



The Compass Alliance Pathways: Leadership and Sustainability

Having strong team leadership is the best way to keep your team thriving in regards to competitive success, educational payoff, and community involvement and growth.

Level 0: Offseason Preparation

- What does your team need at the *foundation level* if you are a rookie? See "[Team Basics](#)" from the FIRST Website.
- Discuss your team mission
 - Establishing a team culture, mission, and vision is the first step towards sustainability. It sets your priorities as a collective team and will set a template for future team development.
 - Examples from 1678, Citrus Circuits:
 - **Vision:** Team 1678 Citrus Circuits strives to empower students to gain self-confidence and become leaders, collaborators, and critical thinkers while fostering a culture of STEM celebration in our community.
 - **Mission:** Team 1678 pursues our vision by building a student-led, mentor-based environment that fosters innovation and teaches interpersonal and technical skills. Citrus Circuits also develops local partnerships and community outreach while striving to compete at the highest level possible.
 - Example from Team 1111, Power Hawks:
 - **Mission:** To equip the next generation with the necessary skills to improve the world through competitive robotics.
 - Reference Presentation on Building a Team Brand (slides 8 and 9 discuss Mission Statements)
 - https://firstinmaryland.org/images/stories/documents2015/2015_FRC_Education_Day/2015_Team_Branding_BAA_presentation.pdf
 - If your team is small, it may be beneficial to have a full-team discussion about your team mission. If your team is larger, hold a discussion with the leaders of your team.
 - Guiding Questions:
 - “What can you infer about your team’s values from this statement?” (1111, *Building a Team Brand* Presentation, Slide 11).
 - Will this statement/these statements be reflected in every single team effort? If not, refine and make it more clear.
 - Make it known!
 - If you choose to commit to a mission statement, integrate it into your team culture wherever possible. That means on the back of your team t-shirts, team announcements, award submissions, on your website and





social media, etc. Advertise it and express it to the community as best you can.

- Determine Your Team Structure
 - Decide what small groups (or subteams) are necessary for the team to function and who could take responsibility for managing that small group (subteam lead).
 - This is where interviews/group discussions are extremely effective. Aim to have a consensus about what your team will need in a leadership structure.
 - See [Citrus Circuits' Leadership Selection Process](#). This will describe *why* they select the way they do, as a *selection*, not a campaign.
 - Campaigning for leadership positions is not ideal as they sometimes end up being popularity contests. Thoughtful discussion between the current leadership team and head mentors is a much better route for choosing reliable candidates.
 - Examples leadership roles (also consider additions for competition):
 - Team Captain/CEO
 - Vice Captain
 - Technical Lead; also consider:
 - Mechanical Lead; could also split into:
 - Mechanical Fabrication Lead
 - Mechanical Design Lead
 - Electrical Lead
 - Robot Programming Lead
 - Business/Media Lead
- Establish Responsibilities/Expectations
 - This can be done in the form of a contract and/or discussion with the people concerned and what responsibilities will be delegated to whom.
 - Mechanical Fabrication Lead: Responsible for managing Parts Tracking Spreadsheet, Quality Checking parts that are finished on machines, and communicating with the Mechanical Design Lead and General Mechanical Lead about progress on a daily basis, both through slack and in meeting.
 - See [To Be A Leader on 1678](#), which touches on the KIPP (Knowledge Is Power Program) applied to responsibility, perseverance, professionalism, and communication.
- Establish Communication Channels
 - Set up weekly meetings between the leadership team to make in-person decisions and give various progress updates.
 - Highly recommend the usage of Slack or email to have regular updates and schedule meetings along with Google Calendar or other reminder apps about upcoming deadlines. Other options include BaseCamp for communication or Trello for task management.





- Effective ways to communicate are outlined in a Student Leadership presentation by Citrus Circuits in 2016 (slides 4-6):
 - http://www.citruscircuits.org/uploads/6/9/3/4/6934550/from_students_to_students.pdf
- Recruit a Mentor Base
 - A good highlight for the role of mentors on a team can be found in the NEMO resource *A Mentor Is...* http://www.firstnemo.org/PDF/A_Mentor_Is.pdf
- Consider Keeping Student Attendance
 - Especially if you are a growing team and are managing many students, teams may want to consider tracking student participation during build season. This could give your team some quantitative data regarding student involvement that could be helpful for travel team, team size requirements, and personal student reflection.
- Set a Team Calendar
 - Set meeting dates for important events ahead of time, such as a Recruitment Day, Kickoff, and summer meetings.
- Prepare your Student Effectively
 - Student-to-student education
 - On 1678, they have dubbed their learning structure the “Peer to Peer model”. It is the responsibility of experienced team members and leads to teach less experienced members, creating a sustainable cycle for students to learn within their program.
 - Mentor-to-student education
 - This has point-mentors that teach students in key topics. Mentor’s technical expertise or organization skills could be a highly valuable and rewarding resource for your team to tap into.

