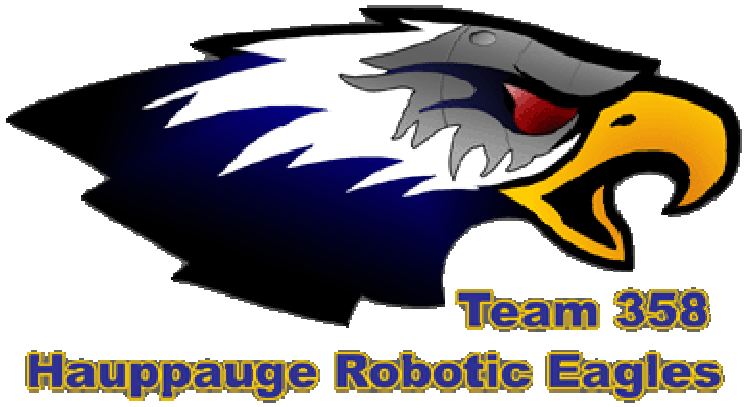
For Inspiration and Recognition of Science and Technology



Team358.org

Officer Handbook

Updated Summer-2011

Forward

This handbook is intended to be a reference rather than a novelization. You don't have to read this cover-to-cover, you might strain something. Go right to whatever you what to know more about – costs, schedule, etc. Want to know what a competition is like? It isn't even in here! That's in the Appendix.
Probably the sections of most interest are: Student Organization and Rules of Conduct. We have handbooks for each major type of team member: student, parent, mentor, officer, and advisor. These share some common material: Our mission/objectives, team management/background/organization/schedule, etc.

What we want are highly motivated students able to lead groups and work independently. We shoot for students working 50/50 with professional engineers. The concept is most like the industry outlook of a small engineering firm where freshmen are the "new hires" who need training and skill development, and seniors are the veteran workers supervising and training the new employees. Mentors act as facilitators by introducing and demonstrating new techniques that complement the students design concepts.

- Good communication
- Respect at all times for your teammates, advisors, sponsors, mentors, parents, other teams, and volunteers (especially the volunteers wearing stripes!).

If there is a single point to take away from this Handbook it is FIRST's concept of Gracious Professionalism (GP). GP stands for sportsmanship above and beyond the normal. GP means being as supportive to the students on other teams as we are to our own. We want ALL students to be inspired by what we can do. GP does not demand that our kindness be returned before we decide to give ours, it is not a stick with which to bludgeon our competitors if we don't think they practice GP. The importance of GP is to better ourselves, rather than others, becoming responsible citizens and improving our society by example. Years from now our team alumni will remember a great play, some adversity overcome, helping out another team in need, but not so much the plastic trophies collecting dust in a school display case. We hope that alumni from other teams remember our kids as well for helping them get a robot running, as good sports, fun to be with.

Mission Statement

Directly *involve* students in the professional field of engineering through collaboration with volunteer professional engineers and in partnership with local technical corporations. All work together as a team to invent technology and design and build a robot to meet the FIRST robotic competition challenge. The FIRST program builds self-confidence, knowledge, and life skills while motivating young people to pursue opportunities in science, technology, and engineering.

Team Objectives

FIRST is the brainchild of inventor Dean Kamen, who created, among other inventions, the portable dialysis machine and the Segway out of his concern for applying our talents for social good. It is an organization with the goal of generating interest among young people in science and engineering. Not only does FIRST support science, but it also hopes to create better people, therefore social conscious engineers, by teaching its creed of gracious professionalism. Although the FIRST Robotics Competition is about creating an innovative robot, it also calls for helping one another as much as possible. All of the FIRST Robotics teams are there for each other, whether they're helping each other with parts and materials, creating custom machined parts for each other, or simply offering advice and suggestions.

