



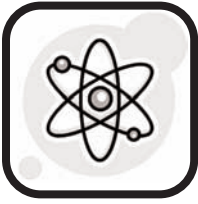
GETTING DOWN TO BUSINESS

ISO-0027



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"Give your students leadership opportunities – it will help them grow and take some of the pressure off the mentors. Also, never underestimate the ability of one of your students. They will truly amaze you!"

Shannon Moegling, mentor

Although during the first year, most teams are only concerned with getting started and building a robot, it is necessary to have some sort of structure that can be refined throughout the years.

Leadership: There should be someone in the main leadership position (a Champion), like a Director or President who oversees the activities of the entire program and keeps the vision of the program. Typically, this is the high school teacher or someone from the team's main industry sponsor. Specifically, the team leader should have the following responsibilities:

1. Keeping the goals of *FIRST* in everyone's mind until "they get it."
2. Liaison for the team with the District/School/Community/*FIRST*. (eg: What forms are needed to take the team out of town?)
3. Development and discipline of students – particularly when you have parent chaperones who might run into a bit of trouble with a student. Clarify with them that they should come to you and not directly to the student.
4. Liaison for parent support and questions
5. Leading meetings – student, mentor only and parent/student/mentor

"You are making a difference...to these students...in your community...and in yourself...as a team you can move mountains...just make sure you get permission first!"

Jim Holmes, mentor

Teams: Beyond the team leader, we suggest starting with 5 teams. As you grow can these can be broken up into sub-teams. You can start with student led groups if you don't have enough mentors your first year. Below is a quick look at suggested sub-teams – note that you will find much more detail on each of these areas as you move forward through the **Tool Kit**:

- **BUILD Team** – This team is in charge of the design and build of the robot. They create and maintain the build schedule, coordinate robot ship. They are also responsible for all technical training of the members and any other technical projects. Specific areas are drive, pneumatics, end effectors, above chassis, below chassis
- **PROGRAMMING & ELECTRONICS** – Help plan strategy, brainstorm, build prototypes, wiring and power distribution systems. Programming functions for robot tasks. Programming and



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electronics are two separate teams, on **Team RUSH**. One of these teams also handles scouting. **Scouting** can be assigned to another group if that makes more sense for your team.

- **BUSINESS & COMMUNICATIONS** – This team is in charge of maintaining contact with the media, ordering uniforms & trading items, travel, & other day-to-day business activities. This team is also responsible for maintaining the team’s website, documenting all team events electronically and creating multi-media presentations.
- **CORPORATE SPONSORSHIP/LIAISON** – This team is responsible for coordinating all fund-raising, maintaining contact with companies, invitations and the open house and maintaining a budget for the entire program. Sponsorship is so vital that ALL mentors, students, and parents have responsibility for your success here.
- **COMMUNITY IMPACT** – This team develops and maintains the teams assistance to and presence in the community. They coordinate parades, helping the Chamber of Commerce etc. They are also responsible for creating and giving presentations to the public and to the *FIRST* Judges on the teams goals and initiatives in spreading the message of *FIRST*.



A CAUTIONARY WORD TO ALL MENTORS & LEADERS. *“At some point a parent or engineer will attempt to ruin this experience for your group of students by forgetting why they are supposed to be involved. Remind every adult that they are there to create a positive experience and build a strong robot **with** the students while at the same time modeling and guiding them toward the vision of FIRST. Allowing harsh words, impatience and negative criticism to occur is contrary to this experience. Making winning more important than the students is contrary to the students’ positive experience. Leadership needs to keep a watchful eye out for this at all times.”*

Anthony Lapp, mentor

As your program becomes more established, your structure will grow and develop to encompass changes that may need to be made. Please reference the example on **Addendum 2.1** “*Sample Organizational Chart*”.



CALENDAR

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"It is often said that this is the hardest fun you will ever have."

Jim Holmes, mentor

"Start early – time is the biggest obstacle in all facets of FIRST".

Shannon Moegling, mentor

Team RUSH has year round activities because they are an established team. **See Addendum 2.ii "Detailed Calendar" for additional detail and space to write in your own thoughts.** To be successful as a new team it is not necessary to perform every item in each task. Use this as a guide. Additional clarification and information of many tasks are found in the remainder of the **Tool Kit** sections. The abbreviated calendar below will give you an overall idea of how to plan your "season".

