

FIRST Robotics Competition (FRC) Team 1923



**Student/Parent Handbook
2014-2015**

www.FIRSTrobotics1923.org

Phone: 775-FRC-Team

Twitter: @FRC1923 | Facebook.com/FRC1923

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Section 1: Introduction to Robotics

1.1 What is FIRST?

Started in 1989 by inventor Dean Kamen, the FIRST (For Inspiration and Recognition of Science and Technology) programs aim to create passion for science and technology in students. The FIRST program encourages Gracious Professionalism and Co-Operation, sportsmanship amongst teams even in the face of competition. Through FIRST, students build technical skills, and foster teamwork and leadership skills.

FIRST has grown into four divisions: Jr. FIRST Lego League (Jr. FLL), FIRST Lego League (FLL), FIRST Tech Challenge (FTC), and the FIRST Robotics Competition (FRC). The MidKnight Inventors participate in FRC, FTC, and FLL competitions, and directly mentor two FLL teams – MidKnight Minions and MidKnight Minions Too. MidKnight Inventors mentor several FLL and Jr. FLL teams as well. For this coming season, we will also be starting a VEX Robotics Competition (VRC) Team.

Starting in January, FRC students and mentors work together over 6 weeks to design and construct a competitive robot to meet the season's challenge. In the 2014 season's challenge, Aerial Assist, teams of three robots had to pass and shoot two-foot diameter balls into 7 ft. high goals. In addition to building a robot, students learn to spread their passion for science and technology in our community, raise funds to support building the robot, and manage a budget. FRC caters to a variety of interests: computer science, engineering, physics, math, graphic/video artistry, business, communications, and writing. No matter where your interests lie, there is something waiting for you on our team!

For more information on FIRST, please visit www.usfirst.org and the 1923 team website, <http://firstrobotics1923.org/> (About FIRST).

1.2 About The MidKnight Inventors

The MidKnight Inventors FRC Team 1923 was established in the fall of 2005. The team was started by a small group of students at WW-P High School North, but quickly expanded to include students from High School South. Today, the team has between approximately 100 members representing both high schools in the school district.

Over the past few years, we have greatly increased the awareness of our team throughout the community. We have participated in many outreach events such as Plainsboro Founders Day, Girl Scout and Boy Scout fairs, and our own FRC postseason competition and FLL qualifying competition. The team has also expanded its outreach internationally, with presentations in India and Switzerland, as well as robotics classes in Africa.

The team has been able to get businesses to donate build space for us in local shopping centers which attracts more potential sponsors and members. The school district also provides a trailer at Millstone River School in Plainsboro for meetings, storage of our tools, equipment, and supplies. We are confident that as we grow, we will be able to continue and expand our legacy as a top FRC team.

Due to changes in FIRST's competition structure, we have moved from competing in a regional model (one event per state per year) to a district model (multiple events in the region, qualifying for a district championship). This allows our team more match play per registration fee, and gives us a chance to work closely with the teams around us. We now attend at least three regulation-season events per year, with most of our recent years including an invitation to the FIRST World Championship in St. Louis.

Team 1923 The MidKnight Inventors: Awards and Achievements	
2009	Winner, New Jersey Regional
2009	Judges' Award, Philadelphia Regional
2009	Galileo Division Quarterfinalist, FIRST Championship
2010	Engineering Inspiration Award, Boston Regional
2011	Winner, Connecticut Regional
2011	Gracious Professionalism Award, Connecticut Regional
2011	Coopertition Award, Connecticut Regional
2011	Participant, FIRST Championship
2012	Engineering Inspiration Award, Hatboro-Horsham District Competition
2012	Team Spirit Award, Mt. Olive District Competition
2013	Participant, FIRST Championship
2014	Creativity Award, Mt. Olive District Competition
2014	World Championship Dean's List Winner: Michael Foley '15

The MidKnight Inventors have also found success at off-season competitions, hosted locally by teams in our area. We have won, as well received judged awards, at these events, including a "Woodie Flowers Jr." award for outstanding mentorship awarded to Dr. Michael Stevens. In the past we have also been invited to the Indiana Robotics Invitational, a premiere invitation-only event for the 'best of the best', hosted each summer. Off-season events do not count towards our regulation FIRST season history, but are certainly great accomplishments (and trophies) to have.

