefully. If you have any other questions that this guide has not covered, or if there are questions regarding any topic, do not hesitate to ask a mentor or send an email to team237@gmail.com.

2.0 - About FIRST Robotics

FIRST is a 501(c)(3) not-for-profit organization devoted to helping young people discover and develop a passion for science, technology, engineering, and math (STEM). Founded 25 years ago by inventor Dean Kamen, the 2013-2014 FIRST season brought together more than 367,000 youth, and volunteers filling over 150,000 roles, in more than 80 countries. The annual programs culminate in an international robotics competition and celebration where teams win recognition, gain self-confidence, develop people and life skills, make new friends, and perhaps discover an unforeseen career path.

Dubbed a varsity Sport for the Mind,[™] FRC , FIRST Robotics Competition, combines the excitement of sport with the rigors of science and technology. Teams of students are challenged to raise funds, design a team "brand," hone teamwork skills, and build and program a robot to perform prescribed tasks against a field of competitors. It's as close to "real world" engineering as a student can get. Professional Mentors volunteer their time and talents to guide each team.

3.0 - About Team 237 Black Magic Robotics

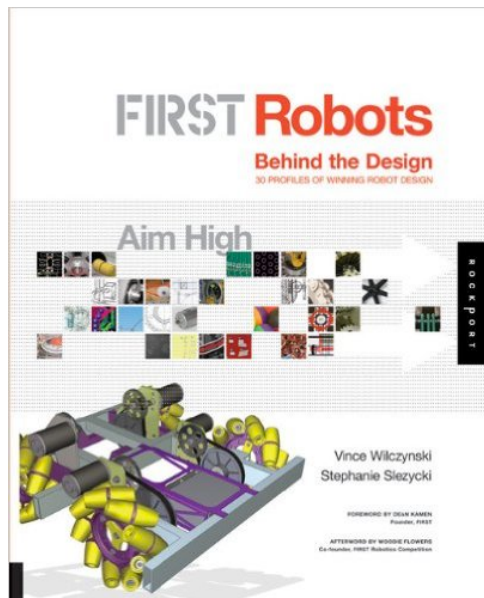
In September of 1998, the Watertown High School woods teacher, Carll Pallok, founded Black Magic Robotics. In its inaugural season, with the help of mentors from the community, Team 237 built a robot for the 1999 game Double Trouble that picked up bean bag game pieces called "floppies", climbed on top of a platform called a "puck" and raised the collected "floppies" 8 feet off the ground to score points. Mentors and student team members traveled to the Philadelphia Alliance Regional at Temple University in Philadelphia, PA with the robot to compete against 52 other high

school teams. Team 237 performed well enough at this completion that they qualified to compete at the National Championship in Walt Disney World.



Team 237's 1999 Robot "Pal" with Adult Mentor Kurt Eckert

Team 237 has competed at 45+ official competitions and won three regional championships since the team's creation. Over this time, more than 300 students have participated in Team 237. In addition, our 2006 robot was selected to be published in *FIRST Robots: Aim High: Behind the Design*.



FIRST Robots: Aim High: Behind the Design by Vince Wilczynski, Stephanie Slezycski and Woodie Flowers

In addition to building robots and competing locally and nationally, Team 237 also takes part in community activities to inspire the community and let people understand our mission. Annually our student and adult mentor team members take part in the Memorial Day Parade, Rotary Club meetings, mentoring FIRST Lego League teams, present at a booth at the annual fall festival, sponsor events and demonstrations to local schools. Being a veteran team, Team 237 has helped support multiple teams in local towns that are just starting out or in need of assistance. Student team members from Team 237 have gone on to many technical and non-technical schools such as MIT, FIT, and UCONN and then starting a career at NASA, Space X, Pratt and Whitney, Mohegan Sun, Yale-New Haven Hospital, Yale University, CD Racing and many more companies.

4.0 – Team Membership

Team 237 is made up of many students and adult mentors with different backgrounds and experience. In order for the adult mentors to teach kids in a safe environment, we have the following criteria that is required to be a team member which is allowed to participate in all team activities. Everyone is held to the same standards to guarantee fairness for everyone participating in the program.

4.1 - Activity Participation

Team activities are any event organized or planned to attend by the adult mentors. If a team member is found to be in violation of any of the rules in this handbook, their team membership may be suspended and the team member will not be allowed to participate in team activities until further notice. If a suspended team member attends a team activity while suspended then their team membership will be terminated.

4.2 - Academics

Grades will be checked throughout the academic year. Student team members are required to maintain a minimum grade of “C” (70) in all classes. Student team members that fail to meet this requirement will have their membership suspended. If you are suspended due to academic reasons, the team faculty advisor will send the team member and their parents/legal guardian an email informing them of the situation.

Grades will be checked two weeks before the team travels to official competitions. Student team members are required to ensure that they are passing before this deadline to be eligible to travel with the team to competitions. Failure to meet this deadline does not guarantee a travel spot as travel arrangements must be made in a timely and cost effective manner.

