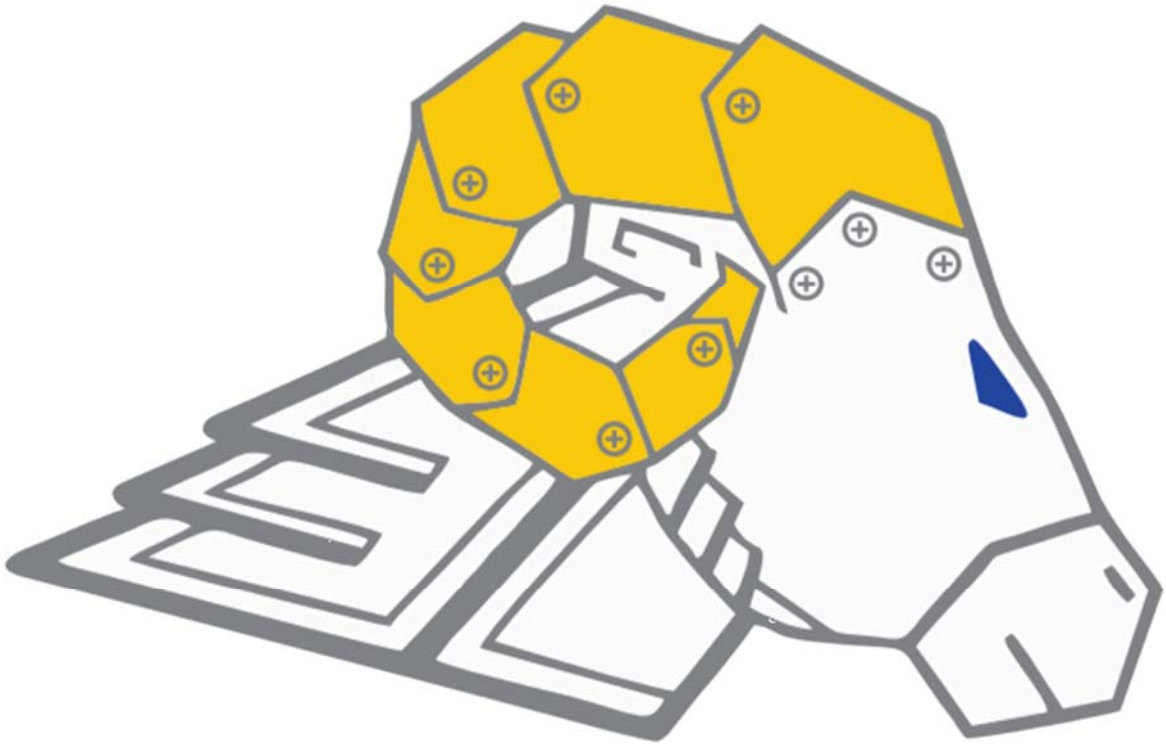

FRC Team 1732
Hilltopper Robotics

Team Handbook 2018-2019

"The hardest fun you'll ever have!"

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Section 1: Introduction

1.1: What is FIRST?

*FIRST (***F**or **I**nspiration and **R**ecognition of **S**cience and **T**echnology) was founded in 1989 to inspire young people's interest and participation in science and technology. Based in Manchester, NH, the 501(c)3 not-for-profit public charity designs accessible, innovative programs that motivate young people to pursue education and career opportunities in science, technology, engineering, and math, while building self-confidence, knowledge, and life skills.

More than three thousand teams worldwide compose the FIRST Robotics Competition (FRC). An annual FRC game is released that combines the excitement of sport with the rigors of science and technology, producing the ultimate Sport for the Mind. Under strict rules, limited resources, and an intense six-week time limit, teams of students are challenged to raise funds, design a team "brand," hone teamwork skills, and build and program industrial-size robots to play a difficult field game against like-minded competitors. It's as close to real-world engineering as a student can get. Volunteer professional mentors lend their time and talents to guide each team.

"Gracious Professionalism" and "Coopertition" are part of the ethos of FIRST. They are ways of doing things that encourage high-quality work, emphasize the value of others, and respect individuals and the community. With Gracious Professionalism and Coopertition, fierce competition and mutual gain are not separate notions. Students learn and compete like crazy, but treat one another with respect and kindness in the process. Teams help and cooperate with each other even as they compete.

1.2: About Hilltopper Robotics

Team 1732 Hilltopper Robotics is a FIRST Robotics Competition (FRC) team comprised of students, parents, volunteers, mentors, and moderators from both Marquette University High School (MUHS) and Divine Savior Holy Angels High School (DSHA).

1.2.1: Mission Statement

The mission of Team 1732 is to:

- provide growth through meaningful, educational, life-changing experiences as students learn new hard and soft skills though robotics team activities
- act as a vehicle for modelling the mission and core values of DSHA, MUHS and FIRST
- achieve excellence (individually and collectively) in competition as well as making a meaningful impact in our community.

1.2.2: Team History

Working out of a small closet at MUHS, Hilltopper Robotics was founded in the Fall of 2005 and focused on design and build strategies for FRC and VEX robotics. In 2008, the team extended its reach further to include both MUHS and DSHA students. Today MUHS and DSHA students collaborate together in the O'Rourke Robotics Center at MUHS. Notable events and accomplishments include:

2005	Winner, Milwaukee VEX Competition
2006	1732 began competing in the FIRST Robotics Competition
2007	Curie Division Finalist, FIRST Championship
2008	1732 began collaboration with DSHA
	Woodie Flowers Finalist Award, Wisconsin Regional: John Wanninger
2010	Winner, Wisconsin Regional
	Winner, Midwest Regional
	Woodie Flowers Finalist Award, Midwest Regional: Scott Keller
	FIRST Dean's List Finalist Award, Midwest Regional: Justin Chan
2011	FIRST Dean's List Finalist Award, Midwest Regional: Will Pierson
2012	Regional Chairman's Award, Boilermaker Regional
	FIRST Dean's List Finalist Award, Boilermaker Regional: Katie Bitter
2013	Winner, Wisconsin Regional
	Engineering Inspiration Award, Wisconsin Regional
2014	Regional Chairman's Award, Midwest Regional
	Regional Finalist, Midwest Regional
	Winner, Wisconsin Regional
2016	1732 moved into the new O'Rourke Robotics Center at MUHS
2017	Winner, St. Louis Regional
	Winner, Wisconsin Regional

Team 1732 has also had major success in offseason competitions, winning MARC (Michigan Advanced Robotics Competition) in 2007, 2011, 2013, and 2017. Team 1732 has also been invited to the most prestigious offseason tournament, the IRI (Indiana Robotics Invitational) on multiple occasions; in 2006, 2007, 2009, 2010, 2011, 2012, 2013, 2014 and 2017.