Section 2: Team Structure and Procedures

2.1 *Mentors*

Mentors are adult volunteers who donate a great deal of their time and effort to help students on Team 1923. Mentors assist with team organization, technical support, and support students in all aspects of running an effective team. They maintain the order of the team so that FIRST can be successful in West Windsor-Plainsboro. A FIRST Mentor requires dedication and a significant time commitment.

Please visit this website for more information on volunteering for FIRST.

<http://www.usfirst.org/community/volunteers/get-involved>. Following your review of the mentor criteria, if you feel that you are able to make the commitment to Team 1923, please contact our Advisor or another mentor with your interest.

FRC Mentors play a vital role in the success of their students. Mentors work extensively with team members during the build season, designing, building, and fabricating a functional robot for Competition. Their expertise is the catalyst for the team's and students' success. FRC Mentors are the major distinction between the FRC program and other robotic competitions as they act as a professional role model for the students.

Mentors engage and inspire students in ways far beyond science and technology. They enable both students and adults to appreciate the value of sportsmanship, teamwork, and Gracious Professionalism®.

[http://www.usfirst.org/uploadedFiles/Community/FRC/Team Resources/Mentoring%20Guide.pdf](http://www.usfirst.org/uploadedFiles/Community/FRC/Team_Resources/Mentoring%20Guide.pdf)

2014-2015 Team Advisor: Kathy Rogers, PhD.

Current Mentors	
Mark Bean, MBA	Finance
Louis Brottman, M.Accy	Build Site
Thomas Bruestle	Programming
Aveek Das	Programming
Libby Kamen, MS	Strategy, Mechanical, Design, Media/PR, Awards
Ruth Kamen	Awards
Randy Slemmon, PhD	Build Site
Michael Stevens, PharmD	Build Site
Marcia Smith Fleres, MBA	Fundraising, Team Development
Seth Weil	CAD

Parent Mentors	
Tim Foley	Mechanical
Anju Marempudi	Finance, FLL
Akintoye Olorode	Electrical
Mak Pande	Electrical
Narayanan Venkataraman	FLL

College Mentors	
Sarath Jaladi	Mechanical, Design, Strategy
Jason Marcus	CAD
Kelsey Stevens	Mechanical, Strategy

Please note that additional mentors (including professional engineers) will be added as necessary to assist with build and team functions. All mentors have background checks and are fingerprinted.

The team is also supported by a parents' group. We always welcome parents and other community members who want to support and help the team in any way, big or small. Please see further information on Parent Involvement below.

2.2 Team Captains and Sub-Team Leaders

The team is currently composed of six co-captains. The team is arranged into sub-teams under each co-captain, responsible for a select part of the team:

- 1. Build: Three (3) co-captains**
- 2. Outreach: One (1) one co-captain**
- 3. Finance: One (1) co-captain**
- 4. FTC: One (1) co-captain**

Each sub-team has a leader/director who works with the co-captain(s) and is responsible for the success of that sub-team. All directors are expected to show a great commitment to the team and the FIRST goals. The directors will help guide the students in each sub-team towards the goal, and work to help keep them motivated. The captains will oversee the team's activities as a whole, and will be responsible for working to help keep every member motivated.

It should be emphasized that being a leader requires a high level of commitment, both in responsibility and time. Those who are unwilling to make such a commitment **should not** apply for a leadership position. Leaders are held to a high standard and must serve as role models to other students. Again, students who apply only to enhance their resume' need not apply.

To be eligible for leadership, students must have completed a least two (2) of the following:

- Actively attended at least two (2) regional or district or championship competitions.
- Participated in at least 60% of team build sessions and team meetings during school season.
- Have written/co-written or help to edit at least two (2) essays for outreach or FIRST awards.
- Solicited a donation from a local business, company, or individual.

If during the course of the season, it becomes apparent that a leader is unable or does not wish to fulfill his/her role, the advisor, in conjunction with mentors, may decide to replace the current leader with a student who has shown interest and commitment in a particular area.