If there is an issue with grades not being posted by a student team member’s teacher in a timely manner then our grade checking process might show that a student team member is failing when they are not. If this is the case, arrangements can be made to contact the teacher to ensure that the student team member is passing the course but the student team member must be proactive in informing the adult mentors of this situation. Failure to notify the team email account may result in a suspended team membership.

If the student team member is failing and a team activity is taking place on the weekend or if they are taken out of school and get to the competition by their own means they are still not allowed to participate as a team member. The intention of this rule is to be fair to the student team members that have met the requirements for membership.

If the student team member has an arrangement of any kind with the school due to disabilities then their parent/legal guardian is required to email team237@gmail.com prior to the submission of this document. All arrangements will be kept private.

4.3 - Behavior

All team members of Black Magic Robotics are expected to act in a professional manner at all times. We see ourselves as role models for students in the Watertown School System and, while doing team activities outside of school, we represent all of Watertown, CT. In addition to the rules and policies of this handbook, all student members are expected to follow the policies of Watertown High School at all times.

4.4 – Public Displays of Affection (PDA)

In the event that a relationship develops or is ongoing between two team members, there are certain guidelines that must be adhered to at all times when participating in team activities. Hand holding, hugging, kissing and other expressions of affection are prohibited at all times. The couple must also travel in a group at all times. Couples may not wander off or sit alone. In other words, they should not appear as a couple but as part of the team.

4.5 - Bullying

Bullying towards anyone attending a team activity will result in his or her team membership being suspended. If a team member that has been suspended from the team in the past is found to be bullying again, their membership will be terminated. If a team member feels that they have been bullied while participating in a team activity, please contact the team email account immediately. All reports will be kept private and no action will be taken against you for reports made in good faith.

4.6 - Activity Attendance

Participation in all team activities is expected and is an important part in being selected to travel to competitions. Team 237 realizes that team members may not be able to attend all team activities due to other commitments. Please let the adult mentors know if you have conflicts so they can work around your schedule. Team members are expected to be on time to all activities to help setup, participate during the activity and help cleanup after the activity is over with. Leaving before the team has cleaned up or arriving late without talking to an adult mentor first may impact their ability to participate in other activities. If a team member is found to be missing or leaving early from team activities, then it will impact their future ability to travel with the team.

4.7 - Safety

Working with tools, machines and robots is a safe activity as long as you are taking the appropriate safety measures and you are paying attention to your surroundings/others. If a team member is found to be purposely making a situation unsafe, a mentor will issue the team member a warning. If a team member does not change their actions then their team membership will be suspended. All team members are required to have safety glasses at all times. Black magic Robotics buys safety glasses in bulk to provide safety glasses at a discount to team members.

All student team members are allowed to enter any of the rooms the robot team is using at the school with the exception of the metal shop. Only student team members that have taken or in the process of taking Metals 2 are allowed into the metal shop while the machines are being used. No student team members are allowed in the metal shop without an adult team member present regardless if they have taken Metals 2 or not.

All team members are required to wear a name badge that is provided to them by the team. This name badge helps other team members and school employees to identify who is on the robotics team.

In order to keep kids safe, *FIRST* Robotics has created a Youth Protect Program, YPP, to provide Coaches, Mentors, Volunteers, employees, others working in *FIRST* programs, team members, parents, and guardians of team members with information, guidelines, and procedures to create safe environments for everyone participating in *FIRST* programs. The *FIRST* YPP sets minimum standards recommended for all *FIRST* activities. Adults working in *FIRST* programs must be knowledgeable of the standards set by the *FIRST* YPP, as well as those set by the school or organization hosting their team. Two Lead Coaches/Mentors trained in safety measures, who know the provisions of the *FIRST* YPP oversee a team's activities.

For more information of FIRST's YPP program, please visit: <http://www.usfirst.org/aboutus/youth-protection-program> and

4.8 - Team Image

Team 237 Black Magic Robotics has established an image using the logo seen on the front of the handbook, a gold and black color scheme and our team name. The usage of this logo is for official team usage only and may be used outside of the robotics team only with permission from the team Executive Board. Team members are required to wear their team shirts at any team activity that takes place outside of the school and upon request at the school during select events. Team members are encouraged to buy multiple shirts as some team activities span over multiple days. Team members are encouraged to wear their shirts outside of team activities but be aware that you are also representing the team while wearing it. The team Executive Board will review inappropriate usage of the team logo, name or shirt and proper disciplinary action will be taken if necessary. Disciplinary action can be a warning, suspension or termination of their team membership.

4.9 - Deliberate Damage of Property

Accidents do happen but any deliberate damage to school, team or personal property while attending a team activity will result in a suspension and possible termination of team membership. An adult mentor will determine if damage was deliberate by interviewing other team members and assessing the situation.

4.10 - Disciplinary Action

- Warning – Verbal warning to formally bring up the issue to the team member.
- Suspended – Emailed and verbal communication not allowing the team member to attend team activities until further notice. Suspensions are lifted once the issue has been corrected. Suspended team members are not allowed to travel with the team. Please email team237@gmail.com to work with the mentors to lift a suspension.
- Terminated – Emailed and Verbal Communication not allowing the team member to attend team activities. Terminations expire at the end of the year and the team member can apply to be a part of the team the following year. A meeting with the terminated team member and the team executive board will be required to ensure the issues that led to the termination have been resolved.

