

Student _____ Date _____
Parent/Guardian _____ Date _____

This handbook must be read by both student AND parent/guardian. Also both parties must sign it as acknowledgement of participation requirements of both student AND parent/guardian.

Team Paragon 571

Team Handbook ***FIRST* Robotics**

Team Email - teamparagon571@att.net
Team Website - www.team-paragon.org
Site location - 29 Griffin Road South
Bloomfield, CT 06002

Original: May 1, 2005, revised: per file name below.

Table Of Contents

<u>Table Of Contents</u>	2
<u>Handbook Revision History</u>	3
<u>SECTION 1: Overview of <i>FIRST</i> and Team Paragon</u>	4
<u>About FIRST Robotics</u>	4
<u>About Team Paragon</u>	5
<u>What students get from participation in <i>FIRST</i></u>	6
<u>Team Structure</u>	6
<u>Sub-Teams</u>	6
<u>Typical Sub-Teams and Descriptions</u>	7
<u>Competition Events</u>	7
<u>SECTION 2. Team Rules and Administration</u>	8
<u>Team Member Expectations and Duties</u>	8
<u>Academic Standing</u>	8
<u>Participation</u>	9
<u>Behavior</u>	10
<u>Team Uniform</u>	11
<u>School Travel Requirements</u>	11
<u>Team Travel Requirements</u>	12
<u>Participation at Competitions/travel scholarships</u>	13
<u>Fundraising and Team Member's Financial Obligations</u>	13
<u>Parental Involvement</u>	15
<u>Team Leadership, Officers and Duties</u>	17
<u>Teacher/Coaches (must attend all season and off season competitions)</u>	17
<u>Team Officers - General</u>	18
<u>Team Officer Election Procedures</u>	18
<u>Re-Election of Officers</u>	19

List of Student Officers	19
Team Captains	19
Secretary (Scribe)	19
Assistant Secretary (Assistant Scribe)	19
Financial Officer	20
Robot Drive Team	20

Handbook Revision History

Date	Name	Description of Revision
08-16-2005	J. Richter	Group into two sections - Team overview & Team rules/admin.
08-23-2005	J. Richter	Edit for brevity & eliminate duplications.
09-07-2005	E. Ross	Make grammatical changes and revise the fundraising section.
02-28-2007	Mg. Susca	Edit to add MLC in section and Co-Captains to Tri-Captains
05-01-2007	T. Kessler	Edit Team Captains, Travel Requirements And Participation
06-01-2008	T. Kessler	Fundraising Guidelines
08-24-2008	Mg Susca	Remove LC, revise hours requirement, add fundraising hours requirement
09-06-2008	T. Kessler	Electronics Policy, Sub-team breaks, Three strikes policy
06-03-2009	R. Sanchez	Parental Involvement, Sub-Teams, Typical Sub-Teams & Descriptions, Competition Events, Team Rules & Administration, Fundraising Guidelines, add Robot Drive Team Requirements
07/08/09	R. Sanchez	Fundraising Travel Guidelines
8/11/10	Admin group	Entire booklet

SECTION 1: Overview of *FIRST* and Team Paragon

About FIRST Robotics

FIRST Robotics is an international engineering competition founded in 1992 by inventor and philanthropist Dean Kamen. *FIRST* stands for "For Inspiration and Recognition of Science and Technology". *FIRST* promotes excitement about science and technology in high schools across North America by teaming students up directly with engineers and technical professionals. Students receive an intense, hands-on experience in cutting-edge technology and the engineering profession by building high tech robots and competing in multi-day competitions.

FIRST is a tremendous success. To date, over 1,700 *FIRST* teams have been formed. A 3-day international competition is held each year/spring in order to accommodate over 500 teams and over 20,000 people who attend. There are 6 weeks of international competitions held worldwide culminating in the finals on in the 3rd week of April to determine the Champions.

A robotics team is a partnership involving one or more high schools and sponsoring organizations such as local businesses and universities.

- Sponsors provide funding, tools, materials and facilities. Most importantly, they provide engineers who volunteer as mentors.
- Teacher Advisors/Mentors encourage students to challenge themselves by thinking outside the box
- Engineers volunteer a great deal of their personal time to mentor the students in the designing and building of the robot.
- Students participate in various sub-group roles working shoulder-to-shoulder with these professionals, gaining valuable experience with design, machinery, electronics, software, physics, business and much more.
- Parents support the team by attending, competitions, community outreach events and fundraising events whenever possible. Parent attendance at team meetings is always welcome.