2.3. Selecting a Sub-Team

If there is a particular sub-team you are interested in, you may ask the sub-team's leader on how to join or help. Keep in mind that if you are listed as part of one sub-team, you always have the opportunity to assist and take part in other sub-teams. All students will be assigned to one or more sub- teams based on their interests as well as needs of the sub-team.

Each fall the Leaders, Co-captains and Mentors will conduct various workshops and an orientation program describing what each sub-team is responsible for during the year. Captains, Sub-Team Leaders and mentors are happy to give any information beyond the orientation about the sub-teams.

The main sub-teams of The MidKnight Inventors are defined as follows:

Mechanical: Responsible for all the mechanical components of the robot. Example tasks include: prototyping potential robot designs, building the drive train and manipulators of the robot, working with power tools to complete tasks.

Electrical: Responsible for all the electrical components of the robot. Example tasks include: drawing circuit diagrams, wiring all necessary electrical components to power and signal, working with sensors and cameras.

Programming: Responsible for the software of the robot. Example tasks include: programming the different components (controls, motors, actuators, etc.) of the robot,

programming visual detection methods, updating computers with most recent software updates.

Business: Responsible for overall finances of the team. Example tasks include: keeping track of income/expenditures, presenting to potential sponsors, brainstorming new fundraising ideas.

Community Outreach: Responsible for promoting STEM in the community. Example tasks include: presenting the FIRST program at community events, preparing for the prestigious Chairman's Award (The highest award given in FIRST), creating graphics and videos for team presentations.

CAD (Computer Aided Design): Responsible for working with Mechanical & Strategy team on creating computer renderings of the robot, design prototypes, or other ideas that may need a model to work from.

Strategy: Works on both the strategic portions of the robot design process, as well as at-competition match strategy and scouting of other teams' robots. This subteam is fast-paced and helps determine a great deal of our competitive success.

Media/PR: Responsible for the branding and messaging put out by the team – on our website, Facebook, Twitter, Chief Delphi, etc. Also works on the team's uniform, pit, and giveaways, maintaining a consistent look for the team across all places.

No prior experience is needed to join any of these sub-teams! Leaders and captains will host numerous workshops throughout the year to teach the skills needed for each sub team.

2.4 Robot Design Process

The robot design process starts immediately after team members attend the FIRST Kickoff event on the first Saturday of January. After the game is announced at Kickoff, the full team meets to interpret the game and discuss various strategies. By the end of this day, the goal is to have decided on a game play strategy (what type of robot it will be;

defensive, offensive, both, etc.) for the season and provide a list of essential robot qualities that we will design later.

Students are then required to thoroughly read and learn the rules of the new game over the first several days of the game reveal. This quick at-a-glance view of the build season will help you get a better understanding of how our team works through the season, but is not a complete guide – mentors & student leaders will continue to define and re-work our objectives per week as the season progresses.

Kickoff: After everyone has read the rules of the game we must analyze the game and start to design solutions to new game. It is essential to the design process that we analyze the game and fully understand the scoring system before designing our robot. CAD (Computer Aided Design) is critical during this and the next few stages for conveying ideas and more importantly designing parts for the robot.

Week One: We prototype 2 designs agreed on in the first few meetings after kickoff and determine the most effective design for the current game. CAD models of the drive train should be completed by the end of week one. There will be a Design/Progress Review at the end of each week.

Week Two: After deciding on the most effective design, Week 2 is spent perfecting the chosen design and creating parts for the manipulator. Again, CAD is vital to create a great robot in a short amount of time. CAD helps us to convey ideas and visualize any problems that may occur throughout the season. During this week's Design Review we reflect on progress and streamline our processes.

Week Three: We have another Critical Design Review during this week. During this session, we reflect on our design and build schedule to see if we are on target, or ahead or behind schedule. During this time we may eliminate components deemed unnecessary or too difficult to produce.

Weeks Four- Six: As we approach the end of build season, we continue reiterating these designs and start practicing for competition. Building of the robot does not stop after the build season. Improvements and calibrations are also made before, between and during competitions.

2.5 Other Decision Making

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

Based on time and funding constraints, as well as the dynamics of the challenge, some decisions may have to be made by the leaders/mentors since the team has only six weeks to build a robot that successfully plays the game and wins!

