

The Development of a College Engineering Organization and the Inevitable Transition of Power

A Handbook for an Engineering Student Leader

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Preface

When I was a freshman at the University of New Hampshire (UNH) in 2016, I was upset and discouraged by the state of the engineering organizations available for underclassmen. Yes, freshman could join the teams, but what did that really entail? They were made up of entirely or primarily senior mechanical engineering students using it for credit on their senior design project. Each year, a different group of non-passionate seniors filled the groups just to satisfy a requirement. What is the fun in that? What actual learning, engineering and otherwise, can be done in less than one year? What kind of growth can be fostered on the organizational level each year with that system? I could not settle for this, so I decided to go the route of creating one. I founded UNH Students for the Exploration and Development of Space (SEDS), one of now 80 chapters nationwide that support the development and learning of students to one day join the space industry. Although my team is a space/rocket organization, the learning in this handbook is universal to any type of engineering organization (fire and free flight does attract an intelligent and driven crowd, though. I highly recommend it.).

UNH SEDS started with a few people passionate about space and the affect it can have on the world. During its first academic year (17-18), we were 7 strong with around \$1,500 of total funds to work on basic rocket building and simulating techniques. Our work won second place at a large university research conference which gave us recognition on the university level. During its second academic year (18-19), we grew to 13 strong ranging in 5 different majors and every class with around \$4,000 of total funds. We started work on New Hampshire's first hybrid engine entirely built by students. In its third year and my final year, the organization grew to the largest and most powerful engineering organization on campus with 40 active members ranging in 8 different majors and every class with around \$20,000 of total funds to work on a full hybrid powered rocket to compete in Spaceport America Cup in June 2020.

This handbook contains all the lessons and advice I can give after starting my own college engineering organization over 3 years. I have run into countless failures and mishaps, and just a handful of crucial successes. Although each were important, this handbook serves to help you navigate the web of creating your own organization to help mitigate the pain points and save you countless hours of struggle that I had to experience.

I owe everything I have to UNH SEDS. I owe my entry into the commercial space industry through the Matthew Isakowitz Fellowship Program. I owe my career path that lead me to work at the top rocket launch companies in the U.S. including interning at Rocket Lab and working full-time at SpaceX after graduation. I owe most of my applicable learning during university as classes need to be applied to something to fundamentally understand it. I owe all the connections I made in the industry that lead me to my opportunities. I owe my general identity and personality. Most importantly, I owe some of my dearest and closest friends to UNH SEDS. They are my second family in life.

This handbook will read like I am speaking to you, constantly drawing up specific examples of my own experience with UNH SEDS to help illustrate the major takeaways I want you to come away with from each sequence and section of the handbook. Although I recommend a full read-through first and then reference sections when needed, you can also just read certain sections that you are looking for help in. Although this might help alleviate mistakes and failures you might have made without this handbook, you will still see failure and regret. Do not let that discourage you. Plow through problems and take 100% ownership of your organization and the work it produces. Now let's get started.

Ignition

The purpose of this section is to review the thoughts, actions, and realities of what it takes to start an organization. This sequence in a college engineering organization's lifespan typically lasts from initial conception to less than 6 months. We begin this sequence with Signifiers to Start, which walks you through the fundamental questions you need to ask yourself before embarking on this journey. We will then move to Building Around a Project, a crucial step to build a base of work and culture needed so you can then go about Identifying a Growable Team. By the end, you will have gone through many struggles, but will have created the start of a blossoming college engineering organization.

The Signifiers to Start

Starting an organization is hard. It is not the type of hard that you get from difficult homework assignments or labs, but one that sticks to you, constantly on your mind till you leave university. You don't get instant appreciation or gratification. You don't even get a grade! Sounds terrible, right? But it can be the most rewarding thing you have done up to this point in your life. You will make sacrifices to your personal life. You will have many late nights. You will need to sober up a bit and have some free weekends. You will need to reduce waste in other areas of your life to free up time. The organization will become your top priority, not necessarily because you need it to, but because you will want it to be. It could turn to be your driving force in life, guiding you to a path of success and happiness. If you haven't been scared off yet, you might be up for this. Let's get to the critical questions to ask yourself to provide a framework for yourself on your motives and abilities.