4.11 - Completed and Signed Application

In order to be a member of the Black Magic Robotics, the forms in handbook section 13.0 "Forms to Return to Team 237" must be fully completed and returned to a adult mentor before participating in any team activities. These forms will require the student and a parent/legal guardian to complete information regarding the student online as well as forms that must be handed in. For more information, see handbook section 13.0.

5.0 - Team Activities

5.1 - Basic Schedule:

- Pre-season: September – December
- Kickoff: Beginning of January
- Build Season: January –February
- Competition Season: March – April
- Off Season: April – June

5.2 – Pre-season

Meetings that take place between the beginning of the school year and the end of December are all about preparing for build season. These meetings are about but not limited to:

- Teaching team members new skills
- Repairing old robots
- Working on prototype robots
- Preparing the build space for build season
- Fundraising

These meetings are typically held once a week to every other week. Please check the online schedule in handbook section 10.2 “Online Calendar” for when these meetings will be held.

5.3 - Kickoff

Kickoff marks the official start to the competition season. The main kickoff event is held in Manchester, NH and remote kickoffs are held around the world. Every year the entire team travels to a remote kickoff within CT to watch the kickoff presentation and pick up the kit of parts. The kit of parts is a standard kit that includes components that every single team is given to create a robot. If team members are willing to do so, Team 237 will send a group of adult and student team members to the main kickoff in Manchester, NH to gather unique information that isn't obvious from the video and team built field at the remote kickoff. After the kickoff presentation, the team will travel to a location to discuss the rules of the game. Transportation for this event may not be provided. If not provided, then team members must make arrangements to get to and from the event. Attendance at this event is required.

Visit the following link to find out more information about the kickoff event:

<http://www.usfirst.org/roboticsprograms/frc/kickoff>

5.4 - Build Season

Build season starts immediately after kickoff and continues for 6 straight weeks. During this time, the team will read and understand all of the rules for the game, brainstorm ideas on how to play the game, down select a few key ideas based on a team member vote, prototype key ideas and then design and build the final competition robot. Meetings take place every weekday 5PM to 9PM and weekend meetings are scheduled as needed.

5.4.1 - Subteams

During build season, all team members participate in the initial discussion of the rules, brainstorming and idea selection phase. This way all team members understand the rules and get to put their input into how Team 237 will play the game. After this, the adult mentors and student team members will break into groups to start working on different tasks. The following are a few of the major teams that a team member can participate in. If a team member does not perform the assignments given to them, it will negatively affect their ability to travel with the team.

5.4.1.1 - Mechanical Team

The mechanical team is for team members that are interested in the designing, manufacturing and assembly of the robot prototypes and competition robot. Any team member can be a part of the mechanical team, yet only student team members that have taken Metals 2, as discussed in handbook section 4.7 “Safety”, are allowed to be in the metal shop. Skills a mechanical team member might learn are:

- How to use a vertical band saw, horizontal band saw, vertical mill, metal lathe, MIG welder, taps, dies and more
- Basic physics principles and load estimation
- 3D Computer Aided Design, CAD, software. Team 237 exclusively uses Solidworks

5.4.1.2 - Electrical / Programming Team

The electrical team is for team members that are interested in wiring the robots electrical equipment and developing the code to control the robot. Any team member can be a part of the electrical team, and they will learn many practical skills along the way, such as:

- How to use a soldering iron and how to solder wires
- How to program in C++
- How to strip wires and secure them to the electrical equipment
- How electricity works
- How communication between the robot and control station works

5.4.1.3 - Communications Team

The communications team works to present the team image to the surrounding community. They are responsible for the following communications:

- Weekly newsletters during build season
- Updating the team website
- Writing articles to the local newspaper on a monthly basis.
- Take and archive photos of team activities

5.4.1.4 - Woods Team

The woods team is for team members that want to work in the wood shop to make the playing field components, signs for events and much more. The low cost playing field is important for the success of the robot prototypes and practice with the competition robot. Skills a woods team member might learn are:

- How to use table saw, horizontal bandsaw, chop saw and more
- Basic construction techniques

5.4.2 – Build Season Dinner

Each student team member is required to provide food for the team at least once during the build season.

- This meal should be able to feed 30 people.
 - Typically a main dish, salad, 3-4 bottles of soda and dessert.
 - Due to allergy concerns, food is not allowed to have any traces of nuts.
 - Feel free to bring your family along to eat with the rest of the team.
 - Examples of easy meals that feed a large group:
 - Ziti, Tacos, Pizza, Pulled Pork, Chicken Wings, Cold Cut Platter, Meatball Grinders and more.