At all times, the Advisor and Mentors are responsible to ensure that all decisions (including but not limited to: robot design, student participation levels, work group makeup) are made in the best interest in the majority of students and the team as a whole. The decisions that are made are made only to benefit the team and will be reflected in the engineering notebook kept by the build captains and build directors.

2.6 Expenditures

We must adhere to our team's given budget. **Before** a mentor or student makes a purchase on behalf of the team, **the purchase must be approved by a Build Mentor or the Advisor**. Please contact the Team Advisor for more details on the purchasing and reimbursement procedure including information pertaining to tax-exempt forms. (Since we are a school group, we do not pay NJ Sales Tax on purchases). The

finances of the team are handled through WW-P High School North, and as an official school team, we must follow their procedure.

PLEASE NOTE: Items ordered or paid for without following this procedure will not be reimbursed by the team. Please make sure the expense has been approved before making any team purchases.

2.7 Competition Drive Team

The competition drive team is made up of four positions as outlined below:

- **Driver:** The Driver is responsible for driving the robot on the game field.
- **Operator:** The Operator is responsible for controlling manipulators on the robot.
- **Human Player:** The human Player is responsible for retrieving and returning game elements through mechanisms provided by game field. The exact role is modified every year according to the game rules.
- **Coach:** The coach, an adult mentor, is responsible for being the “eyes of the match” and directing the driver, operator, and human player through an adaptive strategy all while monitoring the time, the score, and the actions of other robots.

The Competition Drive Team is selected through the following process: Team members who wish to be on the drive team must show their interest by attending off-season events with the team. The team uses qualification matches at these events to do a preliminary screening for any student on the team who wants to demonstrate their skills for any drive team position. The mentors also take into consideration the students potential to contribute to the pit crew.

As we approach a point in the build season where the robot can be tested, we encourage anyone who has driven and/or operated at an off-season event to participate in the selection process. The process starts with a **written test** evaluating the new game rules

and knowledge about The MidKnight Inventors as well as what to expect during an actual competition. There are at least three (3) opportunities to demonstrate drive team skills.

Both mentors and leaders watch the candidates through practices and trials to assess communication skills and the ability to drive/operate successfully. We also routinely pair up different driver/operator combinations until we have come up with the combination of people which we believe will work the best. *These trials are specifically designed to display the abilities and skills of all the candidates and simulate how they would perform under real match conditions/scenarios.*

Human players are selected based on tryouts to determine the student's skill set in the areas that in which human players are needed (ex. throwing frisbees, shooting a ball) as well as their potential contribution to the pit crew. This includes their ability to communicate with the Drive Team in returning game elements to the field. The coach is a pre-selected adult mentor who will be responsible for working with and synergizing his/her Drive Team.

Since the Drive Team IS a team, we will select students for positions *based on their ability to work well with each other as well as their objective skill. Teamwork, communication, and demonstrated leadership are key here.*

We will also select a back-up team that will be ready to perform in case our drivers are in distress. This back-up crew has the same responsibilities as the drivers and the coach and mentors may substitute a back-up team member at any time. Mentors and leaders choose the candidates that can work well under pressure, work cooperatively with the rest of the team, and have a positive attitude towards the team, team members, and driving. The

Competition Drive Team members must not only communicate well with each other, but also with the Backup Drive Team and members of the team. You are expected to attend all competitions if you are selected for a drive team (or backup drive team) position.

Drive Team members are responsible for:

- Attending all scheduled practices between and during competitions.
- Attending all of The MidKnight Inventors' competitions.
- Understanding the mechanics and design of the robot.
- Knowing the details of our outreach efforts and community activities.
- Maintaining a high level of dedication to the team.
- Helping the team & team members whenever possible.
- Having a complete understanding of FIRST's rules and regulations to minimize errors and penalties during competition.
- Listening to their coach's instructions and following through – both during the match and off the field.

2.8 Competition Pit Team

Competitions require a pit crew to troubleshoot various aspects of the robot during the competition event. The pit team will stay in the pit area as necessary. When other team members visit the pit area, they must follow all safety precautions and be courteous to the members working in the pit. Co- Captains/Mentors hold the right to ask team members to return to the viewing stands.

