

FIRST Robotics Competition (FRC) Team 2992

The S.S. Prometheus



Team Handbook 2020-2021

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Section 1: Introduction

To new members, welcome to Team 2992! We are so excited to see what you bring to this team. If you are worried about not knowing anything about robots, DON'T BE! We will teach you all you need to know. Every person brings something new and interesting to a team like 2992. We encourage you to speak up and offer opinions; they are just as valid as those of the four-year seniors! We cannot wait to see what this new year brings!

To returning members, welcome back! We can't wait to start another great season with you! Now that you've got some experience on the team and with FIRST, we challenge you to reach out and pass on knowledge that you have acquired in your time on the team. This is vital to our continued existence. We also challenge you to branch out and try something new! Learn a new skill or become an expert in a subject you know only a little about. This team thrives on self-motivation.

Section 2: About Team 2992

We are FIRST Robotics Competition (FRC) Team 2992, The S.S. Prometheus based out of Mandeville High School.

Section 2.1: Vision

Team 2992 strives to educate and inspire the next generation of STEM and business professionals and spread interest in STEM to our entire community through outreach and gracious competition.

Section 2.2: Mission

Team 2992 pursues our vision by creating a fun environment for peers to learn, meet new people, share ideas, and work for self-betterment while learning to overcome and enjoy challenges.

Section 2.3: History

Beginning in 2008, Mandeville High School hosted a competitive robotics team, started by a former member of Team 1477 Texas Torque who had moved to the area and wished to pursue FIRST further. In our rookie season, 2009, the team successfully qualified for the FRC Championships.

Originally, the team dubbed itself Prometheus, donning orange and white colors. However, Mandeville High is the home of the Skippers, and after our second season,

the school requested we alter our fiery theme, leading to the creation of the name we bear today: The S.S. Prometheus.

Our team's measurable success has fluctuated with the coming and going of coaches, mentors, and sponsors, but 2992 has never faltered in its existence, gaining new experiences and finding new ways to sustain itself even in the toughest of seasons. Beginning in the 2015-2016 season, we embarked in a partnership with the City of Mandeville, which graciously agreed to lend us space in the Public Works Building for use as a shop. The more accommodating location triggered the team's growth in the mechanical field; the city's support increased the team's drive to give back to the community.

Every season is a unique and vital portion of our history; we're looking forward to yet another exciting year!

Section 3: About FIRST and FRC

FIRST, or For Inspiration and Recognition of Science and Technology, is a global nonprofit organization to further interest in STEM (Science, Technology, Engineering, and Math) in youth. But of course, no one explains it more accurately than the organization itself:

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

FIRST Robotics Competition (FRC) includes nearly 92,000 student participants in over 3,600 teams in 27 different countries, not to mention the 25,000+ mentors and adult supporters, all coming together to further interest in engineering on an international scale. Dubbed the "Varsity Sport for the Mind,"™ FRC combines the excitement and team mentality often associated with athletics to the mental rigors of science and technology. Participants are given a meager six weeks to design, prototype, build, program, and become comfortable driving a robot to compete in an alliance-based competition. During those six weeks, teams are also pressed to submit award applications for endeavors ranging from outreach to marketing.

FRC is a year-round program that operates under the same principles of a small business, with departments for robot design and manufacturing, fundraising, community outreach, and media. No team can function without engineers, writers, entrepreneurs, graphic designers, and others. Anyone and everyone can find a place on an FRC team.

FIRST has also coined two terms as a part of their philosophy: *Gracious Professionalism* and *Coopertition*®. Our team, like all FIRST Robotics teams, has adopted and fosters these philosophies in our members.

“*Gracious Professionalism* is a way of doing things that encourages high-quality work, emphasizes the value of others, and respects individuals and the community. With *Gracious Professionalism*, fierce competition and mutual gain are not separate notions. Gracious professionals learn and compete like crazy, but treat one another with respect and kindness in the process. They avoid treating anyone like losers. Knowledge, competition, and empathy are comfortably blended. In the long run, *Gracious Professionalism* is part of pursuing a meaningful life. One can add to society and enjoy the satisfaction of knowing one has acted with integrity and sensitivity.

Coopertition® produces innovation. At *FIRST*, *Coopertition* is displaying unqualified kindness and respect in the face of fierce competition. *Coopertition* is founded on the concept and a philosophy that teams can and should help and cooperate with each other even as they compete. *Coopertition* involves learning from teammates. It is teaching teammates. It is learning from Mentors. And it is managing and being managed. *Coopertition* means competing always, but assisting and enabling others when you can.”