Each January *FIRST*, unveils a new "game" with different challenges to be met by the robot. Brainstorming, designing and building the team's robot begin immediately, as teams have a "build period" of only six intense weeks to construct their robots and to test their ability to accomplish the objectives of the game.

Numerous Regional Competitions are held in March and April, following the "build period." The Competitions are unique, multi-day high-tech sporting events. Awards are presented by the judges to recognize achievements in categories such as; design, innovation, creativity, spirit and safety. Teams usually attend several such competitions, and may also attend the world championships at the end of April. Over the summer and fall, individual teams host smaller, off-season competitions. These events expand the competition opportunities for the rest of the year. Competition experiences include traveling as a team, working to maintain and repair the robot under time pressure, sharing design and technology with other teams, cooperating, competing, and of course, having a great time.

There are a variety of ways to which students may contribute. Focused activities are the key to our success, and provide students with valuable experiences in organization, leadership, relationship building and technical knowledge. The Team Structure section of this handbook describes some of the specialty areas of the team.

About Team Paragon

Team Paragon was created in the fall of 2000. The team is composed of students, mentors (engineers and other technical professionals), teachers and parents from local schools and communities including but not limited to Windsor High School and the Metropolitan Learning Center.

The team generally meets once a week during the school year, more frequently during the four-month competition/build season from January to April, and as needed during the summer. Meetings are announced weekly via the team website and email.

www.team-paragon.org

Core team activities run year-round including fundraising, outreach activities, site improvements, technical workshops and projects that students would like to try with mentor support.

After the release of the new "game" in the first week of January each year, the Team enters an intensive six-week build season to prepare for competition. The Team and its sub-groups meet multiple days a week to devise a game strategy and then create a functioning robot and all the supporting material required for the competition events. Build activities occur at build site located at 29 Griffin Road South, Bloomfield. After the build period ends in mid-February, the team attends Regional Competition(s) held during March and April. When funds allow, it is our intention to attend the championship competition, this coming season it will be held in St. Louis. The team also attends off-season competitions held during the summer and early fall.

What students get from participation in FIRST

- Exposure to the field of engineering, graphic design, computer programming, public relations and business operations.
- Work in partnership with professional engineers
- Introduction to all facets of a program that designs, creates and uses a "real world" product (the robot) to perform specific goals
- The experience of establishing and working with a schedule to finish a challenging, creative project in time for a deadline.
- Useful knowledge in choosing a career path.
- A challenge to explore aptitudes, skills and limits.
- Improved self-motivation.
- A great teamwork experience with peers and adults.
- Life skills, such as problem solving, teamwork and commitment.
- Friendships that will endure a lifetime.

**STUDENTS, WHO LEARN THE MOST ARE THE ONES WHO ASK QUESTIONS,
THERE IS NEVER A "DUMB" QUESTION**

Sub-Groups

The Team runs much like a small business with different departments. We are organized into sub-groups.

An adult mentor will lead each sub-group. These leaders are responsible for the sub-groups actions.

Typical Sub-Group Descriptions

- Administration - public relations, recruiting, team building, travel, correspondence, community outreach, and documentation
- Drive Team - Drives the robot at competitions and scrimmages while working closely with Strategy/Scouting.
- Electrical - designs and builds the electrical portion of the robot
- Fundraising - Plans and organizes fundraisers for the team.
- Mechanical - Brainstorms, designs, fabricates and assembles the robot.
- Multimedia - takes still pictures and records video at competitions and documents other team activities.
- Pit Crew - Maintains and repairs the robot during competitions; made up of students from the build team.
- Programming - Programs the robot control interface.
- Rules-meister - Keeps fully updated copies of the competition manual.
- Spirit - Responsible for team's overall appearance, including t-shirts designs, signs and other accessories, keeps spirits up at competitions and keeps a positive feeling and helps promote the team by doing positive acts of kindness. *FIRST* has an expectation of Team Paragon. The Spirit team should maintain this image.
- Strategy/Scouting - Formulates game strategy and reviews matches, scouts opponent robots to benefit strategy; works closely with drive team, updating scouting sheets.
- Website - Maintains and updates the Team website.

Competition Events

Team Paragon typically attends two official *FIRST* competitions per season, and participates in several off-season events throughout the year. This may change depending on several factors such as funding and sign-ups. We try our best to give each student as much notice as possible if any changes are to occur.