The pit crew is also responsible for speaking with judges at competitions when they approach the pit. Each pit crew member should be able to specifically describe various aspects of the robot, and what the robot does on the game field. The pit crew should

also have knowledge of the team's offseason events, fundraisers, and outreach activities. Since it is unknown which judge will visit the pit to ask the team questions, all members of the pit crew should know the Chairman's plan, business plan, safety procedures, and details about the robot.

Criteria for being selected to be member of the pit crew includes, but is not limited to: the drive team, the safety captain, the electrical director, the programming director, the game coach, the awards co-captain lead, and possibly students who have demonstrated exceptional knowledge during the engineering and building of the robot. These students will be approached by the advisor, in conjunction with discussions with the mentors, co-captains, and build leads.

2.9 Fundraising and Financial Obligations:

Team fees will be determined at the beginning of each school year and will be based in part on the team's successful fundraising activities and donations. In addition, to the team fees, it is anticipated that there will be additional fees for travel to the competitions.

The fee for every member to join the 2014-15 season is \$200.

This fee includes:

- Membership on the 1923 MidKnight Inventors FRC Team.
- Admission to FRC 1923 community events (e.g. classes, outreach, etc.)
- Ability to register for off-site events with the team (e.g. district/regional championships)
- One pair of safety glasses and team uniform T-shirt. New team members will receive a polo and a T-shirt.

Note: This onetime payment does not cover travel costs to various off season events.

Each event's travel costs will be priced based on distance and other expenses. The average cost in 2012-13 were between \$20-175 per event depending on whether it was an overnight event or a single day event. Keep in mind that attending competitions is not mandatory(see exceptions for drive team and definitions for active team member sign-off)

If the team advances to the World Championship in St. Louis, we anticipate the travel fee for that event will be significantly higher. Once a student has registered for an event, the fee is due and payable by check made out to "WW-P HSN Robotics", footnote student's name in the memo field, along with a signed permission form and given to the Advisor by the deadline. **Returning members deadline is September 30 and new member deadline is October 10.**

Our goal in 2014-15 is to keep expenses to a minimum. Unfortunately, refunds cannot be made once the student has made a commitment by signing up. Many hours go into planning an event based on student participation. This makes refunds impossible. If a student signs up to attend an event by the deadline, the fee is due. **Failure to pay the dues will result in an obligation to the team that must be met before graduation.**

Fundraising: Students are required to participate in team fundraisers throughout the year. Fundraising is an important obligation. Not only does it help the team raise money for team expenses, but it builds important partnerships with the local businesses, community, and donors. Fundraising events spread awareness of the team and FIRST in our community and gives students experience with making a presentation on the team to potential companies and sponsors. Fundraising also helps defray the cost of travel to

events such as the World Championship in St. Louis. It is up to the team to take the initiative to do extra fundraising so that they can minimize the cost-per-family to attend.

Minimum Requirement: In order to travel to 2014-2015 any Mid-Atlantic competition or World Championship, students must participate in a **minimum of six (6) hours of** fundraising events **prior to March 1, 2014**. A list of fundraising activities will be provided at the beginning of the school year. Participation means being present with the team and actively helping the team at the activity. The Advisor, in conjunction, with the mentors in charge of the event will define the necessary time commitment for each event.

Section 3: Member and Team Expectations

3.1 *Enjoy yourself!*

"This is the hardest fun you'll ever have!"

We are a competitive team, but that doesn't mean we don't know how to have fun. As long as you are staying within the law, rules of the team, and follow Gracious Professionalism®, there is no problem! After all, we're here to experience science & technology teamwork in a positive and fun environment.

3.2 *Academic Standing*

Team 1923 regards academic performance and student behavior as extremely important factors in team success. We follow the same rules for club participation as those listed in the WW-P North and South Student handbooks. Please refer to your student handbook regarding academic standing.

3.3 *Group Participation*

Team members should plan on participating in all group activities, barring outside circumstances. Our goal on 1923 is to provide an atmosphere of teamwork and dedication to the team. The competitions and the outreach/fundraising events are essential for students to learn what FIRST is and continue to grow with those learning experiences. Team members should feel that they have done something meaningful for the robot/ building process or the outreach/ fundraising process every time they come to the build site or attend a meeting.