The Fundamental Questions

The first question to ask yourself is why are you interested in starting an engineering organization at your school? It could be to gain the experience needed to land an internship or job that you desire. It could be because you want a chance to feed your passion for the type of engineering group you want to start. Are you just bored and want to make something for yourself to do? All of these are acceptable reasons and are very important to know internally for yourself as you walk down this path. The fundamental purpose you have for the organization will pave the outcome you will create. Personally, the former reasons are the strongest driving forces to have and they are usually intertwined with each other. Having a dream outcome for yourself after school that naturally feeds your passion to your organization can motivate and drive you to work tirelessly. Write down your reasons personally and keep them close. Not only will it create a base for yourself to revisit when times get tough, but it will also create an amazing relic to leave the organization once you leave.

The second question to really consider is the timing of your organization and does it fill a niche at your school? Don't try to start 'another' racecar team. Don't try to start a general engineering club that changes subject every semester. You want to create an engineering organization that can build each year and retain folks passionate about the areas you work in. What also impacts the amount of success you can have right away is overall interest in the industry. I was very lucky. I fell in love with rockets after I witnessed a booster landing of a SpaceX booster, and it happened to be that there was no rocket/space engineering organization on campus, and I read that the commercial space industry is expanding at an exponential rate. I struck a win on both categories without even thinking about it during the time. What is unique about my university, UNH, is that there is not an aerospace engineering major option, so the students at the school are naturally less space oriented as many of those students go to the schools with these programs. But what I did not suspect was to find students that really wanted to

get into space after already choosing to go to UNH, just like myself. These students were not just interested, but the members that gravitated to the club had a real love and passion for the power of space. As you really explore all the routes you can take with your organization, please consider all these factors as, when they are in your favor, they will help you greatly.

A Quick Statement on Leadership

A very common concern for students looking to start an organization or take ownership of one during yearly elections is they think they are not capable of leading. It is true that some students struggle to speak publicly or lack fundamental qualities that enable people to follow them. That is a huge minority, though. Leadership is learned and grown, which is why there is an entire section within the Throttle Up sequence that explores this area. This concern should not alter or demotivate you at all. To become good at something, you must both start doing it and do it all the time. Let this be your start and let the rest of your college career be doing it all the time. You must have the energy to learn it, though. Are you discouraged by failure, or are you driven by it? A new leader will see failure a great deal more than any success, so prepare yourself mentally to handle that and move forward from it. It took a great deal of failed Falcon 9 landing attempts to finally have a success, and the same will go for growing your leadership skills to create a well-functioning team.

Common Initial Roadblocks

The largest headache to starting an organization at the beginning, and honestly never goes away, is how to navigate the 'Maze of Power'. The 'Maze of Power' is the web I use to define the different people to contact given the question or ask you have. I remember specifically one time I had a question that required 7 forwards in an email chain to get to the right person to help me. Once learned, though, you will be able to move quickly when finding answers at the university level.

Professors and staff at your university will create natural roadblocks for you as you become a student organization, but stay determined and do not be afraid to bother and ping until they know you aren't a one-time ask type of person. Remember, people working at a university are not there for the money but are there because they wanted to make an impact in the next generation of workers. They are on your side. Do not think they want to be against you. They are busy and want to ensure that you are worth their time. They are some of your biggest assets, and they are responsible for fundamental growths of your organization that is often overlooked greatly. Get to know them and understand their imperatives. This is crucial to setting up an organization during its initial beginning and carries forward throughout this entire handbook.

So Where to Now?

So, you have asked yourself some fundamental questions and might be itching to get started. When I got this idea, I could hardly sleep. The excitement is great, and it should drive you. It is also important to keep it controlled and tamed. My excitement made me move quickly, but I made some mistakes on the way that upset some core people that impact the organization. Be respectful and be nice. A pro-tip is to always re-read emails and ensure you are never telling them what to do but suggesting or asking. People who are doing you a favor don't like to be told what to do.