- The team always attends its “home” competition, which is the Connecticut Regional in Hartford, CT. This is a mandatory event and participation is required unless previously excused by a team mentor.
- Traditionally the team attends a second away Regional. The location of the regional is determined by funds available and team preference. Attendance to the away Regional is optional and contingent upon a team member’s participation status prior to the event (per Team Rules section below).
- In the event that the team qualifies for championships, and funds are available, Team Paragon may choose to attend the championship competition. Individual attendance is contingent on participation status.
- Off-season events are one or two-day competitions sponsored by individual teams using official *FIRST* fields, sometimes with modified rules.
- Attendance at off-season events is determined by student interest, student and mentor availability and funding.

SECTION 2. Team Rules and Administration

Team Member Expectations and Duties

The first priority of a team member is to fulfill your obligation to your schoolwork. If help is needed with your studies, there are many resources available, but you need to ask. Time management is key to balance your schoolwork and Team Paragon commitments.

The creativity, teamwork and energy invested by the Team’s mentors and students is a major part of what makes Team Paragon such a great experience.

There are opportunities for different skills, interests and energy levels. The Team's goal is to learn about science, technology, engineering, math, business operations and computer programming while having fun. Although we are here to have fun, we have an objective and work to do.

Team Eligibility and Participation Requirements:

- ***Academic Standing***

To participate in the program, students must maintain academic eligibility
Academic eligibility is defined as:

On progress reports and report cards grade average needs to be at minimum of 71.0 and a maximum of 1 F.

During the time that the student is below the academic standard the student has the opportunity to work with a mentor review board to assist with tutoring/mentoring to restore academic standing. If the student chooses not to participate in the review board they will be placed on hiatus until their grades meet standards.

- ***Team involvement***

Students are expected to have consistent involvement in the team and to include

- Minimum of 1 event per quarter including 1 Otis event
- Schedule given at beginning of build season must be adhered to throughout the 6 weeks
- Fundraising requirement must be met
- During non-build season March 1 through out December 31st, participation should average 6 hours per month
- During 6 weeks of build participation should average 9 hours per week through out the entire build season (Jan 1 through Feb 28)
- Community outreach hours of 18 per season
- Participation in at least 2 Bottle and Can Drives per season
- For FTC members: Team Paragon involvement hours must be 33% FRC

for travel requirements

- Team fundraising events are mandatory. Failure to attend may prevent students from participating in events

It is expected that all team members will be active participants throughout the entire year (June 1st through May 31st), not only until your hours are met.

Policies

- Team issued supplies are to remain at the buildsite including safety glasses and binders.
- Each student will neatly keep his/her own log of time spent on team-related activities using the log sheets in his/her team notebook.
- Students are responsible to log hours and have them signed off at the end of each session.
- Work done outside of the meetings and build site must be reported to a mentor. A mentor must sign off on these hours. Outside Community Outreach Hours should be pre-approved by the mentor in charge of community outreach if they are intended to count towards requirement hours.
- Each student is required to complete the team's safety course. There will be a written test after the training.
- Information is sent out via email and posted on the team website. It is the student and parent's responsibility to check these regularly.
- Safety standard, appropriate clothes and closed toed shoes must be worn. Hair must be tied back, no loose clothing, safety glasses worn in build area, and safety training must be completed
- Safety is not negotiable!

Behavior

- Four central themes for our Team are as follows; safety, "gracious professionalism", fun, and effectiveness. Behavior guidelines focus on these ideas.
- School conduct and field trip policies apply to the team at all times. This includes the removal of a student for misconduct.
- Proper attire is to include shirts with at least 2 finger width straps, they are not to be off the shoulder or low cut. Shorts are to be worn on the

- waist and no less than 5" above the knee.
- *FIRST* embodies "gracious professionalism" which includes positive, courteous, respectful behaviors at all times to all people, either team members, mentors, alliance or opposing teams, sponsors, officials, community members; basically everyone.
 - Team Paragon uses the team email and web site as the primary means of communication; therefore it is strongly recommended that it is checked daily and replies are necessary in a timely fashion. If the student/family does not have access to the Internet, please inform a mentor.
 - The Team members are responsible for the upkeep and maintenance of the facility; so each sub group is assigned housekeeping duties.
 - Electronic devices (cell phones, mp3s, iPods, gaming systems, etc) are not to be used while you are participating in any Team Paragon events. This includes but is not limited to team meetings, work sessions, volunteer work, and competitions. Cell phone usage with permission of mentors only.

Team Uniform

- To promote Team unity and a visible presence at events, all Team members are expected to wear the Team uniform at competitions and other public events.
- Uniform of the day will be determined and announced prior to the event. Usually the uniform consists of Team t-shirt, hoodie, fleece jacket and black pants or shorts but not sweats. Pants should fit properly and must not be ripped or torn.
- Closed toed shoes must be worn to the buildsite and to all robotic events. You will be notified if an event permits opened toed shoes.