Leaders can show or tell you what to do and help make sure you are given a chance to help the team. Students will gain the experience to take on leadership opportunities in

the future. The more the dedication and time spent learning, the more opportunities you will find!

Also remember to check your email. There will be a lot of emails over the course of the year, and they will open up many opportunities for you.

3.4 Attendance

Students must maintain a good standing on the team in order to attend competitions, off-season events, and other activities. Good standing is determined by participation, attendance (50% of meetings for students and 70% for leaders), and having a positive attitude.

Each student will sign the attendance sheet at meetings. This helps give an idea of how dedicated you are as a student. We understand that other obligations may compete for your time. Remember, however, that a student's standing is determined by their participation when they are present. The Advisor/mentor must be informed of all other commitments at the start of the school year and build season.

It is highly recommended that all team members attend every meeting. If you are not able to attend, you must inform the Advisor by email prior to the meeting time.

The six-week FRC Build Season for 2015 starts with Kickoff on Saturday, January 3, 2015 and ends on Tuesday, February 17, 2015. During this time, your attendance is of utmost importance and will affect your privilege to travel with the team. Attendance does not mean that students show up and loiter; we want you to be engaged in the discussions and

projects. Since 6-weeks is a very short time, it is advised that everyone try to spend at a **minimum 2 hours/school day at the build site and spend more time during the weekends.**

Students who are most effective during the build season are those who arrive on time and stay at least 2 hours. It is nearly impossible to complete a task in under that amount of time on any given day. If you only plan to come one or two days a week during this time you will not be able to keep up and understand how the robot was constructed.

Also keep in mind that attendance partially determines your eligibility for travel. If you want to attend competitions, off-season events, and other activities, you will need to follow the guidelines outlined above and be an active participant within the team.

We understand that school and family come first.

If you have a conflict, PLEASE let the Advisor know.

IMPORTANT: Since we do not build the robot on location in the school-district, any cancellations of school for weather or holiday will certainly excuse an absence. However we may still be meeting since we are not bound to the school calendar. Please check your email in these cases.

Mentors and Advisors will only sign off for various merit-based applications (e.g. National Honor Society, NMSP, FIRST scholarships etc) if the member has attended at least two (2) district or regional competitions and has been an active participant on some aspect of the team.

3.5 Qualifying for Travel

Team members must have their permission slips, travel paperwork, and financial obligations submitted to the Advisor by the assigned due dates, as well as be in good standing on the team. Good standing is determined by attendance, participation, fundraising and attitude. Mentors and leadership will determine good standing and decide if the student is qualified. For overnight trips, including the FIRST World Championship, deadlines will be strictly enforced. Students must also be academically eligible through the school in both academic and disciplinary areas.

3.6 Acceptable Behavior

Students must conduct themselves in a respectable manner consistent with West Windsor-Plainsboro Regional School District's policies and procedures at all times. The Advisor and Lead Mentors reserve the right to remove a student from the team at any time provided they have reasonable cause of misconduct.

Members of The MidKnight Inventors also represent our team's sponsors. We expect all students, parents and mentors to behave in a way that is acceptable and expected of such standards. At all times, students are expected to be respectful of other students, adults, and the facility. Students may not play video games or use any other multimedia devices that are not directly linked to the FRC competition: these include Nooks, Kindles, iPads, iPods, mobile phones, etc. This includes creating personal hotspots at events, as all wireless use is banned there. Please adhere to the listed Event rules in the FIRST Manual for additional rules at the competition events.

Safety is the top priority, especially at the build site. Students are expected to be responsible for themselves, especially while using the team's property, tools and

computers. Students are also responsible for knowing how to operate the tools and/or use team property appropriately with the guidance of a mentor. Closed toe shoes and safety glasses must be worn at the build site, at competitions, both season and off-season.

Students are expected to be respectful towards all present at meetings, especially towards those running it. Side group conversations and cell phone use are not acceptable when a leader or mentor is talking and you will risk being asked to leave. Students are encouraged to ask questions after the team leader finishes talking. Food is not allowed in the school classrooms.

Demonstrate your *Gracious Professionalism*® at all times, both within the team, and outside. This also applies to all Internet sites and blogs including Facebook, Twitter and Chief Delphi. When you speak as a member of FRC Team 1923, you must speak respectfully.