1.2.3: What We Do

Team 1732 members participate in the FIRST Robotics Competition (FRC). Working side by side with mentors, students design and build advanced robots for regional competitions. After the game is revealed, teams get to work designing their robot using computer-aided design programs and metalworking equipment. Over the course of an intensive build season that spans six weeks, the team builds two robots, a competition robot and a practice robot. After the build season, the competition robot is wrapped up (bagged) and put aside to be taken to the regional competitions. All FRC teams are required to follow the "bag and tag" rule in order to enforce fairness in the midst of competition. The practice robot remains behind for the various subteam members to tweak the robot design.

Team 1732 typically attends two or three regional competitions and the FIRST Championship, pending qualification. One regional is usually held in Milwaukee, the others within 6-8 hours drive from Milwaukee, and the FIRST Championship (typically held in Detroit, Michigan.)

After the robotics season is over, Team 1732 continues to compete in various offseason tournaments during the Summer and Fall, often including MARC (Michigan Advanced Robotics Competition), IRI (Indiana Robotics Invitational), and R2OC (Rockford Robotics Offseason Competition).

Team 1732 is also involved in community outreach programs, such as the two-day FIRST Lego League (FLL) tournament the team hosts, visits to libraries, visits to schools, and participation in community STEM activities, most recently working closely with students at Messmer St. Rose school located in the MUHS neighborhood.

1.2.4: Why Participate in FIRST Robotics

Team 1732 is always looking for new students in all grade levels. The team fosters technical skill development in the areas of mechanical design, manufacturing, electrical engineering, programming, marketing and business management. In addition to technical skills, the team fosters "soft" skills such as planning, presenting, critical thinking, time management, teamwork, and leadership. Our year-round activities integrate training into our projects, allowing all students to learn the skills required to become a valuable member of the team.

Students who join FIRST robotics programs gain access to over $50 million in college scholarships made available by colleges, universities, and corporations who support FIRST. This is exclusive financial help open only to FIRST team members, giving them a competitive edge over other students seeking funds to support their post-secondary education. About 35% of scholarships can be used for any course of study, not just engineering. Awards range from one-time awards to full four-year tuition.

Section 2: Team Structure and Procedures

2.1: Student Application Process

Being a member of Team 1732 is a privilege, not a right. Each year students are required to apply to be a part to Team 1732. Applications will be judged based on past performance, student availability, student interest, and team need. Team spots are earned and maintained through dedication and active contributions to the team. Students will be evaluated based on performance

and interest during fall term as well as completing the following specific requirements needed to join the team:

- Attend Info Meeting with parent/guardian
- Participate in the MUHS FLL Tourney (November 10-11) with a parent
- Make a Community Activities (CA) Portal account and use to sign up for one event
- Participate in at least one CA event
- Attend at least half the team build and/or programming meetings between 9/27 and 11/15
- Complete Team 1732 online application
- Complete Slack usage Agreement and post / direct message (DM) in Slack at least once (rookies only)
- Register with FIRST (www.Firstinspires.org) including parent consent

2.2: Leadership Structure

While it has changed over the years, the current leadership structure consists of student leaders for the full-time and part-time subteam, with those lead and lead mentors serving on the Cortex Committee. Subteam leaders are responsible for organizing and running subteam meetings, and some may have specific roles within their subteam, like focusing on a specific skill set or subsystem. The Cortex Committee helps to make executive decisions, like planning, scheduling and running team meetings and events, as well as working on short-term problem solving and long-term team improvement.

MUHS annually appoints a Director of Robotics who acts as the Team liaison to MUHS school administration. The Director leads the Cortex Committee along with the Robotics Moderator from DSHA.

2.3: Main Subteams

Team 1732 has five main subteams; most students will have a subteam assignment for one of these. Students in their main subteam are expected to complete training related to that subteam. The main subteams of the Hilltopper Robotics are defined as follows:

2.3.1: Business & Marketing

The Business & Marketing subteam produces an annual business plan, drafts and tracks the team budget, communicates with sponsors, and works with team members to fundraise and find new sponsors which may include sponsor presentations at offices around the Milwaukee area. We will use photography, videography, website design and social media to raise awareness about our team to hopefully gain additional funding. This subteam is also responsible for team logos, clothing, and team spirit.

2.3.2: Design

The Design subteam uses Autodesk Inventor to model the robot in 3D, create a detailed design, and produce drawings used by the Mechanical subteam for part fabrication. This subteam also helps design prototypes and iterate on parts of the robot that are already built.

2.3.3: Electrical

The Electrical subteam designs the robot electrical system layout with the Design subteam, and then connects and manages the power, control, and communications systems on the robots, including battery power distribution and motor controls. It works with both the Programming and Mechanical subteams to figure out communication systems and fabricate parts related to the electronics.

2.3.4: Mechanical

The Mechanical subteam is responsible for all the mechanical components of the robot.It prototypes potential robot designs, uses CAD drawings to fabricate parts for the drivetrain and robot mechanisms, and repairs the robot. It works with power tools to complete these tasks and document robot progress. It also constructs the wooden field elements required for the current season's FRC game as well as builds the robot's bumpers, develops the pit layout, and builds robot/pit supplements.