- Build character and citizenship through community service, sportsmanship, helping others: through Gracious Professionalism (GP) – We come together to compete, and compete hard, but we want every team to have an equal opportunity and experience. Our team motto is “It’s More Fun When Everyone’s Robot Works!” There is no “they,” only “us” - friendly, helpful, courteous, kind - don’t win at another’s expense. GP is a goal for individuals and teams to achieve, not a complaint to level against others. Those who find themselves accusing others of non-GP conduct are those who have failed to exhibit GP. The FIRST robotics competition is structured like a sporting event, however, we strive to emphasize sportsmanship rather than the sport. We want all the robots to compete at their best, so all students are equally inspired. For example, if an opponent breaks a chain, we help them fix it, so we can all be the best we can be. If our opposing alliance has no time-outs remaining, but a critical repair to make, then we take the timeout for them.
- Be competitive and play *hard* on the field, but it is much, much more than a game.
- Expose high school students to college- and professional-level applied technology.
- Develop skills in technology, leadership, teamwork, business.
- Dedicate ourselves to continuous improvement. Ours is not a static organization. We look for new challenges and constantly experiment with improvements and new methods of operating our team and engineering.
- Expect 100% from all participants – students, mentors, parents as a united organization, not an individual’s science fair project. Satisfy the needs of all participants: students for learning, mentors for personal growth, technical challenge for all.

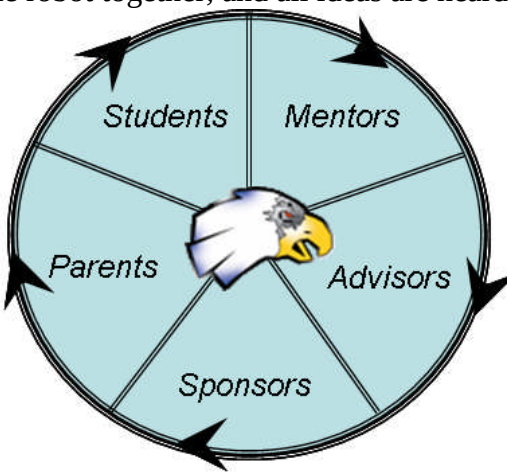
- Strive for quality outreach primarily through mentoring, technical support, and sweat - many teams lack mentors altogether or may lack in one specialty such as computer science or mechanical engineering.
- Contribute to quality growth and increased technical capabilities of teams on Long Island.
- Maintain a positive, supportive attitude for our team and others at all times.
- Attract a diverse team population so we can expand each others minds.
- Have fun.

We are concerned foremost with our Team’s health and sustainability, but we also introduce the students to broader concerns of the FIRST community that affect us. Engineering ethics teaches that what we do has far reaching effects and we are concerned that those effects are positive. Invent with concern for others.

We support a growing vibrant FIRST community. We support our local Regional Director and Committee, and the School-Business Partnership of Long Island (SBPLI) to insure the growth of the FIRST program on Long Island, and we work cooperatively with other teams to support them and receive support in return. Our motto for many years has been "It's more fun when everyone's robot works." We don't lose sight of our goal to get more students interested in science and technology, whether those students attend Hauppauge or some other school. We have several team members (both students and mentors) from nearby districts that do not have teams or that are considering starting teams. We also mentor both rookie and veteran teams to smooth their entry into FIRST and help the number of teams on Long Island to grow.

Team Management

Our Team brings a unique experience to students. A different way of involving students by not just playing with robots in an after school club but working in a true engineering environment with and alongside of professional engineers. This is not your typical teacher/student relationship but is run as a small business firm, with freshmen students as the new interns, seniors as the group leaders/supervisors, and mentors as the old salts/managers. FIRST allows for a wide-range of approaches to running a team, from after-school club style with no parent or mentor involvement to teams that build at a sponsor's facility with full engineering and machining support. From FIRST's perspective, all approaches are valid as long as they achieve the primary goal of inspiring youth. Team 358 has settled on a teamwork approach that involves ALL team participants equally – students, mentors, parents, advisors, and sponsors all give all they can and everyone has ownership. Students develop an appreciation for engineering by working hands-on side-by-side with professional engineers. All hands are on the robot together, and all ideas are heard and debated as a team.