Level 1: Pre-Season

- Prepare your Team for Build Season
 - Set Team Member Expectations
 - Make sure all team members are aware of the meeting schedule and time commitments
 - Set Parent Expectations
 - Plan a “Parent Meeting” before build season in order to get families on the same page
 - You can also request help and support from parents in a variety of ways
 - Bringing Meals
 - Supervising Meetings (if allowed)
 - Driving Students To/From Meetings and Events
 - Building Field Elements after Kickoff
 - Organizing Team Travel





- Volunteering at Competitions
 - Set Mentor Expectations
 - Organize a “Mentor Meeting” for all mentors and teachers to get together and discuss goals and challenges going into the build season
- Prepare your Workspace
 - Stock your workspace by purchasing Commercial Off The Shelf (COTS) parts and material stock that you know you’ll need during build season.
 - Purchase needed tools/machinery and do machine maintenance to save yourself time and effort when running into problems during build season.
- Raise Funds
 - FIRST outlines some versatile options for raising funds in their [Fundraising Toolkit](#)
 - Check out TCA’s other Pathway, [Fundraising](#) to learn more about how other TCA teams raise and manage funds.

Level 2: Build Season Operations

- How to Make Decisions
 - Every team needs to determine, ideally before build season, how critical decisions will be made during build season.
 - A few common approaches include:
 - Engineering Leadership
 - Determine “Lead Engineer” before the season
 - Could be student or mentor
 - Must be trusted member of team with high level of technical experience
 - Entire team discusses pros, cons of ideas, does weighted tables, or any other metrics to get the best information about a decision
 - Final decisions are made by the “Lead Engineer” with buy-in from key stakeholders and/or the entire team.
 - Full Democracy
 - Entire team votes on all decisions
 - Can take more time that is needed to make even simple decisions.
 - Warning, this could turn into a popularity contest!
 - Weighted Votes
 - Example: when making a mechanical decision, students on the mechanical team have votes with higher weight than other students.
 - However, this can lead to some students feeling left out.
 - Leadership Voting





- Ideas are presented to the student leads, mentors are called to provide expert opinion on ideas, then leadership students make a decision for the team.
- Can motivate students to earn leadership positions on the team
- Document/Discuss Your Progress
 - Set up weekly meetings between the leadership team for you to discuss what is going on and what needs to be done.
 - Highly recommend the usage of Slack or email to have regular updates and schedule meetings along with Google Calendar or other reminder apps about upcoming deadlines.
 - Effective ways to communicate are outlined in a Student Leadership presentation by Citrus Circuits in 2016 (slides 4-6):
 - http://www.citruscircuits.org/uploads/6/9/3/4/6934550/from_students_to_students.pdf
- Keep Your Schedule
 - Example from 4911: Have a schedule written on the whiteboard in the vicinity of your workspace so students can view deadlines every day while working
 - Example from 1678: Use a team Gantt chart that outlines all Build Season Deadlines:
https://docs.google.com/spreadsheets/d/1_2802gCj4ErobMyxud-ZYoyJOeiDjLDOZ4VTzaJBGZg/edit?usp=sharing
 - Regardless of what tool your teach uses, it must be easily referenced by the entire team throughout the build season.

Level 3: Competition Season

- Set Competition Roles
 - See [NEMO's "Jobs at Competition" PDF](#) for samples of competition roles. Adjust as you see fit with your team.
- Review and Discuss Competition Performance
 - Debriefs are important, do them often!
 - After individual matches or entire competitions
 - Debriefing gives all stakeholders an opportunity to share ideas to improve
 - As a formatting example, see 1678's Captain's Log from 2015-2017. Many points created were due to reflection and experience from a certain competition. See "At Competition":
 - <https://drive.google.com/open?id=1xJDegmNpegHs4VWWw9g1THysi26XL85Z>





RESOURCES



PATHWAYS



Appendix A - Revision History

Revision #	Revision Date	Revision Notes
1.0	Jan. 2018	Initial Release
2.0	Sept 2018	Revised formatting Added revision history



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HELP HUBS



RESOURCES



TAG TEAMS



FIND YOUR WAY FIRST