2.3.5: Programming

The programming subteam writes the code that controls the robot. The code is written in Java, and shared via Github. Sensors such as encoders, cameras, and gyroscopes are used to provide automatic feedback to the robot, especially during the autonomous part of the match.

Members of the programming subteam will be taught Java and how to use Github. Members will spend their time writing and testing the code for the robot.

2.4: Part-time Subteams

The work of part-time subteams is vital to the team's success, but often requires meeting less frequently. Currently there is one part-time subteam that team members can join.

2.4.1: Strategy

The Strategy subteam typically meets once per week during the build season to analyze the game, create the rules quiz, and develop a scouting system. Before each competition, members review match footage and collect data on attending teams. They aid in pre-match strategy and playoff alliance selection.

2.5: Other Team Roles

2.5.1: Award Submissions

The Award Submissions group is responsible for the award submissions that the team does throughout the season. They complete award submissions for the Regional Chairman's Award and Woodie Flowers Award. Submissions typically involve writing an essay, presenting before a judges panel and/or creating a video.

2.5.2: Pit Crew

At competition, knowledgeable team members are needed to serve as a Pit Crew to troubleshoot robot problems and to speak with community members and judges. Each Pit Crew member will be able to specifically describe various aspects of the robot and what the robot does on the game field. The Pit Crew will also have knowledge of the team's offseason activities, fundraisers, outreach

activities, business plan, and safety procedures. Students are selected by the mentors to be part of the Pit Crew based on participation, experience, and ability to carry out required responsibilities. Team leaders and mentors reserve the right to ask team members to return to the viewing stands at any time, since overcrowding can lead to safety hazards and impede robot repairs.

2.5.3: Scouting

This group is typically comprised of Strategy subteam members along with any other interested students. Scouting takes place at competition events and includes pre-competition research of attending teams. During competition events, this group is responsible for collecting and organizing robot and match data.

2.5.4: Drive Team

The Drive Team is responsible for robot operation at competition and is made up of four positions as outlined below:

- Driver: Drives the robot on the game field; controls few other functions
- Operator: Controls robot manipulators and other functions
- Human Player: Interacts with game elements to assist robots
- Field Coach: Typically, a mentor who directs the drive team through a continuously evolving, adaptive strategy while monitoring the time, score, and other robots.

Students are selected to be part of the Drive team by the mentors based on participation, experience, skill and ability to carry out required responsibilities. There will be tryouts for driver before the first competition in order to allow time for practice.

2.5.5: Safety Captain

The Safety Captain is responsible for maintaining the importance of safety as a key component of Team 1732 culture. The Safety Captain should be familiar with the FRC Safety Manual, which includes the following specific recommendations for the safety captain:

- Coordinate, deliver, and track safety training for the individual team members. It is suggested that teams bring their training log to events and continue to make comments about infractions and/or continuing improvements.
- Conduct safety inspections of the general work site, especially the robot construction area. This also applies to the Pit Station during competition events.
- Be ready to informally present your safety program to Safety Advisors at competition event.

2.6: Community Activities

Community Activities is an integral part of the team. It is critical to the team's community involvement, and accomplishing the missions of the team, FIRST, as well as MUHS and DSHA.

If Community Activities were considered a subteam, everyone would be on this subteam - it is the "all-team subteam."

There are two or more subteam leaders and leadership team that direct our various community activity events along with several mentors.

A key component of our outreach to the wider community is our annual FIRST Lego League (FLL) tournament hosted by Team 1732 held at MUHS. This tournament is the largest in the state and is the team's largest outreach effort. Students, along with one parent, guardian, or responsible adult, are required to volunteer for this event for at least one day.

In addition to the FLL tournament, students must commit to participating in at least 5 hours of volunteering with the team, or attending at least two separate volunteer events between the start of the school year and the deadline for the first travel tournament of the season. Community outreach events will be posted for students to sign-up on the Community Activities Portal at http://bit.ly/1732-CA.

2.7: Seasons of the Year

2.7.1: Fall Training

Veteran team members continue to meet occasionally after the final off-season competition to fix the robot (as it will be needed for outreach events in the Fall including Open Houses). After school starts and the Information Meetings take place, build meetings and programming meetings begin giving new students and veterans alike the chance to learn more about our tools and processes. During this time, there are many community activities events, sponsorships are sought, our FLL tournament takes place, student's application to the team will be submitted and students will be selected to join the team and be placed onto various subteams. In addition, a Mock Kick-Off event will take place which closely imitates the FIRST FRC kickoff in January.

2.7.2: Build Season

The Build Season generally begins the first Saturday of January (when the new game is announced) and runs until the first tournament . During this time, Team 1732 learns the rules, prototypes and iterates various mechanisms, designs the robot, and builds the competition and practice robots. After six weeks the build season concludes, and the competition robot is sealed in a bag (Bag Day). However, progress continues through work on the practice robot. Due to the extremely short season, student attendance and effort during this time period is paramount to a successful season.

It is important to note that while everyone's ideas are encouraged and considered, all final decisions regarding robot design are made by the lead technical mentor. While he/she is encouraged to reach consensus with all students and mentors, this is not always possible.

2.7.3: Competition Season

This season runs from our first tournament until the end of our scheduled regional tournaments, or hopefully though the World Championships. During this time, work on the practice robot continues along with preparing for and traveling to various FRC tournaments.

2.7.4: Off-Season

The off-season begins after the World Championship (April), and runs through summer vacation until the start of the following school year. There are typically several off-season tournaments we attend with our previous season robot including a fun one-day event close to us in Rockford, Illinois.

2.8: Mentors

Mentors are adult volunteers who donate a great deal of their time and effort to help students on Team 1732. Mentors help with team organization, provide technical support, and support students in all aspects of running an effective team. Being a FIRST mentor requires dedication and a significant time commitment. Our team mentors work extensively with team members during the build and competition seasons, designing, building and fabricating a functional robot for

competition as well as preparing for our tournaments. Their experience is the catalyst for the team's and students' success.