The next most important understanding and topic to work out is building your organization around a project.

Building around a Project

It is a very common mistake to attempt to build a group of students first and then you build a project around the group. That does not work. In reality, you must identify the broad goals of the organization with a more detailed view for the first year based purely on what you want to do. Once that is done and worked out clearly for yourself, recruit individually with friends or classmates that seem interested by word of mouth. Alter your plan a little to fit those handful of people to get on board, and then stick to it. Once you have that overarching schedule, including short and long-term goals, now you can build a group around it. Some students won't be attracted to what you and your handful of first recruits want, but that is okay. You aren't here to satisfy everyone, because then you will satisfy no one. Allow your group to start small with a focused goal and allow the natural expansion of the group expand your scope appropriately. Only a handful of students will make an impact to the organization the first year, so you might as well keep the work done something you and your most committed members are extremely passionate about. Once some work is produced that is exciting, more and more students will want to get involved.

Preparing the First Meeting

Now that you have the framework of the organization and a small handful of interested students, now it is time to make an exciting presentation to share to a larger, open audience. Select one or two of the already interested members to help you with this, including helping make the presentation so it is grabbing and have them help deliver it if they are interested. There are three things that need to be done before the introduction meeting to get people to come:

1. Attention-grabbing flyers
2. Emails to the students,
3. and obtaining an immense amount of pizza.

Schools want to support students taking leadership outside of the classroom. Make informative, to the point flyers to post everywhere around the academic building that draw the right crowd for your group with at least a few days in advance before the meeting. Make it as simple as you can including the when and where it is, why students would be interested in the content, and that there is free pizza. Pick a room to meet that you can reserve through the school and make it a room most people know. It shouldn't be in a non-engineering building, but somewhere engineering students already hang out in. Have it at night to avoid class schedules. 8:00 pm is usually a great start time for organization meetings. If your university has specific bar nights during the week, like mine does on Tuesday and Thursday, avoid those days as that will limit the amount of 21+ members that will come.

The next requirement is to get emails to students directly about the meeting that is also very to the point so an interested student will want to know more. All schools do this differently, but usually the individual departments have ways of mass communicating with their students, which is the route you should take. Approach in-person each department that you want to get an email out for you and connect personally with them. Follow-up with the email you want sent and confirm they sent it out over the next couple days.

Food is extremely important, as you probably know as it is needed to stay alive. Having it for the first meeting is a great incentive for somewhat interested students to come and listen to you. As this cost's money, it is useful to reach out to the school to ask if they can fund this initial meeting, and it is likely

that they will. Always remember, be respectful and nice. Tell them why this organization is important to you, and why people will come. How will it impact the school?

Running the First Meeting

Practice presenting before the meeting and come with confidence. Like me, this will be the first time you are presenting this idea to a large crowd, and it might be the first time you speak openly to a bunch of strangers. Do not become discouraged if only 7 people show up. Remember, you just need 5-10 members to hit the ground running, so quantity is not the goal. It is quality. Go in detail more about what the group is, what you want to do, and the next steps after the meeting. Stress the outcomes that can come from the organization, and how they can benefit from donating their time to it. Is it an internship? Is it connection in the industry? Next steps should not be another presentation meeting, but conversations that start your project. They are there to work on cool stuff, not talk about non-value-added things. The quicker you can get to progress on something, the faster and stronger you will expand. But remember, for your organization to be effective, it must at heart be a learning organization. Stress that, as the interested members need to know the project you do are to learn, including failing and succeeding.