5.5 - Competitions and Community Team Activities

Each season, Team 237 takes their completed robot to many official, unofficial and community events. A team member's eligibility to go to competitions and community events depends on their current team membership status. In the case where only a limited number of team members can attend an activity, the executive board will use participation, attendance and disciplinary records to determine who is best suited to participate in the team activity.

Student team members are required to be with either another student member or an adult mentor at all times.

Students caught roaming alone or not performing their assigned roles at a team activity will be given a warning.

Repeated offenses will result in having their team membership suspended. In the event that the team Executive Board doesn't provide transportation to a team activity, team members must arrange for transportation. Team mentors are not allowed to provide transportation due to *FIRST's* YPP.

5.5.1 - Official Competitions – District System

The official competition season under the district system is broken up into three different levels. All of New England is considered a District and Team 237 competes in this District system. Each team in a District zone competes at two or more District events where each team collects points that may qualify them for the District Championship. At the District Championship, teams compete against the other teams that qualified for the District Championship to collect even more points that may qualify them for the World Championship. The District events may be local enough to not require travel or a hotel. The team Executive Board will deem if transportation and hotel rooms are needed to be arranged for an event.

5.5.2 - Official Competitions – Regional System

FIRST Robotics Teams outside of a district zone compete in regional events. These teams compete at large competitions with 60+ other teams for a spot to directly qualify for the World Championship event. Teams inside of a district zone are allowed to compete in regionals, but no points are collected to qualify them for the District Championship. Since regionals only take place outside of the District system, any regional Team 237 would attend will require transportation and hotel rooms for the entire team.

5.5.3 – Official Competitions – World Championship.

Every year, FIRST Robotics holds a World Championship event. This event brings together 800 teams from around the world to a single event that is currently held in St. Louis, Missouri. Team 237 can qualify for the World Championship in any of the following three ways, a regional win or award, a district championship earned spot or a wildcard entry granted by FIRST. Travel to this event will require transportation and hotel rooms for the entire team. This event can be expensive and the executive board will look for the lowest cost option that still guarantees the safety for all team members.

5.5.4 – Hotels and Travel for Long Distance Competitions

While participating in official competitions where travel is required, the team will make the transportation and hotel arrangements for the entire team. It is important that the team travels as one group to and from the event. Traveling as one group guarantees the safety for the team members. Student team members are not allowed to travel separate from the group and leaving with someone else half way through or at the conclusion of the event is not allowed. This includes parents/legal guardians driving their student team member up separately and parents/legal guardians showing up to the completion and driving their student team member home. Hotel arrangements will be made to put multiple students and mentors in each hotel room that best maximizes the amount of rooms we can reserve with the cost of the rooms. Hotel rooms will be gender specific and students will not be allowed to roam the hotel after being checked in by the school system contact. Any student found outside of their room after being checked in will have their team membership terminated and will be sent home immediately. The parent/legal guardian will be responsible for all travel costs of the student team member and the adult mentor escorting them back to home. Depending on the cost and the hotel room availability of certain events, the entire team might not be able to travel to the event. In this case, the team executive board will look at each student team members participation, attendance, academics and suspension record to select which student team members will be allowed to travel on the trip. As much as Team 237 would like to have everyone at every event, this ensures the best chances of success for our team.

5.5.5 - Off Season Competitions

During the spring after the official competition and in the fall during the pre-season, Team 237 may participate in an off season competition. These competitions are commonly held at high schools or colleges and typically only take one day.

The team may not provide transportation to and from the competition but typically car-pooling will be setup to get the required equipment and any team members that choose to participate to the competition.

5.5.6 – Team Member Roles at Competitions

Regardless of what a team member's role was during build season, every team member will be assigned a role to fulfill at a competition. This allows for everyone to contribute to the team's success during the competition.

5.5.6.1 - Pit Crew

The pit crew consists of a group of students and adult team member that are responsible for various tasks in the pit. Each team at a competition is given a pit area where all tools and supplies are stored as well as the robot between matches. It is the responsibility of the pit crew to:

- Keep the pit clean and organized at all times.
- Charge the unused robot batteries
- Assisting team members that are maintaining the robot
- Maintaining the robot between matches.

5.5.6.2 - Drive Team

The drive team is a selected group of team members that competes on the field with the robot. This group consists of three student team members and an adult team member. Two of the student members will be in charge with controlling the robot during the match, one student team member will be in charge to be the "human player" and the adult mentor will coach the student team members on the field. Typically only one drive team will be selected per year to compete at the official competitions. A specific adult mentor will typically conduct a rules examination and drivers tryout to select the team members best suited for the role.

- The members of the drive team must:
 - Be students that are eligible to travel and plan on attending all official competitions.
 - Be willing to arrive early and leave late from competitions
 - Be willing to stay with the robot at all times during the competition unless the drive team coach grants permission.
 - Be willing to communicate and work with the head scouter and pit crew.
 - Maintain the robot between matches.

5.5.6.3 - Scouting Team

The scouting team is a group of students and an adult mentor that collect information on the other teams at the competition. This data collected by the scouting team is used to provide valuable data to the drive team about upcoming matches and is to be used to decide which teams to pick if the team is in a picking position after qualification matches. The adult mentor will assign a student with the role of leading the scouting data collection during the competition.