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.

The following are expectations of all Team 1732 mentors:

- Be over the age of 18
- Be a high school graduate
- Prioritize the safety and wellbeing of the students above all else
- Follow the MUHS and DSHA Codes of Conduct
- Follow the *FIRST Youth Protection Program* (FYPP) Code of Conduct, and take the associated training
- Complete an annual background check
- Complete the MUHS Driver Registration once every 3 years to be able to transport students
- Complete the Archdiocese of Milwaukee's *Safeguarding All of God's Family* training
- Maintain a professional relationship with students by limiting contact on social media until after they have graduated.

2.9: Team Decision-Making

Team decisions are made and enforced by the Cortex Committee, a group of mentors and student subteam leaders responsible for the general direction of the team.

- Decisions will be made by consensus whenever possible, with consideration given to all reasonable arguments presented in person at a meeting or that were submitted in the proper manner. Naturally, those with more experience, are most connected/impacted by the issue under consideration will have greater influence in the decision-making process.
- For general Team decisions, the Robotics Director and DSHA Moderator will have the final say when a consensus cannot be obtained and always when the decision is bound by school policy.
- For technical/competition related decisions (robot design/build/repair/modify, field elements, tournament prep) if a consensus cannot be obtained, the Lead Technical Mentor will make the final decision.

Students, parents, and mentors should understand that while this is a learning environment, this is a competitive team and not every idea, design, or thought by a student, mentor, or parent may be acted upon and come to fruition. Team leadership will listen and respect all ideas presented, but not all will be put into practice.

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

At all times, the Robotics Director and Lead Technical Mentor are responsible for ensuring that all decisions (including, but not limited to: robot design, student participation levels, and work group makeup) are made in the best interest of the majority of students and the team.

Section 3: Member and Team Expectations

3.1: Enjoy yourself!

This is a competitive team, but that does not mean we do not know how to have fun. If team members follow the rules of the team, the rules of MUHS and DSHA respectively and demonstrate the values of Gracious Professionalism, there will be no problems! After all, everyone is here to experience science, technology, and teamwork in a positive and fun environment.

3.2: Communication

The Team has made a significant investment in a subscription to an internal team communication system called Slack. All team members are required to maintain an active Slack account on: https://team1732.slack.com, through their school email (for students). **They must check it daily, which can easily be done by mobile app, desktop app, or through a web browser**. Messages will be communicated via Slack and during team meetings. Team announcements, group chats, and private messaging are all available through Slack, so it is a vital tool for team communication. Team members will be subscribed to an all-team announcements channel along with their subteam specific channels. Team members will also use Slack for communication during team competitions.

Slack usage will be periodically checked by mentors to note inactivity, which can jeopardize chances for travel with the team.

Communication to parents is usually done through email, and parents are expected to check their email periodically to keep up to date on deadlines, permission slips and other important information. Parents joining the team as a chaperone or a mentor are required to create a Slack account for easy communication with mentors and other team leaders.

3.3: Academic and Other Requirements

Each student is required to meet their school's minimum academic requirement to participate on the robotics team. A student's academic well-being takes precedence over their participation on the robotics team. If a student feels that their school performance is being too negatively affected by their participation on the robotics team, they are expected to bring this to the attention of the mentor in charge of their subteam, or the Robotics Director. Other behavioral requirements for participation in extracurricular activities such as Robotics also exist per school policies. In summary, if a student is placed on academic or other probation, this will also prevent them from participating in robotics activities until the issues with their school are resolved. Here are links to the school policies that team members should be familiar with:

MUHS policies: https://www.muhs.edu/student-life/student-handbook

DSHA policies: https://dsha.myschoolapp.com/ftpimages/1051/download/download_2903306.pdf

3.4: Participation

Team members should plan on participating in all group activities, barring extenuating circumstances. The team's goal is to create an atmosphere of teamwork, cooperation and dedication. Competitions, volunteering, and fundraising are all essential to becoming deeply involved with the team and learning and sharing in the team's mission.

In addition to participation in team activities, in order to be a great team, work must be done between meetings. Attending meetings unprepared is unacceptable and will be noted by mentors and taken into consideration when various roles and responsibilities are given out. Likewise DWYSYWD is essential for our success. This means following up on what you committed to do in a timely manner: **D**o **W**hat **Y**ou **S**aid **Y**ou **W**ould **D**o.

3.4.1: Attendance

Students must maintain good standing with the team to attend competitions, offseason events, and other activities. Good standing is determined by participation, attendance, and having a positive attitude. Attendance expectations may vary by subteam and time of year, but will typically be 60% of meetings for students and 75% for subteam leaders. Attendance will be tracked and be used as a determining factor for a student's ability to travel with the team as well as impact the opportunity to join the team next season.

Build season meetings typically take place from 6:30 - 9:00 pm on Monday-Thursday nights, and from 9:00 am - 4:00 pm on Saturdays, with a mandatory team lunch at noon. Rookie students attend half of Saturday, and should come from 9:00 am - 1:00 pm or 12:00 pm - 4:00 pm. Each student will have an assigned schedule and their attendance will be recorded by their subteam leader at each meeting. If unable to attend meetings, subteam leaders and subteam mentors must be informed via Slack prior to the meeting time. The team understands that other obligations may compete for students' time, but mentors must be informed of all other commitments at the start of the school year and build season to prevent scheduling conflicts.

Build Season -- Minimum Meeting Requirements	
Rookie Students	Must attend at least 2 weeknight meetings & half-day Saturdays (AM or PM).
Veterans Students & all Juniors/Seniors	Must attend at least 3 weeknights meeting & all-day Saturday.

As the final competition robot will not be fully completed by the first competition, work must continue after that competition (repairs and improvements based on lessons learned) and participation requirements still exist in order to qualify for further tournament travel. While the build season attendance requirements still exist, they may be less when a certain subteam has less work to do. Monitoring Slack communication is essential.