The first meeting is not just to present your goals to people but is also used for you to meet and gauge the interest of each person attending. Make it a goal to talk to each person, have them sign in with their contact information, and write notes down on each person. Get to know them and why they took time out of their night to come to your meeting. This will help you Identify a Growable Team

Identifying a Growable Team

T.J. Sullivan, author of *Motivating the Middle*, defined the terms top-third, middle-third, and bottom-third members in a college organization. What he means by these terms is that each college organization shows a common trend of having groups of students with different levels of commitment. "Top-third members do most of the work. They are the visible, busy leaders. If their hands are not actively doing something for the group, their minds are likely thinking about the next event, meeting, project. They run for office. They step up when there is a need (Sullivan)." His work was done mostly for fraternity and sorority groups, and I have found some of his definitions a little out of date and wrong for what you experience in a college *engineering* organization. Instead of breaking them up into thirds you see more of a top quartile, middle half and bottom quartile. It is more of a trend to see a fewer amount of students take the top role of a college engineering organization, with a larger concentration being in the middle, meaning "a middle-third member is happy to contribute to the success of the organization, but is much more likely to be a supporting player than the MVP (Sullivan)." I will use my variation of Sullivan's definition of types of members in an organization for the remainder of the handbook, but the general meaning of the types of students are nearly the same.

Altering the Goals Slightly

The entire goal of the first meeting is to gain interest from as many students as possible, and it will be clear who are the top-quartile and middle half members are, while the bottom-quartile members will maybe show up to general meetings, but will rarely contribute to the actual engineering or general discussion. Once you have some interest from the first meeting and have the next steps planned and scheduled, it is time to start thinking if anything needs to change from your initial thoughts of the organization. As it grows, it will become increasingly more difficult to institute large change, so now is

the time. Once you are feeling good about the next planned meeting and the stuff you and the top team members want from it, it is time to grow the organization with the members you have.

Primary Objectives after Initial Meeting

What people or groups can help you at this point? It is imperative to become a student organization with the university and your college of engineering if possible. Great resources can come from this including help from staff, money, and most importantly, possible organization space to do your work and have meeting. It is also a requirement to have an advisor at this stage, so be sure to meet with some professors that align with the organizations interest or a professor that seems very willing to help. Energy is the most wanted trait of an advisor, not expertise in the subject.

Permanent room space is a rarity for organizations, but with energy it can happen. I personally fought to get room space, and once I got a small section of a room, I made it my duty to make it feel like a home base for the group. Take it slow, and don't ask for a lot off the bat. You might think you need it but let your organization grow until it becomes apparent it just needs more space. It is also sometimes beneficial to reach out to other organizations at the school or at the community level that somewhat lie with your interests to gain initial connections with already prospering groups. I did not do this but looking back, it could have helped a lot. Unfortunately, there is not much space activities in New Hampshire, so it wasn't much of an option.

A Quick Statement on Management

The most important advice on general management I can give you at this stage and at this section of the handbook is from a book called 'Why Doers Do' by David E. Wile. The author says "people don't change much," which is a very important thing to understand on a deep level here. It took me quite a while to get this in my head and use it on the day-to-day. What this means is that it is not your job to motivate or inspire the students to join your club. Have them join because the work you want to do inspires and motivates them. People don't change so try not to waste time pondering how to get more people interested. Work with what you have, and students will naturally want to work on it if it is meaningful and exciting. Do not forget that as you begin to start your projects. It is your job to take complete ownership of the project and do everything in your power to progress the organization as a team.

Spark to Throttling Up

At this stage, you should have determined the why in starting your organization and have created an initial base of interested members to get started on your goal and first project. It is now time to nurture that and not let the energy down. If an organization stays static, it slowly dies. It is now time to Throttle Up and tackle the bulk of the content in this handbook as this stage is deep in potential roadblocks, failures, and insights.

Throttle Up

The purpose of this section is to understand the growth, knowledge and action needed to Throttle Up the strength of your new engineering organization. This sequence in a college engineering organization's lifespan typically lasts from 6 months old to less than 2 years. The learning objectives of this sequence though, in its root, is always applicable to all the future sequences of launching a college engineering organization. We begin this sequence with Growing your Leadership Skills which will impart the fundamentals learning how to lead people and motivate students specifically to rally around a common mission. We will then move to Learning to Manage a Team, a fundamental skillset for starting and ending projects successfully all while correctly managing engineering students. That flows seamlessly onto a deep discussion on The Art of Meetings, a talk on Increasing your Budget Sustainably for the organization, Expanding your Membership to support that growth, and comes to a beautiful finale that wraps all these sections together in Growing the Culture of your organization.