Section 4: Past Achievements

Year	Event	Award
2009	Bayou Regional	Quarterfinalist, Highest Rookie Seed, Rookie All Star
	World Championship	Curie Division
2010	Bayou Regional	Winner, Imagery Award
	World Championship	Curie Division
2011	Bayou Regional	Quarterfinalist, Imagery Award
2012	Bayou Regional	Finalists, Industrial Design Award
2013	Bayou Regional	Quarterfinalist, Judges Award
2014	Rock City Regional	Finalist, Gracious Professionalism Award
	Bayou Regional	Quarterfinalist

2015	Bayou Regional	:(
	World Championship	Tesla Division
2016	Bayou Regional	Quarterfinalist
2017	Rock City Regional	Quarterfinalist, Creativity Award
	Bayou Regional	Semifinalist
	Lone Star North Regional	Semifinalist, Team Spirit Award
	World Championship	Carver Division Finalist
2018	Rock City Regional	Quarterfinalist
	Bayou Regional	Finalist, Creativity Award
	World Championship	Hopper Division Quarterfinalist, Ranked 5 (best any LA team has done!)
2019	Rock City Regional	Winner, Autonomous Award
	Bayou Regional	Finalist, Judges Award
	World Championship	Hopper Division Finalist
2020	Rock City Regional	Semifinalist, Judges Award
2021	Infinite Recharge at Home	Sodium Group Winners
	Game Design Challenge	Design Award
2022	Tallahassee Regional	Chairman's Award, Finalist
	Bayou Regional	Dean's List Finalist, Woodie Flower's Finalist, Finalist
	World Championship	Hopper Division Quarterfinalist

Section 5: Team Structure

Mechanical – Responsible for designing, manufacturing, wiring and plumbing the robot during build season as well as maintaining and refurbishing robots used for demonstration in the community.

Programming – Responsible for programming teleoperated (human operated) and autonomous (code operated) modes for the robot and all subsystems in Java. Works

closely with the Mechanical subteam and drivers to ensure the program is running smoothly and effectively.

CAD – Responsible along with Mechanical team for robot design and Computer Aided Design of robot along with CAD drawings required for fabrication of robot parts.

Outreach - Plans community outreach events to share our love for STEM. Keeps kids curious and interested in science, technology, engineering, and math through fun events. Ensures all parts for submission for awards are finished and turned in on time.

Fundraising - Raises money for the team through maintaining and acquiring sponsors and planning fundraiser events.

Media/PR – Maintains the team website and social media profiles, designs T-Shirts, flyers, and team logos, takes picture and video documentation at all events for team use.

Spirit - Works to help the team act as a single unit through team building activities and social events. Makes chants and signs to use at competition and keeps the energy level up at competition. Keeps the stands fun and engaging during competitions.

Section 6: Member Expectations

Section 6.1 General Meetings

All members are expected to attend monthly general meetings after school on the last Thursday of the month. This is where important information is shared, subteam updates given, and any full-team voting occurs.

If you will be missing a general meeting and need to be excused, please inform Ms. Casey, the Team Captain, or a subteam captain by the end of the school day before the missed meeting (24 hours ahead). If you must leave school because you feel sick and will therefore be missing a meeting, please inform a subteam captain, Ms. Casey, or the Team Captain. **You will only be excused if we are directly informed by you.**

Informing a captain of an absence must be done in person, through a direct message on GroupMe, Remind, email, or through text. We will not accept being informed through other team members. Please be responsible for yourself – it will benefit you in the future.

If you wish to be a part of the team but are unable to make general meetings because of prior engagements (ex. Band, jobs, etc.) or have issues with obtaining rides, please contact the Team Captain. We will work with you to allow active participation in both Team 2992 and the other engagement.

Section 6.2: Dues

All members must pay their \$50 dues to be a part of the team. If one is unable to pay the dues, please approach Ms. Casey and Officers. We want you on the team and we will work something out!

Section 6.3 Communication

Intra-team communication will primarily occur over email, GroupMe, and Remind. All members must have a personal email that they check regularly. It will be added to the team google group. Team members must check communication threads as there is no excuse for not knowing information.

Section 6.4: STIMS

Team members must officially sign up for the team through FIRST on STIMS (youth registration system) once it is opened. This includes the registration AND parent consent form. We will help students start the process at a general meeting.

Section 6.5: Team Culture

The statements below have been inspired by and adapted from Team 1678 Citrus Circuits' Team Handbook. We feel as if it is a good, concise list of what our team values and as such have included it in our handbook.