Students should feel that they have done something meaningful at every meeting. As subteam leaders are often busy, it is up to the student to show initiative in order to get involved and learn things that will open doors to new opportunities.

There will be several mandatory, all-team meetings and events, including fall parent information meetings and the FRC Kickoff in January.

3.5: Fundraising and Financial Obligations

3.5.1: Student Activity Fee

The Student Activity Fee is determined at the beginning of each school year and will be based in part on the team's success in securing sponsorships and donations as well as team size. The Student Activity Fee is set each year depending on team size, number of tournaments, and other variables. The fee in the past has ranged from $250 - $400 and is collected by each respective school. Upon approval of the student's application, the student activity fee will be billed to the student via their school. Payment must be received before the FRC Kickoff date (typically the first Saturday of January).

The Student Activity Fee includes:

- Membership on the FRC team
- Attendance at various team events (community activities events, classes, fundraising events)
- Ability to travel to team competitions with the team (travel expenses are a separate fee)
- Access to team tools and equipment, once trained
- Team t-shirt for season

3.5.2: Student Uniform Fee

Rookies will be assessed a $50 fee for a team polo shirt to be worn at competitions and team activities during their years on the team.

3.5.3: Travel Costs

Each event's travel costs are priced based on distance and other expenses, such as hotel accommodations (usually 4 student to a room). The average cost for a two-night event is about $250-300 which includes transportation, hotel, tournament fees and food (though perhaps not food on travel days). If the team advances to the FIRST Championship, we anticipate the travel fees for that event will be higher due to the length of the competition. Please keep in mind that attending competitions is not mandatory, but highly encouraged.

3.5.4: Payment Procedures

Fees: Team 1732 will provide MUHS and DSHA a list of students on the robotics team and the fees they are to be billed. For DSHA students, these fees will be billed through the student's Smart Tuition account. Fees for MUHS students will be billed through the school's student billing system. DSHA will collect fees from their students and pass them along to MUHS for deposit into the robotics account.

Travel Costs - Any team member wanting to travel to a competition must complete a Parental Permission Form and return it to the Travel Coordinator by the stated deadline. The Permission Form will provide details about the trip including dates, locations, travel costs, etc. It will include a statement saying that the non-refundable travel costs will be billed through the student's school billing account . By signing the form, students are fully committing to participating in the competition. By providing signature consent, parents are agreeing to pay the travel costs as stated. Travel costs will be billed in the same manner as fees and are **non-refundable** once Parental Permission Forms are signed and turned in. The Travel Coordinator will provide each school with a list of travel costs to be billed. DSHA will collect fees from their students and pass them along to MUHS for deposit into the Robotics account.

3.5.5: Financial Aid

Some financial aid is available for students to help cover all or part of the Student Activity Fee and/or travel fees. Please contact your respective school contact (Adrienne Large at DHSA | ognacevica@dsha.info or Casey Kowaleski at MUHS | kowalewski@muhs.edu) for more details about obtaining financial assistance.

3.5.6: Team Funding

Running an FRC team is expensive; our budget this year is in excess of $100,000. The team is funded by student activity fees, the schools and multiple sponsors. Students are **required** to assist the team in fundraising. The requirements are that each student will a) attend a workshop on soliciting sponsors and b) provide the names of two local community businesses and a contact's name and information (address, email, etc.) and c) write a personalized letter (based upon a provided template) to those businesses. A template letter will be provided that can personalized. This must be done in order to qualify for competition travel.

3.6: Travel Eligibility

In order to be excused from school for offsite team activities, each student is responsible to follow the Excused Absence policies of their respective school (refer to student handbook links in Section 3.3 above).

Students who travel with the team are expected to reach the minimum fundraising, community activities, and attendance requirements. If there are more students that want to attend than spaces available (the number of spots varies by tournament), mentors for each subteam will select students that are permitted to miss school or travel with the team based on participation and competition role. Competition roles such as Drive Team, Pit Crew, Scouting and Awards presenters receive priority when deciding which students can attend.

Team members must submit their Parental Permission Forms and any other related travel paperwork to the Travel Coordinator by stated due dates or risk the chance of losing a spot.

3.7: Competitions / Events

3.7.1: Dress Code / Team Uniform

Dress code for competitions and outreach events includes team shirts, safety glasses, and closed toed shoes. Students who wear inappropriate footwear are not allowed in the venues pits and must remain in the viewing stands for the duration of the event. All team members are required to wear the team shirt at competitions. Team shirts may not be cut, altered, or modified and should not be covered up by a jacket when at the venue out of respect for the team's image.

Team members will have three sets of team uniform shirts to wear during competition. Typically, on Thursdays, team members will wear a team or school shirt. On Fridays, the current season's team t-shirt and on Saturdays, members will wear team polos.

3.7.2: During Competitions

At competitions, all students are expected to represent our team, schools, sponsors, and city. Students are expected to give full effort to assigned duties, including Drive Team, Pit Crew, Scouting, and in general helping out as requested.

Students may not use electronic devices, including but not limited to laptops, tablets, and mobile phones, to play video games or other non-robotics activities during competition times except at meal times. Personal Wi-Fi hotspots interfere with robots, and are thus banned at events. Additional event rules, available in the FIRST manual and via websites for specific events, must also be followed.

During events and when traveling with the team, team members are not permitted to leave the venue/hotel without a mentor and/or chaperone present in their group. This rule is to help enforce safety of the team members and for accountability in the case of an emergency. The team understands that there will be certain situations where this rule cannot be enforced and requires that students ask for permission from a mentor and/or chaperone before they depart from a venue. Disciplinary actions will be taken against students that leave a venue without explicit permission from a mentor and/or chaperone including but not limited to dismissal from the team and/or disciplinary action from their respective school.