School Travel Requirements

- The Windsor Board of Education must approve all trips during the school year.
- To attend a trip, students must submit permissions slips, medical and other forms on time.
- School based permission slip required as necessary for specific events.
- School travel rules will be followed, including transportation to and from the event on the bus.

- Competitions occurring on school days
 - For WHS students, missed days from school are considered at field trip and are an excused absence
 - For all other students, because the TEAM is not affiliated with your school directly, it cannot be approved as a field trip; therefore it is at your parent's approval that you will miss school days. Depending upon the policy of your school, it may or may not be considered an excused absence.

Team Travel Requirements

- Be in good academic and behavioral standing
- Completed a minimum of 100 FRC hours; for FTC students you may use 33% of your FTC hours
- Completed a minimum of 18 community out reach hours
- Demonstrated active team involvement as outlined above throughout the year.
- Completed \$500 in fund raising. If you have completed all other requirements except fundraising, you have the option to pay your fundraising requirement yourself. See section below
- All students in good standing are eligible to attend one-day off-season competitions.
- When financially possible, a senior student will be nominated to attend Championship as a volunteer with a Teacher Mentor. If a Teacher Mentor is not available to travel, then this will become an Academic Scholarship. If parents of student nominated can attend with student, then student is welcomed to go to Championship as a volunteer.
- If a student has completed required hours, but not fundraising, the student has the ability to personally offset the cost.
- If a student choose not to offset the fundraising obligation, they can travel with their family, but they may not participate in team related

activities, i.e. dinner, socials, hotel accommodations, transportation.

Fundraising and Team Member's Financial Obligations

Fundraising is essential to pay the expenses of competing in FIRST robotics. The Team budget must cover event entry fees, costs to build the robot, Team operations, and travel costs to the competitions. As a part of being on the Team, students are required to participate in Team fundraising activities that occur throughout the year.

Fundraising activities provide practice in several skills, including learning to work effectively as a group, developing personal relationships, public speaking and accepting and discharging scheduled commitments.

Fundraising Guidelines Each Season

- Each student is expected to fundraise accordingly:
 - a. Students on the team the entire year (June on) are required to raise \$500.
 - b. Students joining the team in September are required to raise \$300.
 - c. Students joining the team after September will have the amount prorated accordingly.
 - d. Fundraising season runs from Jan 1 through Dec 15th. Students planning to be on the team the following year can begin their fundraising efforts in January.
- Based on other (Team) fundraising efforts and corporate donations, the Team may be able to lower fundraising requirements. If donations do not reach our expected goals, the Team will make every effort to cut back on spending, including finding lower cost Regionals, or eliminating the second Regional event. We do not expect to increase the student fundraising contribution.
- Fundraising efforts include
 - e. Students soliciting local businesses and/or civic groups.
 - f. Students participating in a Team fundraising event (Rentschler Field, car wash, etc) the funds will be equally divided
- Money earned at Team sponsored can and bottle drives will be credited to the Team's food fund and will not be credited to student's fundraising goal.
- Established Team sponsors cannot become student sponsors (i.e. Otis, Griffin)

Land), but student obtained sponsors can be "re-approached" by students.

- If a mentor is required to do the bulk of the work to collect a donation, the student will not get credit for the donation.
- When a group of students meet with a potential corporate sponsor that group will decide how best to divide the fundraising credits.
- Credits earned by one student may not be transferred/sold/traded to another student.
- If a student leaves the Team before the season is over, the student's fundraising credits will be transferred to Team fundraising.
- In-Kind donations must be pre-approved by mentors before it is credited towards student's fundraising goal. The team mentors will have a "Wish List" on items that are in need for the team.

**** Parental Involvement***

We strongly encourage and need parental involvement. There are many ways for parents to participate, including helping a sub-group, by contributing a useful skill, transporting and chaperoning students, assisting with fundraising (see fundraising section of handbook), etc. As a "non-engineering" parent, you have the opportunity to become a part of NEMO (Non-engineering Mentor Organization). Here you will gain the support of mentors who do not have an engineering background but can offer much to aid the success of the Team. We know that you are busy but we appreciate any time that you can give to the team.

Team Leadership, Officers and Duties

The Team consists of students, teachers and adult mentors. Students are encouraged to carry out most of the Teams operations, led by student officers or students who volunteer as sub-group leaders based on their interests.

The Team leadership group provides guidance and makes critical decisions. This group is made up of the Team captains, teachers and lead mentors. Mentors contribute special or general skills. They include our engineers and technical professionals from local companies, teachers, and parents.