- The members of the scouting team must:
 - Watch all matches and collect the data they are asked to in the format they are asked to.
 - Collect pit data in a timely manner.

5.5.6.4 - Spirit Crew

Any team member that is not a part of the pit crew, drive team or scouting team is to be a part of the spirit crew watching the team compete from the stands. Everyone in the stands is expected to be professional and kind to all competitors at the competition. Team members are not to criticize the drive team for performance during the matches but are welcome to provide constructive feedback to the drive team coach.

5.5.6.5 – Safety Captain

A student team member is appointed by the team Executive Board to be the team Safety Captain. The Safety Captain's job is to enforce the usage of person protection equipment and ensure team members are acting in a safe manner during all team activities. All team members are required to listen to the Safety Captain and follow their feedback. If a team member does not listen to the Safety Captain, disciplinary action will be taken, and their ability to travel with the team may be negatively impacted.

5.5.7 - Community Activities

Year round, Black Magic Robotics participates in activities that support the community and our sponsors. These team activities are as equally important to the team as the official competitions. These team activities give the Black Magic Robotics a chance showcase what we do for students, the opportunities future students have and a chance to give back to our sponsors. Examples of this are our yearly participation in the memorial day parade and our booth at the town fall festival.

6.0 - Team Structure

All students and mentors that have completed the application and been accepted are considered team members of Black Magic Robotics Team 237. A breakdown of the different groups and levels of the team are as follows.

6.1 - Student Team Member

A student member is team member that is currently enrolled in Watertown High School.

6.1.1 - Student Team Captain and Co-Captain

The student team captain is an elected student member that leads the student team members and assists the adult mentors. The Student Team Captain is seen as a role model for the students and a trusted student that can be given tasks to complete with the assistance of other student members. The Student Team Captain is not allowed to organize any events and must work directly with the team executive board before starting an activity on their own. The Student Team Captain is expected to perform the following tasks:

- Hold wrap up meeting at the end of every meeting during 6 weeks
- Accepting awards and alliance selection at competitions
- Responsible for writing award submissions
- Step up and organize team members to complete any needed task
- Promotes a positive, non-judgmental atmosphere while keeping team members on task
- Helps adult mentors and encourages teamwork among the other team members

The team can elect to have a Student Team Co-Captain to assist the Student Team Captain with their role and responsibilities.

6.1.1.1 - Election of the Student Team Captain and Co-Captain

Student members that participated as a team member in the previous year elect the Student Team Captain at the beginning of the school year. An adult mentor will collect ballots from each student and the student with the majority of the votes will win. In the event of a tie, a student can decline the nomination giving the captain role to the other nominated student or a revote with just the two nominated student names being eligible will be held. If the team

decides to elect a Student Team Co-Captain, the election process will be identical to the process used to elect the Student Team Captain.

6.2 - Adult Mentors

An adult mentor is a team member that has graduated from Watertown High School and/or has been accepted as mentors after filling out a team membership application. Adult mentors are comprised of past students, volunteers from the local community, parents/legal guardians of current and former team members and more. Parents/legal guardians are not considered to be adult mentors of Black Magic Robotics until they have completed an application and completed FIRST Youth Protection Program training.

6.2.1 - Executive Board

The executive board is a group of adult mentors that run the team. In its minimal form this board consist of a President, Vice President, Secretary and Treasurer. The executive board can elect liaisons to assist the executive board with select initiatives. Adult mentors are elected onto the executive board by a majority vote of the executive board members.

6.2.2 - School System Faculty Advisor

The school system faculty advisor is an adult mentor that is an official from the school system. This person can be any employee of the Watertown School System and act as the point of contact for information between Black Magic Robotics and Watertown School System.

7.0 – Financial

FIRST requires its teams to secure funding from corporations and other business sponsors. Students are required to participate in team fundraising activities throughout the year. Fundraising is an important obligation, as it not only helps the team to bring in necessary financial resources, but it also spreads awareness of our organization and helps to bring in potential sponsors/donors who could be useful partners in the future.

7.1 - Non-Profit Status

Watertown First Robot Inc. is a 501(c)(3) non-profit tax-exempt public organization that was founded in 1998. Our EIN (tax ID number) is 06-1535797.

7.2 - Watertown Public Schools

Black Magic Robotics is associated with Watertown Public School System. Black Magic Robotics does not receive any monetary compensation from Watertown Public School System to support the build or travel of our team.

7.3 - Corporate Sponsorships

Corporate sponsorship supply the majority of the funds used by the team. The Siemon Company, United Technologies, Watertown Foundation, and The Rotary Club are a few of the major sponsors of Black Magic Robotics. The team Executive Board solicits corporate sponsors and is open to suggestions and help of the community. If you know of a company that is interested in supporting Black Magic Robotics, please send an email to team237@gmail.com. Information about team Corporate Sponsorships can be found at:

https://drive.google.com/file/d/0B7HS_wQHwf2MTnVZRm1zYI9BanM/view?usp=sharing

7.4 – Fundraising

Black Magic Robotics has two fundraising goals. The first is to support the operations of the team and the second is to raise funds for “Team Member Fundraising Accounts”. These funds are critical in buying the supplies to build a robot

every year yet also important to allow student team members to save up money to pay for team activities over the course of the season. Team members are required to bring new fundraising ideas up to the team executive board by emailing team237@gmail.com before any work is done.