When the team has a match, all team members not part of the Drive Team are required to be in the viewing stands. During the match, you are expected cheer and support our team and alliance partners. Team cheers and chants must be respectful to other teams and only be held at appropriate times.

All team members are expected to stay for the awards ceremony unless travel requirements prevent this. During the awards ceremony, team members will show Gracious Professionalism to other teams by standing and clapping when other teams are presented with awards.

All team members 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 have the right to suspend team members from future events.

At competition, those who are not members of Team 1732, but are cheering for or representing the team in any way, such as parents and friends, must adhere to these guidelines as well.

3.7.3: At the Hotel

Often, the team will stay at hotels for overnight events. In these cases, students must adhere to the hotel's policies and regulations. Students are prohibited from using the swimming pool or exercise center without prior approval by mentors or chaperones. Students are not allowed to leave the hotel without mentor or chaperone permission. Students who have permission to leave the hotel must be in a group of 3+ or with mentor or chaperone supervision.

Students will have a clearly stated curfew and "lights out" times, and are expected to follow these rules. Male and female students will never share a room, and will not enter rooms of any student of the opposite gender or the room of a mentor. This is to prevent inappropriate behavior and protect students from possible accusations of inappropriate behavior.

Students are expected to be respectful to the hotel staff and others staying at the hotel. Failure to comply will result in the student being sent home from competition. The hotels where the team stays are generous enough to accommodate a team of our size and they reserve the right to remove individuals or the entire team should the need arise. If a situation is deemed serious enough, a hotel can prevent the team from staying in the future. Please help the parents, mentors and chaperones on trips by being a role model to others and a shining example of both your school and of FIRST.

3.8: Acceptable Behavior

3.8.1: Safety

While at robotics, your safety and the safety of those around you is the top priority. Most injuries at robotics come from not knowing how to use or misusing a tool. The workshop and all tools should not be used without the permission of a team mentor. No student should use a tool without prior training, even if they've used similar equipment outside of the team.

Students must always wear safety glasses in the build room, or when working on or near an FRC Robot or using machining tools.

Students should report any injuries that happen at robotics to a team mentor. Depending on the severity of the injury, it may need to be reported to the school for insurance purposes. Do not try to hide or cover up an injury that happened at robotics.

If a student is sick, they should stay home. This is especially true during build season, when the team works in close quarters and spreading sickness across the team could significantly impact our ability to build the robot in six weeks. Sick students that do attend may be asked to go home.

3.8.2: Respect

Students must conduct themselves in a respectable manner, consistent with MUHS and DSHA school policies and procedures. Team members not only represent MUHS and DSHA, but also the team sponsors and FIRST. Therefore, all students, parents, and mentors are expected to behave in a manner that is acceptable and expected of such standards.

Students must be respectful at all meetings. Side group conversations and cell phone use are not acceptable when a leader or mentor is talking, and such actions risk device confiscation for the remainder of the meeting or being asked to leave. Students are encouraged to ask questions after the discussion leader finishes talking.

3.8.3: Integrity

Students are expected to have integrity. Being honest to other team members as well as the team's mentors and not trying to cover up mistakes or errors in judgement reflect team integrity. Team 1732 understands that students make mistakes and while that is okay, students should own up to those mistakes. Being forthright and honest is always best.

3.8.4: Confidentiality

Information about the current year's robot is confidential. Students should not release details (strategy, robot design, pictures, video, etc.) about the current season's robot without the consent of the team's Lead Technical Mentor. This is to build anticipation for the robot's release and maintain a competitive advantage by preventing copying before the end of build season. Releasing information can include posting to social media, posting to online forums, and emails or texts to friends on or connected with other teams.

3.8.5: Dating policy

Students who choose to date others on the team are expected to leave their relationship "at the door." While at meetings and events, they should conduct themselves as normal students on the team (e.g. no PDA, holding hands, sitting on each other's laps, showing preference, or sneaking off to be alone).

3.8.6: Drug/alcohol/tobacco policy

Drug/alcohol/tobacco use is not allowed at any team event. It is important that Team 1732 maintains a safe environment for everyone on the team. Using or being under the influence at robotics puts yourself and other people in danger. Any student who is caught using or being under the influence at a team event will dismissed from the team immediately. If the incident happens while traveling, the student will be sent home at the parent's expense, which may require a parent to come pick up the student to the competition location.

3.9: Parental Involvement

Parental involvement is strongly desired as the involvement of parents can greatly improve the experience for their students by helping our team be successful in efforts related to competition and community outreach. It also offers parents a chance to participate in a high school activity with their student and not simply hear about their robotics experience.

It is important that parents are respectful of the team and its goals, as well as its leaders, mentors and sponsors. Collectively, the team's mentors spend thousands of hours with the team and while parents may not always agree with some of the mentor's decisions, they need to trust that they have the best interests of students and the team in mind. Please bring questions and concerns to the mentors or Robotics Director as soon as they arise.

3.9.1: Parent Volunteering Opportunities

As a part of the student application process, there will be an opportunity for parents to express interest in helping in various areas. We need every family to lend a hand and we welcome your support.

There is one requirement for parental involvement. For the past many years, Team 1732 has hosted the largest First Lego League (FLL) tournament in Wisconsin. This is not possible with the volunteer power of many people, including our teams students and parents. Each parent must volunteer for either Saturday or Sunday of the tournament.

Here is a partial list of some other parent volunteer opportunities available throughout the year:

- Be an Adult Team Mentor (basically, a consistent volunteer with a defined role). Mentors are most needed in the areas of fundraising/business and community activities.
- Chaperoning an out-of-town tournament trip helping organize meals, doing bed-checks, etc.
- Volunteering for a major role for our annual FLL tournament – this is beyond the volunteer requirement! Training will be provided. Some examples are:
    - Pit Admin
    - Judging room coordinator
    - Tournament Judge
- Saturday Meal Coordinators – Coordinate Saturday meals donated by parents during the build/competition season (January through April)
- Weekday Meal Coordinators – Coordinate weekday meals during the build/competition season (January through April)
- Spirit Wear Adult Coordinator – Coordinate ordering shirts, assisting students with t-shirt and spirit wear design. Takes place approximately November through February.
- Study Hall Chaperone - Chaperone students at MUHS from 3:00pm - 6:30pm on days when there are Build Meetings so students can do homework after school instead of going home and then coming back.