AUGUST	Community impact activities. Final student selection, first team meeting and mentor prep meetings
SEPTEMBER & OCTOBER	Team meets 1 x per week; Mentors meet 2 x per month. Second round of corporate sponsorship planned and begun. First parent meeting.
NOVEMBER	Team meets 1 x per week; Mentors meet 2 x per month; Parents meet 1 x per month. Fundraising events. Team retreat.
DECEMBER	Student progress reporting begins. Community impact opportunities. Holiday "party". Same meeting schedule.
JANUARY	KICK-OFF first weekend after New Year. Full team/mentors meets 3 x per week or more. Parents 2 x per month. Build season.
FEBRUARY	Full team/mentors 3 x per week or more. Robot ships. Open house.
MARCH	Competition planning and competitions. Full team/mentor meetings and parent meetings as needed.
APRIL	Michigan Regional first week. National competition third week.
MAY, JUNE, & JULY	Recruitment and interviews before school gets out. Community impact activities. Full team/mentor parent meeting to discuss planned summer schedule. Team picnic. Revisions of sponsorship packet and first round of next seasons sponsor program.





Team RUSH is a strong believer in checklists. To help you through the year we have created a sample overall checklist. We hope this helps! **See Addendum 2.III** “*Sample Team Checklist*” in the back of this section. Additionally, throughout the **Tool Kit** you will find:

- Student Packing List, page 7.3
- Sample Pre-Competition and Event Checklist, page 7.9 to 7.10
- Pre-Competition Food Planning including Packing, page 7.15 to 7.21
- Team RUSH Robot Checklist, page 2.35 to 2.36
- Detailed Calendar (can act as a checklist) in the back of this section.

We would also recommend creating a pit packing and business team and competition packing list.



“Team RUSH believes that a student is truly inspired by a team and a machine that exudes quality and performance. We work with our students year-round in a team environment to accomplish this.”

Anthony Lapp, mentor





PLUSES and DELTAS: Team RUSH strives for continuous improvement, not only yearly but day-to-day. In order to achieve continuous improvement, the team uses a system called “Pluses and Deltas”. At the end of every meeting or major event, the team goes through the process to see what went well (pluses) and what needs to be changed or improved (deltas). The goal is not to be negative but to talk about positive change. Even when everyone is dead tired — we still make time for this. We have found that the process is embraced by both the students and the mentors.

The rules to Pluses and Deltas include:

- a) Everyone must participate — repeats are allowed
- b) There is no rebuttal to the list
- c) There is no name calling or blaming

The goal is to take the deltas and turn them into pluses at the next meeting or event. The success for this has been enormous. In the past 11 years, **Team RUSH** has used this system and has taken some years from failing miserably at one tournament to being finalists at the next. It is a great system of improvement!

GOAL SETTING: Each year we set goals and break down the steps we need to achieve them. These goals are communicated in writing, given status updates in meetings and posted where everyone can see them. When setting goals use the **SMART** system. Specific, Measurable, Achievable, Realistic and Time Framed:

Specific: Goals need to be something specific. Often we set goals that are so loose, it's nearly impossible to judge whether we hit them or not. For example, a statement like “I will lose weight” is too vague. How will you know if and when you've reached your goal? Saying, “ I will lose five pounds this month” is more specific. At the end of the month it will be a simple matter of weights and measures: take your measurements and get on the scale.



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Measurable: Goals need to be measurable. For example, many of us want to increase our number of contacts. But, “making new contacts” is an ambiguous statement. A clearer objective is “I will attend four networking events each month and try to connect with one person at each.” It’s a simple, concrete goal. This makes it easy to see if you hit your target.

Achievable: Goals need to be reasonable and achievable. Nearly everyone has tried to drop a few pounds at one time or another. Often their success or failure depends on setting practical goals. Losing 15 pounds in 30 days is unrealistic (unless you’re planning a medical procedure). Losing six to eight pounds in 30 days is reasonable. Don’t set yourself up for failure by setting goals that are out of reach.

Realistic: Goals need to be realistic. When we’re kids we think we can do anything. As adults we learn that while we can have a lot, we can’t have it all at the same time. It’s important to honestly evaluate yourself. Do you have the ability and commitment to make your dream come true? Or does it need a little adjustment? For example, you may love to play tennis, but do you have the time, talent and commitment to become a pro? Be honest.