7.4.1 - Individual Fundraising

Team members are encouraged to contact local businesses to ask them to support the robotics team. All donations that are received in this manner are fully applied to the team members fundraising account. Any team member that receives a donation is required to write a thank you letter to the donor. Please send the thank you letter to team237@gmail.com for its review and for it to be officially sent to them.

7.4.1.1 – 237 Donation

Team Members can solicit individuals and families to make a 237 Donation to the team. All of the funds from a 237 Donation go towards the team member and the individual or family name will be put on the robot. More information on 237 Donations can be found at the following link:

https://drive.google.com/file/d/0B7HS_wQHwf2MQkJrOFhpVVZLMHM/view?usp=sharing

7.4.2 - Team Fundraisers

Team fundraisers are held throughout the year. The two main team fundraisers are the annual ziti dinner and pancake breakfast. In order to be a member of Black Magic Robotics, all student team members are required to participate in all fundraisers. Team members not participating in team fundraisers will not have any of the money raised put into their Team Member fundraising account and will negatively effect their ability to be selected to travel with the team, as described in handbook section 5.5.4 “Hotels and Travel for Long Distance Competitions”. If a team member is unable to participate, please contact team237@gmail.com and/or an adult mentor as soon as possible.

7.5 - Team Member Fundraising Account

Each student has an individual fundraising account maintained by the Treasurer of the team executive board. Individual profits made from the fundraisers that the student member participated in are accumulated in these accounts and spent in accordance to handbook section 7.5.1 “Team Member Fundraising Account Money Usage”. In the event that a student leaves the team, voluntarily or terminated, the travel account is forfeited and is absorbed into the account supporting operations of the team. Money in the a Team Member Fundraising Account that is not used by the end of the season that money will be absorbed into the account supporting operations of the team.

7.5.1 – Team Member Fundraising Account Money Usage

The travel account money can only be used for payment of travel/lodging for team activities that require travel only for the student, sibling, parent and/or legal guardian. This money is never allowed to be used to purchase team t-shirts, food and other incidentals. A team member can't withdraw money from their account.

7.6 – Payment for Team Activities

Certain competitions require travel. This will require payment from all team members. Members will only be refunded if another member takes their spot. When a team member needs to pay out of pocket due to lack of funds in their personal travel account they can pay by check made out to Watertown First Robot Inc. Payments for team travel must be made no less than one week before the team activity. If you are unable to pay by check, please talk to a team mentor as soon as possible.

8.0 - Health/Hygiene

Due to the equipment we use and the travel the team does, it is important that we have up to date medical information on everyone on the team. All of this information will be kept private and it is only meant to be used to keep the environment safe and to have in case of emergency.

- In the event a team member becomes ill on a trip, transportation home will be at the parents/legal guardians expense using first available transportation option.
- It is suggested that all students take precautions when being exposed to the sun for any length of time. Use of sunscreens is highly encouraged.
- If you are ill then it is suggested that you do not travel with the team. Team members are required to inform a adult mentor if they are ill so the proper precautions can be taken.
- Team members are not permitted to provide any form of medication to other students.
- Team members that become ill or injured during a trip should report to a adult mentor for appropriate action.
- Team members are discouraged to attend build season meeting when they are ill. So their absence does not negatively affect their participation in team activates, please contact an adult mentor or email team237@gmail.com if a team member expects to be absent for one of more meetings.
- All team members are encouraged to maintain good hygiene while traveling with the team. Showering and wearing clean clothes everyday is important to other team members, other teams and the judges that interview team members for awards. As this is important, Team 237 highly suggests that you purchase a minimum of 3 team shirts and wear an undershirt while at competitions. This is the easiest way to pack lightly while keeping clothes as clean as possible.

9.0 - Dress Code

9.1 - School

At the school, all team members are expected to wear clothes that conform to the policies of Watertown High School. For any team members that are working in the metal shop, closed toed shoes and safety glasses (or glasses with side shields) are required at all times. Anyone with long hair is required to have their hair in a bun while working near machinery. Team t-shirts are required when told by team adult mentors. All team members shorts must be at at least

9.2 - Competitions/Community

While at a competition or community event, team members are required to wear a team shirt at all times. This allows for team and other people to identify us and helps our team members find each other. As robotic competitions can be messy, it is suggested that team members wear jeans or another type of clothing that is easy to clean.

10.0 - Official Communication

10.1 - Team Email Account

All official team communications are done from the team237@gmail.com email account. All team members are required to provide their email address to the team with their signed application. Team members should check their email frequently to keep up to date on all information from the team.