- Parent Chaperone/Parent Drive - Help out with a Community Activities event or Books & Bots event which can include driving a small robot, taking a small group of students to read to grade school children and demo a robot in libraries/schools.
- Chaperoning at the Wisconsin FRC regional tournament in Milwaukee. Chaperones are needed on a Friday and/or Saturday in March at the UWM Panther arena downtown.
- Helping with small scale projects on a finite timeline during the Build Season. Includes:
    - Sew bumpers for the robot
    - Assist with building our tournament field with wood
    - Donating part of a Saturday meal
    - Helping plan the FRC Kickoff weekend

3.9.2: Parents and Family Members at Competitions

There is nothing that can explain the excitement of a FIRST FRC competition. Team 1732 encourages family member to attend competitions, both in and out of Milwaukee. Note that Team 1732 will not book travel arrangements for parents unless they are chaperoning.

If parents are planning to travel to a competition, we encourage them to let the team know. In the event the team has extra hotel rooms, bus seats, etc. the team may be able to sell those spaces to parent instead of letting them go unused.

Like student team members, parents should cheer and support our team and alliance partners. Team cheers and chants must be respectful to other teams and only held at appropriate times. During the awards ceremony, parents should show Gracious Professionalism to other teams by standing and clapping when other teams are presented with awards.

3.10: Self-Motivation

Please remember that you are your own best advocate. No adult mentor or student leader will make a student do something. Robotics is a self-motivated program. If you want to learn, ask a mentor or subteam leader. If you want to work, pick up a tool or ask a leader. We will make every effort to encourage involvement by all students, but in the end, it is up to you. If you are not sure, where you fit in, or are not sure of what can be done, please talk to a mentor. There is much to do between meetings as well; ask for assignments and they will be given to you if available and appropriate for your skill level. Self-motivation is what drives the Hilltopper Robotics team!

Section 4: Team Handbook Acknowledgement

By signing below, I acknowledge that I have read, understand, and agree to abide by the team rules and code of conduct as listed in this handbook.

- I have read the handbook describing FRC Team 1732 - Hilltopper Robotics and agree to comply with the policies outlined within.
- I understand that this program requires mandatory attendance at specified events throughout the season.
- I understand that throughout the course of the season I may encounter or use power tools and other potentially dangerous equipment. I understand that during construction and support of the robot that the tools can cause serious injury if not used correctly.
- I understand that I am not permitted to use any piece of equipment until I have been instructed and trained on its proper and safe usage. I also understand that I am not permitted to use any piece of power equipment without a team mentor present in the build room that is knowledgeable of the equipment you will be utilizing. (Note the CNC does require a mentor directly supervising its operation.)
- By signing the Waiver and Release Form below, my parents understand that I will only ride in a car driven by an adult mentor, faculty advisor, approved parent or myself to any robotics function unless otherwise agreed to between my parents and myself.
- I agree and consent to allow my photographs, name, or comments to appear in media related to FRC Team 1732 - Hilltopper Robotics.
- I understand that a violation of any of the team policies is subject to disciplinary action by the school, as well as possible dismissal from the team.

Team Handbook - Signed Agreement

Student Name (Please print legibly)

Student Signature Date

Parent(s) Name (Please print legibly)

Parent Signature Date

Section 5: Waiver and Release Form

In consideration of the risk of injury while participating in **FIRST Team 1732 – Hilltopper Robotics** (the "Activity"), and as consideration for the right to participate in the Activity, I hereby, for myself, my heirs, executors, administrators, assigns, or personal representatives, knowingly and voluntarily enter into this waiver and release of liability and hereby waive any and all rights, claims, or causes of action of any kind whatsoever arising out of my participation in the Activity, and do hereby release and forever discharge the affiliates, managers, members, agents, attorneys, staff, volunteers, heirs, representatives, predecessors, successors and assigns of **Marquette University High School** and **Divine Savior Holy Angels High School** located at 3401 West Wisconsin Avenue, Milwaukee, WI, 53208 and 4257 N 100th St, Milwaukee, WI 53222 respectively, for any physical or psychological injury, including but not limited to illness, paralysis, death, damages, economical or emotional loss, that I may suffer as a direct result of my participation in the aforementioned Activity, including traveling to and from and event related to this Activity.

I AM VOLUNTARILY PARTICIPATING IN THE AFOREMENTIONED ACTIVITY AND I AM PARTICIPATING IN THE ACTIVITY ENTIRELY AT MY OWN RISK. I AM AWARE OF THE RISKS ASSOCIATED WITH TRAVELING TO AND FROM AS WELL AS PARTICIPATING IN THIS ACTIVITY, WHICH MAY INCLUDE, BUT ARE NOT LIMITED TO, PHYSICAL OR PSYCHOLOGICAL INJURY, PAIN, SUFFERING, ILLNESS, DISFIGUREMENT, TEMPORARY OR PERMANENT DISABILITY (INCLUDING PARALYSIS), ECONOMICAL OR EMOTIONAL LOSS, AND DEATH. I UNDERSTAND THAT THESE INJURIES OR OUTCOMES MAY ARISE FROM MY OWN OR OTHERS' NEGLIGENCE, CONDITIONS RELATED TO TRAVEL, OR THE CONDITION OF THE ACTIVITY LOCATION(S). NONETHELESS, I ASSUME ALL RELATED RISKS, BOTH KNOWN OR UNKNOWN TO ME OR MY PARTICIPATION IN THIS ACTIVITY, INCLUDING TRAVEL TO, FROM AND DURING THIS ACTIVITY.