Teacher

Teacher are semi-permanent volunteer positions and are not elected

Qualifications: must be a certified teacher, be available for sufficient time to

carry out required duties and be able to inspire, motivate and work with all types of individuals.

Duties: They work with the adult team leaders to ensure all requirements to sustain a functioning team and positive Team environment. They serve as the liaison between the Team and the school. Teachers need to keep the team informed of schedules, activities and changes in school policy.

Team Officers - General

Student officers are team nominated and mentor elected in mid-April. After elections, the current officers work together with the newly elected officers for the remainder of the season to train them in various details of the positions and ensure a smooth transition. Any student holding a leadership position will be given training and will be supported during their term. If for any reason a student cannot carry out their responsibilities, a senior mentor will work with the student to remedy the situation. If a remedy can not be achieved a replacement will be arranged.

Re-Election of Officers

It is the intent of the Team to provide leadership and other opportunities to as many students as practical. All Officers may be re-elected for two consecutive or two non-consecutive one-year terms.

List of Student Officers

Team Co-Captains

Qualifications: must be a Team Paragon member for at least one year; must possess good public speaking and organizational skills and be able to inspire, motivate and work with all types of individuals.

Duties: schedule, organize, and preside over Team meetings. Represent the Team at all times.

Secretary (Scribe)

Qualifications: must be a Team Paragon member for at least one year; must possess good organizational & writing skills, knowledge of word processing,

e-mail software and have Internet access.

Duties: Take accurate minutes of all Team meetings and send to the team coach for distribution. Must keep records of e-mail addresses of Team members, parents/guardians, school administrators, town officials, and sponsors for purposes of communication.

Assistant Secretary (Assistant Scribe)

Qualifications: must be a Team Paragon member for at least one year; must possess same skill set as the secretary.

Duties: work with the secretary; assume the duties of secretary in his/her absence.

Financial Officer

Qualifications: must be a Team Paragon member for at least one year; must possess good financial/mathematical skills; must possess good communications skills; must be willing to work with financial mentor to develop knowledge of spreadsheet or financial software.

Duties: Keep accurate record of receipts and disbursements under supervision of financial mentor. Report on necessary budget information at Team meetings.

Robot Drive Team

The robot drive team is made up of four students or three students and a mentor depending on the competition situation.

Drive team expectations:

- Be well versed in all of the robot's functionalities and physical limitations
- Have a working knowledge of mechanical, electrical and/or programming that would allow them to work on/repair the robot as needed.
- Have an excellent working knowledge of game rules.

Drive Team Eligibility

- Be on the team for at least one year.
- Log a minimum of 50 hrs of robot build time during build season.
- Have sufficient working knowledge of the robot's functions and how to fix/repair all of the functions.
- Have an excellent working knowledge of the game rules.
- Complete and pass the written exam.
- For driver and operator only: be present at all of the mandatory driver

training sessions and exhibit sufficient driving ability.

Drive Team Positions

Driver - Controls the robot's drive train and other key functions

Driver duties include:

- maneuver the robot through a congested playing field
- be able to use the robot to its full potential without going past the machine's physical limits unless the situation calls for it (**i.e. : don't break it!!**)
- work with the operator to position the robot in a manner that allows the operator to perform his/her duties
- work with alliance partners to develop a match strategy
- properly set up the robot/operator interface at the beginning of the match

Operator - Controls of the robot's auxiliary functions

Operator duties include:

- control the robots auxiliary functions
- be able to use the robot to its full potential without going past the machine's physical limits unless the situation calls for it (**i.e. : don't break it!!**)
- work with alliance partners to develop a match strategy
- properly setting up the robot/operator interface at the beginning of the match

Robo-coach/Human Player - aid the team and alliance by physically handing game pieces

Robo-coach/Human Player duties include:

- perform all duties of their position outlined in game handbook
- watch the entire field to spot opportunities that the drive team may miss, and must be able to effectively communicate to the remainder of the team and alliance
- work with alliance partners to develop a match strategy properly setting up the robot/operator interface at the beginning of the match

"Head coach" of the Team: can be student or mentor - watch the game in progress and direct (coach) the drive team accordingly

"Head coach" duties include:

- work with the driver and operator to position the robot in a manner that allows the drive team to perform his/her duties
- watch the entire field to spot opportunities that the drive team may miss, and must be able to effectively communicate it to the drive team
- encourage the drive team before/during/after the match to maximize their driving capability
- guide the drive team in strategizing with the alliance