Show Up. I will be here and on time.

Speak Up. I know the team values my ideas, so I will share them.

Listen Up. I respect others and their ideas and will be conscious of when it is time to listen.

Smarten Up. I will aggressively learn as much as I can.

Step Up. I will take initiative to find work that needs to be done and guidance to do it well.

Grow Up. By acting like an adult, I will earn my right to be treated like one.

Clean Up. I will clean up at every meeting because I understand that the cleanliness of our workspace affects our safety and productivity.

Hurry Up. I know that time is a scarce resource for a team like ours, so I will have urgency in everything I do.

Live it Up. I recognize that Robotics is the hardest fun that I'll ever have, and I will make the most of my time here and enjoy it.

Never Give Up. I will never stop searching for ways to improve by failing faster.

You are your own best advocate. No adult mentor or student captain will 'make' a student do something. This is a **self-motivated** program. If you want to learn, ask a mentor or captain. Do not wait around for someone to give you a job. 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, talk to a Mentor or Captain. The most successful members on this team are those who **do not wait to be asked** to complete a task; they do not spend their time at build in the corner on their phone. Self-motivation is what drives 2992.

Section 6.6: Voting

Any decision that will affect the team may be brought to a full team vote at a general meeting after $\frac{2}{3}$ of the Elected team captains elect to bring the issue to the full team. Any dues-paying member attending the meeting may partake in the team vote.

Section 7: Competition and Events

Section 7.1: Travel requirements

Missing school for an event, whether it be for competition or outreach, is a privilege! To be eligible for an excused absence from school, team members must not have missed more than 10 general meetings without an excused absence (as defined in **6.1**) and have attended a total number of 40 hours of any subteam meetings or events (at least 15 of those hours must be outreach). Students must also maintain a 2.5 GPA. All students missing school must also ensure they make up any schoolwork missed.

Section 7.2: Code of Conduct

You are representing our team, our school, our community, our sponsors, and yourself whenever and wherever we travel. Treat others with respect and kindness. Your behavior impacts everyone that you represent. What you say to another team member and how you say it may be overheard by a judge, potential sponsor, or member of another team. Even the expressions on your face and body language may bring

unwanted negative attention and bad impressions. Any guests you invite or bring must understand this and behave accordingly.

Do NOT wear a team shirt or any piece of team gear while behaving in an inappropriate manner. Even if you're just wearing it to school, you are representing our team.

While at competitions, remember gracious professionalism, and always be respectful. Stay with the group; if you need to go anywhere, let the people in charge know and find a reasonable time to do so. If you're needed and you're not there, it will reflect poorly on you. Stay on task and fulfill your role at competition and follow the Dress Code.

Section 7.3: Dress Code

Dress Code for any outreach or competition event will be specified by the Team Captain or Outreach Captain. Please adhere to whatever shirt you are asked to wear and remember that close-toed shoes and appropriate clothing are always required for your safety. Since we are the Mandeville High School Robotics Team, only **school appropriate clothing** should be worn to team events.

Section 8: Leadership positions

Section 8.1: Requirements

- Those interested in being a Captain on the team must be a dedicated, knowledgeable member of the team and overall must be ready and willing to work hard.
- All leaders must be able to fulfill all their duties (as listed below) for the entire duration of their term. If a leader is not living up to expectations of team leadership, the captains may hold a vote to bring the issue up with an adult mentor. The mentors have the final say on replacing a leader.
- As the role models for the team, all leaders must maintain a 2.5 GPA average or better in all classes
- All leaders must have maintained "in good standing status" during the current school year (the year the election/appointment is being held/occurring). "In good standing" means student a) has not been recommended for expulsion; b) has not been disciplined (suspension, in school suspension, or Saturday Support) for any offenses. Officers are subject to removal from office for failure to maintain "in good standing" status. Subsequent years' election eligibility will be determined by MHS faculty mentor.

- In order to hold the position of Team, Build, Outreach, or Fundraising Captain, the student may not hold any major office of another extracurricular organization during his/her term of office.
- It is imperative that each position is filled by the most qualified candidate. Therefore, each person running for a position, whether running opposed or not, will give a speech during elections. In addition to any student questions, the MHS faculty mentor reserves the right to ask questions of each candidate at the conclusion of each speech.

Section 8.2: Elected positions

Team Captain – Ensures the team runs smoothly, efficiently, and in a timely manner. Is in charge of ensuring all deadlines are met by captains, checking the team email, sending team updates, plan and run officer meetings, works with captains to plan and run general meetings and, if need be, acts as the main liaison between all departments. Is the official face of the team. This person will be a junior or senior, will have held at least one other leadership position on the team, and will have been involved with the team for at least two years.