3.7 Competitions / Events

Dress code for competitions and outreach events includes team shirts, khaki colored pants/skirt, closed toed shoes for safety and safety glasses (skele-toes not accepted). Students who wear inappropriate footwear will not be allowed near the pit and must remain in the stands for the duration to the event. All team members are required to wear the team uniform at competitions, and are encouraged to add 'flair' to their outfit for fun & spirit.

Please do so respectfully and within our team's branding guidelines. You may not cut, alter, or modify your team uniform shirts out of respect for our team's imagery. For

complete understanding on our team's branding, please ask Dr. Rogers or Libby for the Team Branding Package.

At competitions all members are expected to be respectful of other teams and refrain from all un-sportsman like performance. Team members are expected to remain in the stands for the majority of the competition with the exception of food, bathroom, and Pit trips. Do not access any Wi-Fi or create hot-spots during the competition as this will interfere with the field.

When our team has a match, all team members other than the drive team are required to be in the stands. During the match, you are expected to be cheering and supporting our team. No one should be on their phones unless you are taking video of the match. Don't look like you don't want to be there!

During the awards ceremony team members are to show Gracious Professionalism® to other teams by standing and clapping until each team member has stepped onto and off of the field. Standard behavioral expectations are as listed above in the acceptable behaviors section. If these expectations are not followed mentors/advisers hold the right to ask the student to exit the premises.

All teammates are expected to help clean up the viewing stands after competitions as well as help take down the Pit. If the above requests are not completed, mentors/advisers have the right to suspend 1923 members from future events.

Scouting is an important part of the competitions we attend, and to Team 1923 as a whole. If you are in the stands, you are expected to scout when we need you (regardless

of your position in the team.) There will be plenty of opportunities to learn how to do this; and **all students attending competition are REQUIRED to have a working understanding of how our scouting system works.** Collecting match data is one of the most integral parts of our success at events, and all team members on the trip will be asked to take part in data collection and match analysis at some point.

3.8 *Self-Motivation*

Please remember that you are your own best advocate. No adult mentor or student captain/leader will 'make' a student do something. This is a self-motivated program. If you want to learn, ask a Mentor or Captain. If you want to work, pick up a tool or ask a Build Coordinator (That is what they are there for.) We will make every effort to encourage involvement by all students, but in the end it's up to you. If you are not sure where you fit in, or aren't sure of what can be done, please talk to a Mentor. Self-motivation is what drives team 1923!

3.9 *Communication*

All communications with regard to team meetings, events, etc. will be sent via email from Mentors and Captains. Students must have an active email address that they check regularly. Bulletins and a calendar are also be available on our website at FIRSTRobotics1923.org. The website is updated on a regular basis.

All emails you receive from the team should be opened and read thoroughly. Do not discard them based on the subject line. It is suggested to have a folder for all robotics emails, to find permission slips or important information quickly. Emails are the closest thing to instant information and it is very important to check for emails every day,

especially during the build season. Email provides the team with a quick means of communication, and its importance should not be understated.

Attention Parents: Want to see how our team is doing, but can't make it to the competition? Check out our Twitter and Facebook pages for updates! They are listed on the cover page of this handbook.

3.10 *What students gain by being a MidKnight Inventor*

- **The skills of teamwork with peers and adults:** Students have the opportunity to work with professionals in engineering and business fields.
- **Learning to establish and work with a schedule,** and finish a project on time for a deadline.
- **Exposure** to the fields of engineering, finance, computer technology, and marketing. Most students are not exposed to this in school!
- **Develop leadership,** and presentation skills
- **Being a team player,** as well as an independent problem solver
- **Be a role model** to elementary and middle school students by getting involved in FIRST LEGO League
- **The opportunity to share and gain more knowledge** in the skills of science and technology
- **The opportunity to access** all facets of a program that designs, delivers, and uses a 'real world' product (the robot) to perform set goals and specifications- FIRST is the closest a student can get to experience engineering.
- **Over \$16 million** in FIRST college scholarships.
- A team bonding experience and **friendships that last a lifetime.**