I agree to indemnify and hold harmless **FIRST Team 1732 – Hilltopper Robotics** against any and all claims, suits or actions of any kind whatsoever for liability, damages, compensation or otherwise brought by me or anyone on my behalf, including attorney's fees and any related costs, if litigation arises pursuant to any claims made by me or by anyone else acting on my behalf. If **FIRST Team 1732 – Hilltopper Robotics** incurs any of these types of expenses, I agree to reimburse **FIRST Team 1732 – Hilltopper Robotics**.

I acknowledge that **FIRST Team 1732 – Hilltopper Robotics** and their directors, officers, volunteers, representatives, and agents are not responsible for errors, omissions, acts or failures to act of any party or entity conducting a specific event or activity on behalf of **FIRST Team 1732 – Hilltopper Robotics**.

I ACKNOWLEDGE THAT THIS ACTIVITY MAY INVOLVE A TEST OF A PERSON'S PHYSICAL AND MENTAL LIMITS AND MAY CARRY WITH IT THE POTENTIAL FOR DEATH, SERIOUS INJURY, AND PROPERTY LOSS. The risks may include, but are not limited to, those caused by terrain, facilities, temperature, weather, lack of hydration, condition of participants, equipment, vehicular traffic and actions of others, including but not limited to, participants, volunteers, spectators, coaches, event officials and event monitors, and/or producers of the event.

I ACKNOWLEDGE THAT I HAVE CAREFULLY READ THIS "WAIVER AND RELEASE" AND FULLY UNDERSTAND THAT IT IS A RELEASE OF LIABILITY. I EXPRESSLY AGREE TO RELEASE AND DISCHARGE FIRST TEAM 1732 – HILLTOPPER ROBOTICS AND ALL OF ITS AFFILIATES, MANAGERS, MEMBERS, AGENTS, ATTORNEYS, STAFF, VOLUNTEERS, HEIRS, REPRESENTATIVES, PREDECESSORS, SUCCESSORS, AND ASSIGNS FROM ANY AND ALL CLAIMS OR CAUSES OF ACTION AND I AGREE TO VOLUNTARILY GIVE UP OR WAIVE ANY RIGHT THAT I OTHERWISE HAVE TO BRING A LEGAL ACTION AGAINST FIRST TEAM 1732 – HILLTOPPER ROBOTICS FOR PERSONAL INJURY OR PROPERTY DAMAGE.

To the extent that statute or case law does not prohibit releases for negligence, this release is also for negligence on the part of **FIRST Team 1732 – Hilltopper Robotics**, its agents, and employees.

In the event that I should require medical care or treatment, I agree to be financially responsible for any costs incurred as a result of such treatment. I am aware and understand that I should carry my own health insurance.

Waiver and Release Form - Signed Agreement

In the event that any damage to equipment or facilities occurs as a result of my or my family's willful actions, neglect or recklessness, I acknowledge and agree to be held liable for any and all costs associated with any actions of neglect or recklessness.

Student Name (Please print legibly) Student's Age

Student Signature Date

If student is under 18 years old at the time of signing, Parent or Guardian must also sign.

Parent(s) Name (Please print legibly)

Parent Signature Date

Section 6: Slack Acceptable Use Policy & Agreement

All team members are required to maintain an active Slack account on https://team1732.slack.com through their school email (for students). Team Members must check it daily, which can easily be done by mobile app, desktop app, or through a web browser. Messages will be communicated over Slack and during team meetings. Team announcements, group chats, and private messaging are all available through Slack, so it is a vital tool for team communication. Team members will be subscribed to an all-team announcements channel along with other relevant channels including those for their subteam(s). Team members will also use Slack for communication during team competitions. Team members will also be asked to maintain a personally recognizable profile photo clearly showing the member's face so they may be recognized by others.

Privacy: Conversations, messages and files created on or transmitted via Team 1732 Slack service are considered the property of Marquette University High School (MUHS) which reserves the right to monitor, inspect, copy, review, store, and audit Slack usage and messages. MUHS is also obligated to disclose Slack messages, conversations and files when ordered to do so by auditors, courts, and law enforcement, with or without the user's consent. Given these factors, users do not have a reasonable expectation of privacy when using Slack.

Record Retention: Conversations, messages and files transmitted through Slack are considered business records and are thus subject to MUHS existing policies and procedures regarding business record retention, storage, and deletion.

Unacceptable Use: The following activities are deemed inappropriate uses of Team 1732 Slack service and are therefore prohibited:

- Use of Slack for illegal or unlawful purposes, including copyright infringement, obscenity, libel, slander, fraud, defamation, plagiarism, harassment, intimidation, forgery, impersonation, soliciting for illegal pyramid schemes, and computer tampering (e.g. spreading of computer viruses).
- Use of Slack in any way that violates MUHS/DSHA policies or rules
- Viewing, copying, altering, or deleting Slack accounts or files belonging to MUHS/DSHA or another individual without authorized permission.
- Sharing Slack account passwords with another person, or attempting to obtain another person's Slack account password. Slack accounts are to be used by the registered user only. Allowing a non-registered user to use an account is not permitted.

Violations of this policy will be treated like other allegations of wrongdoing at MUHS/DSHA. Allegations of misconduct will be adjudicated according to established procedures. Sanctions for non-compliance may include, but are not limited to, one or more of the following:

1. Temporary or permanent revocation of Slack access
2. Disciplinary action according to applicable MUHS/DSHA policies;
3. Removal from Team 1732; and/or legal action according to applicable laws and contractual agreements.

Slack Acceptable Use Policy - Signed Agreement

I have read and understand the Team 1732 Slack Acceptable Use Policy. I understand that if I violate the rules explained herein, I may face legal or disciplinary action according to applicable laws or MUHS/DSHA policies.

Student Name (Please print legibly) Student's E-mail

Student Signature Date

If student is under 18 years old at the time of signing, Parent or Guardian must also sign.

Parent(s) Name (Please print legibly)

Parent Signature Date