10.2 - Online Calendar

All team activities are posted to the following online calendar. It is highly suggested that you subscribe to this calendar on your phone or linked to your email account.

<https://www.google.com/calendar/ical/team237%40gmail.com/public/basic.ics>

(Click the Link to Add Calendar to Most Devices)

11.0 - More Information

11.1 - Suggested Tools

Team 237 has tools that are free to be used by all team members. Team members are suggested to carry tools that are commonly use during build season:

- Allen Keys: (SAE – Ball End – L Wrench)
 - Example: http://www.amazon.com/Bondhus-10936-Balldriver-L-wrenches-ProGuard/dp/B000E7ZMRU/ref=sr_1_57?ie=UTF8&qid=1437842110&sr=8-57&keywords=ball+end+allen+keys
- Safety Glasses: (Must meet or exceed ANSI Z87.1 standards)
 - Example Glasses: http://www.amazon.com/DPG55-11C-Anti-Fog-Protective-Glasses-Dual-Injected/dp/B000RKS07I/ref=sr_1_4?ie=UTF8&qid=1437842296&sr=8-4&keywords=safety+glasses
 - Example of Bag for Storage: http://www.amazon.com/Eyewear-Eyeglass-Microfiber-Cleaning-Cloth/dp/B00MO40XA2/ref=sr_1_1?ie=UTF8&qid=1437842413&sr=8-1&keywords=safety+glass+bag&pebp=1437842413949&perid=0H8ETHXRZ86SBE8FNMYT

11.2 - Team 237 Contact Information

If a student or parent/legal guardian has any questions at any time then please ask an adult mentor or send an email to team237@gmail.com. Feel free to visit www.team237.com to find out more information about the Watertown FIRST Robotics Team.

11.3 - FIRST Robotics Information

Feel free to visit <http://www.usfirst.org/> to learn more about FIRST Robotics.

11.4 - FIRST Robotics Scholarships

The FIRST Scholarship Program puts FIRST® Robotics Competition (FRC®) participants in direct contact with colleges, universities, corporations, and associations offering hundreds of scholarship opportunities exclusively for FIRST participants. FIRST Scholarships are offered, funded, and administered by the Scholarship Providers. Scholarships vary in value from one-time awards of \$500 to full tuition for four years estimated at \$160,000 and most awards are renewable annually if an acceptable academic average is maintained. Although most scholarships are merit-based, others are for a broad range of scholastic abilities. Some are for specific majors such as engineering, math, science, computer science, or technology (60%); still others are available for any course of study (40%). The majority of scholarships are for specific colleges and universities; however, a few can be used at any school. Eligibility is different for each of the scholarships, so you will need to view each one's criteria carefully.

See <http://www.usfirst.org/aboutus/scholarships> for more information.

11.5 – Other Resources

Community Discussion

- www.chiefdelphi.com - Largest FIRST Robotics forum for technical and non-technical discussions.

Common Part Suppliers

- www.mcmaster.com - Mechanical supplies
- www.mscdirect.com - Mechanical supplies
- www.andymark.com - Mechanical supplies
- www.vexrobotics.com - Mechanical supplies
- www.onlinemetals.com - Mechanical supplies
- www.digikey.com - Electrical Supplies

12.0 - Authority of the Handbook and Contract

12.1 - Living Document

The rules and policies set forth in this handbook are binding and must be followed by all team members. The executive board has the authority to modify the handbook at any time. The entire team will be notified of any modifications using an email sent from team237@gmail.com. All students must acknowledge the authority of the handbook by signing the contract and form that follows.

12.2 - Failure to Follow Handbook

While the purpose of the program is to be inclusive and afford every student team member the opportunity to learn and grow, in some rare instances the program must reserve the right to limit the participation of a team member who's actions are:

- Jeopardizing the health and / or safety of anyone
- Disruptive to the program
- Inconsistent with the behavioral policies of this handbook as well as those of Watertown High School

13.0 - Forms to Return to Team 237

Upon completion of reading the Team 237 Handbook please review, sign and return to the Team 237 executive board secretary the following forms. If you have any questions about the content of the handbook please ask prior to signing the forms. If you have questions after signing, feel free to ask an adult mentor or send an email to team237@gmail.com.

The following forms need to be fully completed:

- Student/Parents/Legal Guardians Handbook Agreement + Photo Release
 - Every person that is involved with FIRST Robotics must be registered with FIRST. This allows for consent forms for FIRST Robotics Competition events to be completed without the hassle of collecting forms at the event. FIRST uses two separate systems to gather participant information depending if you are a student team member (STIMS) or an adult mentor (TIMS).
 - STIMS (Student Team Information Member System) Link: <https://my.usfirst.org/stims/>
 - Parents/Legal Guardians must also register in STIMS to confirm their students account.
 - TIMS (Team Information Member System) Link: <https://my.usfirst.org/frc/tims/>
 - Registration in STIMS/TIMS is required before completion of the Student/Parents/Legal Guardians Handbook Agreement and must be indicated as completed on the form.
- Risk Wavier
- Parents/Legal Guardians/Student Contact Information
- Student Health Information

Duplicate Information may be found on each form as each form is treated as a separate document.