3.11 *Parental Involvement*

Parental involvement is a requirement for a student to be a team member. There are signup sheets for parent volunteers. We need every family to lend a hand and we welcome your support. There are many ways for parents to participate. Here is a brief list of activities where we need parent volunteers throughout the year:

- Chaperone at competitions
- Chaperone at the build site (no engineering experience needed)
- Bring food during build season (either cook or bring in take-out)
- Bring food to MidKnight Mayhem (our off season event)
- Volunteer at MidKnight Mayhem
- Assist with fundraising
- Assist with community education and outreach events
- Lend engineering, programming, and/or construction skills to build (requires less time than becoming a mentor)
- Other duties, as assigned

More opportunities will be available throughout the year. We request each family to actively participate in one or more of the above activities. Parents must participate throughout the entire season. We especially need assistance with chaperoning students at the build site and food for the team during January and February. We need every family to contribute food and/or time in order for build season to be a success. The Advisor, lead mentors and parent volunteers will frequently send out emails to ask for and encourage parents to be involved.

Parents: If you are unable to provide food during the build season, we ask that you pay **\$50** toward the cost of food. Please respond to these emails in a timely manner. We need every member's support, both student and parents, in order to make the team a success. **Being involved is both fun and rewarding.**

Section 4: Agreements

4.1 Transporting your student home from a FRC 1923 event

In order for a parent or guardian to drive a team member home from an event site, the Advisor must be notified by email at least one week prior to the event date. The team Advisor/Mentor cannot release any student who does not have written notification from the parent prior to an event.

Team members' parents nor student drivers may not take another student from an event without written permission from that student's parents.

If there is a team bus secured for an event, students must ride with the team to the event in order to wear the team shirt. If the team is attending the event, students should plan to attend the entire event.

4.2 Transportation with Adult Mentors

Adult mentors may offer to transport students using their personal vehicles, such as carpooling to an event (usually local and off-season events). In such cases, the student is responsible for his/her own safety, well-being, and must be respectful of the parent/mentor's vehicle.

By signing the handbook, the student and his/her guardian release adult mentors from liability if an injury occurs and agree to behave appropriately when riding in a parent/mentor's vehicle. In the event of mentor or parent transportation an additional form is required and will be provided by the advisor.

4.3 Publicity & Public Representation

Students and other personnel associated with the team often take photographs and videos to commemorate our successes and preserve team heritage. These photos and videos may be used in media related to the team and/or the school district with the consent of the owner of the media in question.

By signing this handbook, students are giving the team their permission to use any public (where public is defined as the state in which the image or media in question is given to the team or is considered to be the intellectual property of the team as a whole) photographs and/or videos relating to the team within the student's ownership. This permission also extends to the individual's name and comments for press releases and other published media related to FRC Team 1923.

Students/parents must also sign a Mid-Atlantic Robotics form and a FIRST form giving MAR, FIRST and Team 1923 the right to publish any photograph of the student taken during an event. A student may still participate with 1923 without the FIRST or MAR agreements but will not be allowed to attend any competition with the team.

By signing this handbook the student & parents also agree to adhere to all of Team 1923's at event behavior rules, and agree to conduct themselves, both in-person and online, in a way that reflects well on The MidKnight Inventors. Failure to do so can and will result in removal from the team.

FRC Team 1923 Handbook Agreement 2014-2015

Please sign and return by September 30 (returning members) or October 10 (new members)

I, _____, as a participant on FIRST Robotics Competition (FRC) Team 1923, The MidKnight Inventors, agree to abide by all the rules and consequences stated in the FRC 1923 Team Handbook. I certify that I have read the handbook and will abide by all the rules/regulations/releases therein.

Student Signature _____ Date _____

Student Name (Print) _____

Student Email (Print) _____

Cell Phone _____

I, _____, as a parent/guardian for a student on FRC 1923, The MidKnight Inventors, agree to abide by all the rules and consequences stated in the FRC 1923 Team Handbook. I certify that I have read the handbook and will abide by all the rules/regulations/releases therein.

Parent/Guardian Signature _____ Date _____

Parent/Guardian Name (Print) _____

Email _____

Home Phone _____ Cell Phone: _____

Parent/Guardian Signature _____ Date _____

Parent/Guardian Name (Print) _____

Email _____

Home Phone _____ Cell Phone: _____