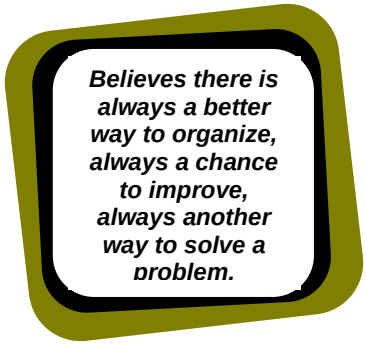


Because we are a co-curricular school organization, ultimate authority for the team lies with the advisors and school district administration; however, the team is an assembly of volunteers - students, mentors, parents - and the team will thrive if all are empowered to insure our success and achieve our goals. Outreach, robot designs, construction practices, the competitions we choose to attend are all up for popular debate and discussion in our practice of shared leadership. During the brainstorming sessions after Kickoff, for example, students and mentors will split into sub-groups to develop, then defend before the team, alternative design approaches. Overriding concerns such as risk, cost, detailed design time, machining capabilities, labor, skill required, etc. will be given weight in coming to a final group decision. In the event of ties, conflicts, sudden changes in circumstances, etc., decisions will be reached by the advisors and student officers, with the lead advisor making final rulings as required and bearing the responsibility.

Leadership

- Number One – train your replacements. Impart your skills and knowledge to the underclassmen.
- Officers need to be well organized with tasks and group leaders prepared to handle the influx of Freshmen in October.
- Become involved with the *FIRST* community at large through the popular Team forums at www.chiefdelphi.com. Remember that you represent our whole team when you post, so behave always with respect and concern for others. Please post responsibly. Encourage team members to post, but be sure they understand what's appropriate and follow-up by reading what they post.
- Create team member list with contact information (email, cell phone, address, parents names, etc.)
- Calling meetings – communication is key
    - How to do PA morning announcements

  - Word of mouth – school hallway/class, phone chain
  - Email/website/Facebook/Twitter/IM - Secretary
- Logging team hours – student & mentor
  - Possibly for use as a travel discriminator
  - Regular meetings
  - Outreach
  - Demonstrations/Homecoming parade/Safe Halloween/Middle School Science Fair/Service
  - Mentoring – Rookie or veteran team visits
- Stay aware of potential team member conflicts and address problems quickly before they become large issues. Make Advisors aware of trouble spots. Early intervention prevents bigger problems later.
- Disciplinary matters are handled by Advisors
- Work with Advisors to set travel limits on team size
- Organize transportation to mentoring or outreach as necessary
- Devise and implement improvements to our organization
- Review, revise, and update the team Handbooks yearly
- There will occasionally be hard decisions that the officers will be unable to make or put into action for themselves. That's when the advisors must step in and take the heat for the hard choices. For instance, disciplining unacceptable behavior or final rulings on who can travel.
- Provide a legacy. See that our designs, innovations, even mundane everyday tasks such as proper soldering techniques are recorded for posterity as a technical paper by the students and/or mentors complete with wiring schematics, design limitations, materials down to the part number and sources. Everything that a freshmen working along would need to do the job without much fore-knowledge.



- Year-end written reports – What worked, what didn't, self-evaluation. The secretary can interview those who aren't likely to write a report.
- Handle elections for your successors. Recruit students who will strengthen the team and avoid popularity contests. Train your replacement.
- Proper care and feeding of mentors – It can be difficult to attract valuable mentors and they can't be turned on/off at whim. Give them a steady purpose and a desire to be at team meetings. Recruit them and keep them involved.

Calendar

- Summer review of Handbooks, preparation for Fall workshops, team organization, new programs.
- Establish goals for the year
- Discuss potential 2nd Regionals when dates are announced
  - At least 2 week gap from SBPLI Regional
  - Consider difficulty/expense of travel arrangements and consult with Booster Club travel chairperson
- Develop creative Outreach including rookie mentoring and workshops
- Freshman Orientation in late August, early September
- First official team meeting after the BoE approves Team Advisors, usually October.
- Help with Deer Park Invitational setup the night before
- Team photo early in the Fall for HS Yearbook and preparation of Yearbook page
- Set new Rules and present to team.
- Senior awards and colleges for website farewell
- Year-end Party
  - Synopsis of the year
  - Work with Booster Club on Gifts for Seniors, Advisors, Mentors, Mentors spouses, etc.