It is important that the forms be filled out as clearly as possible using a permanent ink pen.

13.1 - Student/Parent/Legal Guardians Handbook Agreement + Photo Release

Upon completion of reading the Team 237 handbook, please review the following points and sign the students and Parent/legal guardian concurrence below:

- I have read the Team 237 Handbook and agree to comply with the policies outlined within and understand that violation of any of the policies above is punishable up to and including dismissal from the team.
- I also agree to abide by all Watertown High School rules, regulations and guidelines.
- I agree to work with the team executive board to resolve any and all conflicts that might arise.
- I agree and consent to allow my photographs, name, or comments to appear in media related to Team 237.
- I agree that any pictures of me, documents and other team materials that I work on while a member of Team 237 are the property of Watertown FIRST Robot Inc.
- Participation in the program requires attendance at mandatory events, and I will comply with the schedule of said events.
- The equipment used during construction of the robot can cause serious harm injury if not used correctly. I understand that members are not permitted to use any piece of equipment until they have been instructed on its safe use and are not permitted to use any piece of power equipment without adult mentor supervision.

Students Completion of Registration in STIMS/VIMS (Circle One): YES / NO

Parent/Legal Guardian Completion of Registration in STIMS/VIMS (Circle One): YES / NO

Application for Mentor or Student (Circle One): Student / Mentor

Student Name (Print - First, Middle, Last) _____

Student Signature _____ Date (M/D/Y): _____ / _____ / 20_____

Parent/Legal Guardian Name (Print - First, Middle, Last) _____

Parent/Legal Guardian Signature: _____ Date (M/D/Y): _____ / _____ / 20_____

Parent/Legal Guardian Relation to Student: _____

13.2 - Risk Wavier

I, _____, team member (student member, mentor, or sponsor of Black Magic Robotics Team 237), voluntarily sign this Waiver and Assumption of Risk in favor of the Owner, in consideration for the opportunity to use the Owner's facilities (324 French St, Watertown, CT) and/or the opportunity to receive instruction from the Owner or the Owner's employees, and/or to engage in the activities sponsored by the Owner, as follows: Robotics Team meetings and practice sessions.

I understand that there are certain risks and dangers associated with the activity and use of the facilities and that these risks have been fully explained to me. I fully understand the danger involved. I fully assume the risks involved as acceptable to me and I agree to use my best judgment in undertaking these activities and follow all safety instructions. I waive and release the Owner from any claim for personal injury, property damage, or death that may arise from my use of the facilities or from my participation in the activities or instruction.

Dated: _____

Signature of Team Member _____

Printed Name of Team Member _____

Address of Team Member _____

City and State of Team Member _____

Signature, Parent/Legal Guardian of Team Member _____

Printed Name of Parent/Legal Guardian of Team Member _____

13.3 - Parent/Legal Guardian/Student Contact Information

Student Information:

Student First Name (Print): _____

Student Last Name (Print): _____

Student Cell Number Cell Number: (____)-(____)-(_____)

Email Address: _____

Current Address: _____

Date of Birth: Date (M/D/Y): ____ / ____ / 20____

Primary Parent / Legal Guardian Contact:

Parent / Legal Guardian First Name (Print): _____

Parent / Legal Guardian Last Name (Print): _____

Parent / Legal Guardian Relation to Student: _____

Parent / Legal Guardian Cell Number: (____)-(____)-(_____)

Parent / Legal Guardian Home Number: (____)-(____)-(_____)

Parent / Legal Guardian Work Number: (____)-(____)-(_____)

Email Address: _____

Current Address: _____

Alternate Parent / Legal Guardian Contact:

Parent / Legal Guardian First Name (Print): _____

Parent / Legal Guardian Last Name (Print): _____

Parent / Legal Guardian Relation to Student: _____

Parent / Legal Guardian Cell Number: (____)-(____)-(_____)

Parent / Legal Guardian Home Number: (____)-(____)-(_____)

Parent / Legal Guardian Work Number: (____)-(____)-(_____)

Email Address: _____

Current Address: _____

13.4 - Medical Release Form

Team Member Information:

First, Middle and Last Name _____ Date of Birth: Date (M/D/Y): ___ / ___ / 20___

Medical Information:

Members Physician _____ Phone Number: (___ ___)-(___ ___)-(___ ___)

Dentist Name _____ Phone Number (___ ___)-(___ ___)-(___ ___)

Insurance Company _____ Phone Number (___ ___)-(___ ___)-(___ ___)

Group Number _____ Policy Number _____

Hospital Preference _____

In case of accident or serious illness, I request Watertown High School or Watertown FIRST Robot Inc. to contact me. If they are unable to reach me, I hereby authorize Watertown High School or Watertown FIRST Robot to take appropriate actions. Watertown High School or Watertown FIRST Robot has no liability for medical costs.

Parent / Legal Guardian Name (Print): _____

Parent / Legal Guardian Signature _____ Date (M/D/Y): ___ / ___ / 20___