Time Framed: Goals need to have a time frame. Having a set amount of time will give your goals structure. For example, many of us want to find a new job or start their own business. Some people spend a lot of time talking about what they want to do, someday. But, without an end date there is no sense of urgency, no reason to take any action today. Having a specific time frame gives you the impetus to get started. It also helps you monitor your progress.

WALK THE TALK: Improvement also happens when we continually live by our name and our mottos. These things are not just written on paper — we talk about them, cheer about them, and discuss when we haven’t lived up to them. Be on the look out for your own “mottos and motivators” during your early years – cultivate the ones you want to keep by using them often. Ours are:



- Enthusiasm for Science Math Engineering and Technology and developing a thirst for knowledge.
- **RUSH** core values: **R**espect, **U**nity, **S**pirit, and **H**eart
- Fail Faster, Learn More, Focus and Execute!
- Attitude is a choice!
- Having fun is important!
- **Team RUSH** – Rock Solid

THE TEN-YEAR RULE: **Team Rush** is successful because our alumni often return to help out. Even parents of former students continue to support the club after their children have moved on! 50% of our current mentors are former students. We accomplish this by being a full circle team and having the ten-year rule.



- **Full circle Team:** Before our students graduate from high school/college, they mentor and train someone of equal or greater skills to replace themselves.
- **The Ten-Year Rule:** Within ten years of graduation students “contract” to give back to the community and/or *FIRST* in the areas of Science Math Engineering and Technology. The current students hold them to this commitment.





“It is important to be able to communicate both within your team and outside your team into your community and into the entire FIRST community.”

Steve Hyer, mentor

In order to effectively communicate with **Team RUSH’s** 50 members, parents, and sponsors, many tools have been put in place. These tools aid in **Team RUSH** members and supporters staying up-to-date on the latest team information along with ensuring all sub-teams and members are on the same page. Below is a list of the many communication tools the team uses.

- **Team website** (www.teamrush27.net). Having a website is one of the keys to your communication plans. Your team website should be used to help gain exposure to your existing sponsors and pick up new sponsors. It should be a tool to communicate with your parents, students, and fans as to when and where the team will be. It should be a resource for your team on things like projects, schedules, permission slips, directions, results, etc. and also for other teams to see what you are doing and possibly learn from your efforts. **Team RUSH** will be putting the **Tool Kit** files on our website.



One of the keys to having an effective website is to keep it updated. We highly recommend that you get your website as updated as possible BEFORE the build season starts so you can do minimal maintenance on it during the hectic build season. Having the latest information accessible at all times will make the website more useful for all of its intended audiences and can really help the team brag about itself to the community, sponsors, and the whole world. Judges at competitions will also look at your website to pre scout your team and learn about your efforts.

- **Email list serves** – these are maintained for parents, adults and students and updated very regularly.



- **Phone tree** – This is a predetermined call path that allows the leader to call the top three students with information that needs immediate distribution. The top three students call three more who call three more...if someone is not home a message is left and the caller calls on to the next person. The communication is deemed complete when the last person calls back up to the captains to confirm they have received the message. If this doesn't happen there has been a break in the chain.
- **Pluses and Deltas** (see above)
- **Newsletters** (distributed to parents and sponsors). *See Addendum 2.IV "Sample Newsletter" in the back of this section.*
- **Facebook** (the team has set up a team and alumni group)
- **Parent meetings**
- **Press Releases** to local media. *See Addendum 2.V "Open House Press Release" in the back of this section.*
- **Weekly design reviews**
- **Week-in-review videos**
- **Open House** for sponsors, parents, and supporters. *See Addendum 2.VI "Open House Program" in the back of this section.*

"Don't be intimidated by having to start with something elaborate for your website or other communication methods. Something functional is more useful than something pretty or cool. Start simple and start including everything you do as a team online and you can grow into something more elaborate as time goes on."
Steve Hyer, mentor



TEAM RETREAT AND TRAINING



In order to prepare the students on **Team RUSH** for the upcoming season, the mentors organize training sessions throughout the fall. This allows the team to come prepared once kick-off starts and is an excellent way to build team unity. The key jump-start to this training is the **Team RUSH** Retreat held early fall. The retreat is held overnight and is centered mostly on team building and “soft-skills” training. Below are some of the topics that are covered at the retreat and fall training:

Team Retreat

- Community Service (yard clean up or another 2 to 3 hour community service activity)
- True Colors Personality Training
- Introduction to and importance of Community Impact
- Teambuilding exercises (ie: human knot, follow the leader)
- Mini design challenge
- FISH training (<http://www.fishphilosophynetwork.com/>). This is highly recommended. Based on the famous Seattle Pike Street FISH market the philosophy is: Play, Be there, Make Their Day, and Choose Your Attitude.
- Team history

Other Fall Training

- Machine shop
- Electronics/sensors
- Pneumatics
- Goal setting
- Engineering 101 (gear ratios, torque, forces, etc.)
- Design Process
- Leadership
- Scale Drawings/CAD
- Presentation skills
- Resume writing
- Interview skills
- Introduction to prior seasons' robots and games



BUSINESS TEAM & STUDENT CAPTAINS

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This is the group that keeps your team administratively solid (read “organized”). This team, in addition to other responsibilities, may handle some or all of the communication areas discussed above. On **Team RUSH** we have found that the website and “media” areas benefit by being separate teams – keep in mind, however, this is after many years as an established *FIRST* team.

- Create and maintain a photo & video library of all team events, competitions, and student photos
- Create and distribute Press Releases of competition accomplishments to local media. *See Addendum 2.VII “Detroit Awards Press Release” in the back of this section.*
- Plan and organize hotel accommodations and car pool needs for team travel
- Coordinate and maintain the multiple permission slips necessary for presentations & competitions
- Maintain an archive file or “scrapbook” of press coverage and team printed pieces (posters, open house invitations etc.)
- Coordinate and order t-shirt or uniform needs
- Send out invitations to sponsors for open house, thank you notes to parents
- Monitor and assist in the tracking of hours put in by individual students and mentors. We actually have people fill out time cards so that we can keep track of hours

The students nominate **Student Captains** at the beginning of each year. The nominees then give a speech or brief presentation to the entire team (including mentors). The team then votes and thus elects two co-captains. Some of the responsibilities of the co-captains are:

- Inspire and model team unity and core values
- Help mentors distribute work load to students
- Act as liaison between mentors to student communication and vice versa as needed
- Choose captain’s choice students for recognition weekly during build season



STUDENT APPLICATION AND RECRUITMENT



We actively “recruit” students by getting them excited from grade school on. **Team RUSH** gives presentations to elementary schools, takes the robot to demonstrations at parades and even at some of our fundraisers. We conduct Lego camps in the summer to continue to build excitement and interest in joining a *FIRST* robotics team.

See Addendum 2.VIII “Student Application” at the back of this section.

From Junior High on we also present at:

- Pep Rallies
- School Open Houses and Curriculum nights
- Student Council Events
- School Assemblies



Team RUSH also works to build school spirit and support for the team and the competitions. The excitement and inspiration of seeing the *FIRST* message “live” is a tremendous recruitment tool.



RECOGNITION AND CELEBRATION

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The following items are ways that we recognize our sponsors, parents, mentors, students and other teams:

- During build and competition season – mentors select a **Student of the Week**. This student is announced at a team meeting and is given “RUSH bucks” which are fake dollars to buy snacks and pop. These students are also featured in our Newsletters.
- Also during build and competition season the team captains select a **Captains’ Choice student**. This student is rewarded and recognized in the same manner as student of the week.
- “**RUSHIES**”. At competitions the team meets to decide which teams in attendance exhibited one of **Team RUSH’s** core values of **Respect, Unity, Spirit and Heart**. The actual awards are prepared as much in advance as feasible. On the night before the last day of competition the awards are filled in with why the team is being given the award. Selected students go and visit the pits and present the awards to the winning teams. Something similar to this is done by other established teams.
- Our **Awards** Program is held in May or June before school gets out. We invite our sponsors and parents to join the team. We try to make this a bit “formal” and spend a lot of time preparing presentations. We put together slide shows and videos to show our year and list our accomplishments in the program. *See Addendum IX “Awards Program” at the back of this section.* Do not feel that you need to start off with anything as elaborate as established teams. Some of the people we recognize:
 - Graduating seniors – give speeches, say goodbye
 - Most Valuable Student
 - Most Improved Student
 - Coach’s VIP Award
 - Respect, Unity, Spirit and Heart Awards
 - Students pick a mentor for our own Woodie Flowers Award



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