- Recognition gifts for Booster Club officers and significant members.

Awards

- *FIRST* awards online submissions
  These are submitted online. The team account/password is managed by the team president.
  - Chairman's, Woodie Flowers, Inventor, Visualization, Safety animation
  - Complete copies of each of the award submissions, including photographs, text, presentations, etc. also get archived in the history section of our website.
  - Award submissions are discussed with and presented to all members, to keep them aware and prepare them for judge interviews, and helping other teams with their submissions.
- Prepare for Competition awards
  - Pit judging - Technical awards
  - Engineering Inspiration
  - Chairman's presentation

Events

- Track game rules/updates/Q&A clarifications
- Robot Capabilities flyer
- Robot Inspection
- News interviews
- Occasional Regional responsibilities, e.g., all-mentor thanks at SBPLI
- Frisbee
- Scouting system, student assignments, scouting sheets, data entry/evaluation
- Team help – mentored teams, past mentored teams, other teams in need.
- Travel away from home requires plans to be smaller/lighter for tools, equipment, pit display, cart, etc. Everything we take away has to be carried or shipped and can cost us quite a bit.

Officer Responsibilities/Requirements

Elected Positions:

Position	Requirements	Responsibilities
President	• 2 Years in Club • Cannot be Involved in other time consuming activities	• Schedules Meetings (announcements, website, etc.) • Run Meetings • Spokesperson • In Charge of Deadlines • Link from Students to Advisors • In Charge of FIRST Essays (Chairman's Award, etc.) • Brochure for Events • Newsletter/Public Relations

Vice President	• 2 Years in Club	See above
Scout Master	• 1 Year in Club	• Creates Scouting Sheets • Gathers Information on Other Teams via Internet (Chief Delphi, FIRST, etc.) • Rule Updates/Changes • In Charge of Scouts at Competitions
Head of Engineering	• 2 Years in Club	• Organize students into design groups • Pros/Cons of designs • Run debate for final design • Tracks Parts Lists (cost, weight, etc.)
Secretary	• 1 Year in Club	• Responsible for team communication • Collect & record team stories

Assigned Positions:

Drive	• Try Out	• Drive
Operator	• Try Out	• Drive
Coach	• Knows the game • Calm • Gets along easily	• Drive
Pit Boss	• Organized • Technically knows the robot • Can explain robot functions well	• Organize Room/Pit • Keep Track of What is Used on the Robot • Decide What to Bring to Competitions • Keep people focused on robotics work

* Requirements to Vote – One previous year on the team as a high school student; not a graduating student

Team Background

Team 358 was started in 1999 for the 2000 competition season in a collaboration between Hans Zobel of Festo Corp., and the Hauppauge School District Superintendent. Hans was also involved with helping SBPLI get the *FIRST* Long Island Regional and several other teams started that same year. We have earned numerous technical, Regional Champion, and Finalist awards, along with *FIRST*'s highest, the Regional Chairman's Award. Additionally, we have mentored many new teams and assisted numerous other teams with technical workshops, tools, parts, and expertise. A detailed, year-by-year history is available on our team website.

Team Organization

- Student Officers – outreach, publicity, recruitment, design/build/competition
- Advisors – school legalities/rules, supervision, mentors, advice
- Technical mentors - mechanical, electrical, pneumatics, programming, etc.
- Booster Club – fundraising, food, travel arrangements, chaperoning.
- Sponsors – financial, engineering, and material support.

General Schedule

The detailed team schedule is to be found on our team website (team358.org) and is updated frequently.