Build Captains (2) - Organizes all build meetings, and make sure that the robot is built and works well. Works alongside the programming team to ensure the robot moves as intended. This person will have at least 12 months experience on the team or have build mentor approval.

Outreach Captain - Organizes all outreach events, searches for new opportunities to help our community and fellow FIRST teams, and records team member outreach hours. The Outreach Captain is also in charge of the Chairman's Award submission and presentation. This person will have at least 12 months experience on the team. Their experience must include full attendance at all camps and 75% of outreach events or have mentor approval.

Fundraising Captain - Contacts current sponsors and potential sponsors to renew sponsorship and/or to raise additional money the team may need for future competitions and other expenses. Also helps plan and run fundraiser events with the Booster Club. Works with the Secretary/Treasurer to keep a running tab on the team's accounts. This person will have at least 12 months experience on the team. This person must be able to drive or have reliable transportation, as much of fundraising occurs at the sponsors' places of business.

Media Captain – Runs Media team meetings by organizing a list of objectives every week for the media team to achieve. Objectives include design of team shirts and other outerwear, maintaining and updating the team website, and running social media.

Secretary-Treasurer – Attends all general meetings and captains' meetings to keep the minutes and works with the Team Captain and department captains to ensure the entire team is aware of upcoming events. Also keeps track of any and all monetary transactions that the team makes or receives, keeping a running tab on how much money is in the team's account.

Section 8.3: Appointed Positions

CAD Lead - Organize the development of robot parts through CAD while working with build captains to design efficient parts for the robot. Leads all CAD meetings and teaches new members how to CAD.

Programming Lead – Leads all programming meetings and teaches new members how to code. Ensures due dates are met, the robot program is finished before competition.

Scouting/Strategy Lead(s) - Creates the pit and match scouting sheets for the team, makes sure all students understand how to scout, makes scouting schedules, and runs scouting meetings. At competition, ensures the drive team knows who their allies and opponents are and their strengths, weaknesses, and typical strategies, and aids in making our own strategies based off of the information provided.

Quartermaster - Makes sure the shop is clean and organized while working closely with the build captains to organize build meetings as well as keeping inventory of needed materials and equipment in the shop. Works with fundraising team to purchase new needed materials and equipment.

Spirit Lead - Organizes and runs all spirit team meetings. Ensures the signs are brought to competition and that the team knows the chants for our matches. They are also in charge of planning team socials.

Section 8.4: Competition Specific Appointments

Drive team - Participates in the match by driving or operating the robot or working as the Human Player during the match. Brings the robot to the field and ensures the robot is set up in the correct configuration and ready to play. (Note: By team rules, 1st year team members are NOT eligible for certain drive team positions.)

Pit Crew - Stays in the pit to make sure the robot is fixed and ready for the next match, speaks to, answers questions, and helps any judges or other teams that come to our pit. Keeps the pit clean and organized. Also responsible for load-in and load-out at each event.

Pit Scouts - Talk to other teams about their robot to get an idea of how we can possibly play with or against them. Should possess good communication and people skills.

Section 9: Booster Club

The Mandeville High School (MHS) Robotics Booster Club provides support for Team 2992 and their mission of promoting FIRST programs and interest in STEM and inspiring young students to be science and technology leaders. The Booster Club has no rights and/or authority in team and daily operations.

Section 9.1: Booster Club Membership

Any parent or guardian of an MHS FRC team member or any person interested in the objectives of the MHS Robotics Booster Club and is active in its affairs can become a member of the Booster Club with payment of the current \$10 annual dues.

Section 9.2: Booster Club Meetings

Booster Club meetings shall be held at the beginning of each school year and as needed throughout the year as determined by the Booster Club Executive Board.

Section 9.3: Miscellaneous Support

The Booster Club helps organize fundraiser events along with the Team Fundraising Captain and helps coordinate team meals during build season and travel arrangements for out-of-town competitions. The Booster Club will request help from parents throughout the year.

Please sign and detach this page to be returned to Ms. Casey or the Team Captain.

I certify that I have **read this entire handbook**, understand all the rules and guidelines described in it, and will strive to live up to the expectations of my team.

Student name: _____

Student signature: _____ Date: _____

I certify that I have read this handbook with my child and understand what is required of him/her. I will support them in any way I can.

Parent name: _____

Parent Signature: _____ Date: _____

Welcome to Team 2992!