FALL – moderate schedule

- Team meeting one evening a week training new members by working on a common project
- Fundraising events, such as our Oldies Concert
- Outreach/demo. events, e.g., Safe Halloween/Homecoming
- Off-season competitions

WINTER – Busiest time for us

- January Saturday kickoff – game and rules are revealed via webcast, and we receive the motors & electronics we must use along with any specialized equipment required by the game.
- Jan/Feb: Intense 6 weeks of robot design and construction, generally 6pm – 10pm, but schoolwork comes first so students don't have to attend the full time or every meeting.
    - Rookie mentoring visits
    - Brainstorming game play, strategies, robot designs
    - Construction of practice field
    - Design/build/integrate sub-systems
    - Test and redesign/rebuild where necessary
    - Final programming integration
    - Driver testing
    - Robot ships and we rest

SPRING – heavy involvement only during events

- Fix-it Windows – one or two evenings a week to make replacement parts
- Two March three-day Regional events. A local competition at Hofstra and one away trip.
- Late April Championships are held in Atlanta, GA
- Outreach activities such as I-CON at Stony Brook and Special Olympics
- Meet once a week until the end of school organizing the robotics room, laying plans, and projects.
- Officer elections
- Year-end debrief reports from officers-what worked, what didn't, and recommendations.
- June end-of-year party and awards
    - Team awards (seniors, mentors, boosters, sponsors, members-at-large)
    - Season assessment
        - Synopsis of the year
        - What could have made this year more enjoyable and rewarding?
        - Was everyone engaged and will they return?
        - Did the veterans all teach something to at least one other person?
        - Did everyone learn something from a mentor?
        - Reflections

SUMMER – light effort

- Casual experimentation and special projects and Fall preparations
- Self-taught Computer Aided Design and Animation

Team Communication

team358.org – Our website is our *primary* source for schedules, news, history, photographs and videos, technical papers, organization, fundraising, as well as topical discussions. The student Secretary also commands all modern forms of communication (Facebook, Twitter, IM, email, phone, USPS). Provide an email address and you can expect periodic email from the Secretaries and advisors. Information may also come by flyer, mail, the regular morning high school PA announcements, or discussion at Team meetings.

Team Contacts (2011-2012)

Email and phone contact information is maintained separately and is available on the team contact list.

- Student Officers
  - President – Rob Jacoby
  - Vice President – Brandon Bozeat
  - Secretary – Will Carson
  - Treasurer – Alex Aldaba
  - Head of Engineering – Mike Bosi
  - Scouting – Tom Barry & Steven Rimoli
  - Public Relations – Luis Velazco & Anthony Ferris
- Advisors
  - Mr. Mark McLeod
  - Mr. Scott Kraft
  - Mr. Chris Dowd
- Booster Club
  - President – Mrs. Tina Bosi
  - Treasurer – Mrs. Dorothy Jacoby

Handbooks in This Series

These handbooks must be dynamic if we are to continue to succeed. Coming up with fresh ideas, trying new approaches, and revisiting lapsed practices all serve to keep our creative energies flowing and everyone fully involved. This is not the culmination of what we know, but always the beginning. The message in this series of team handbooks needs to be told verbally and visually as well as in print. These handbooks will be updated and revised yearly, to include new best-practices and fresh ideas.

- Student Handbook – Student roles on the team and in the *FIRST* program
- Officer Handbook – Student officer duties and concerns
- Parent Handbook – How parents contribute to the Team and *FIRST* program
- Mentor Handbook – Involvement of volunteer mentors
- Advisor Handbook – Behind the scenes administration required to operate the team.
- Handbook Appendices – Travel, what to expect at competitions, detailed rules of conduct, fundraising history.

References

- Student Officer Responsibilities
- *FIRST* Awards Summary
- *FIRST* Team Safety Manual
- Publicity Manual/Publicity Tips
- Team Business Plan / 5-Year Strategic Plan

Find Out More

- team358.org – Our website
- www.usfirst.org – *FIRST* website
- www.chiefdelphi.com/forums – Team discussion forum
- www.teamtechnology.co.uk/leadership-styles.html - Leadership styles
- www.teamtechnology.co.uk/tuckman.html - leadership types required for different situations

"It's more fun when everyone's robot works!"