Growing your Leadership Skills

Leadership is a learned skill. As with any learned skill, it takes commitment, drive and passion to want to improve. Most importantly, it takes time. This section within Throttle Up tackles the topic of leadership. Why is it important? How do I become better? What is the purpose of leadership? How are students particularly lead? Is there such a thing as a bad team, or is it just a bad leader? Hopefully this section will take you on a journey that provides insight on all these fronts, so you are able to navigate the large, intertwined web of leadership in a college engineering organization with more ease and insight.

The Fundamentals of Leadership

The role of a leader is to provide a clear and communicated mission and vision to a group of people. They must take complete ownership of the complete happenings of the organization and is held accountable for everything the team does under their leadership. "Vision pulls people not only to take action but also to care about the outcome, to take personal ownership of it, and to bring their "A game" every day (Smart Tribes)." Members of an organization *need* to understand what their work is adding up to. It is up to the leader to provide that framework so at every moment, each member can clearly recite the mission and vision of the group. If it is not apparent to all, then it will drastically reduce the performance of the team. During the Apollo era, Kennedy was touring the facilities at NASA Kennedy Space Center when he ran into a janitor. The President asked what his job was where the janitor swiftly replied, "Well Mr. President, I am helping get a man on the moon." Although I am paraphrasing heavily, it illustrates the mindset that was adopted by the American people during one of the most driven times in space. A second example of this is my own personal story, but I am sure many people have shared the same experience. At SpaceX in Hawthorne, I made it my mission to ask 5 random people during a tour what they were doing at SpaceX. They all had the same answer, regardless of their position: "I am working to get the first humans on Mars." Talk about a driving force to contribute. I don't expect such lofty missions from your organization, but hopefully you get the idea of the importance of them. This also brings up a favorite quote of mine by Stephen R. Covey that reads, "We are more in need of a compass than a road map." Leaders give a direction for the group that people want to take to heart so they can create the detailed road map that progresses that vision and mission.

The Importance of Clarity

Being clear is absolutely essential to be a strong leader. I personally have struggled with being clear because it is surprisingly hard. "Being truly clear means we need to take the time to discover what we need, to articulate it clearly, and to be sure the other part understood our communication (Smart Tribes)." It takes more time and experience to be clear and concise than produce presentations or announcements that are long winded and/or detailed. There needs to be a strong sense of understanding not just in your words, but in all facets of the organization and the information that is shared.

Do people understand and follow your vision? If there is trepidation in it, it is most likely the way you presented it. Do people understand the plan to get there? If there is doubt in it, I can almost bet it is because the team doesn't understand it as it was not clearly presented to begin with. If a team does not understand a plan, how can you expect them to contribute to it in a meaningful way? Do people understand your personal actions and the energy you put into what you focus on? This is critical to be transparent about as it helps paint a picture of what the leader finds important, which allows them to want to take that as important too. "The leader who engages us has clear, high expectations and cares if we meet them (Project Management for the Unofficial Project Manager)." A leader who pays attention to these points on clarity and expectations creates a culture of transparency that will help promote steady and strong growth of the organization while making everyone more connected and on the same page.

Common Leadership Behaviors

Project Management for the Unofficial Project Manager does a brilliant job detailing the common behaviors seen in leaders across many facets of industry. The four that are most common are:

1. Demonstrate Respect
2. Listen First
3. Clarify Expectations
4. Practice Accountability

The first is probably the simplest to grasp as it is something that we are taught from a very young age but still struggle to implement in our daily lives. Essentially this is practicing the golden rule. In a very real sense, if you respect others, they will respect you. Instituting this vibe from the top as a leader will allow it to transcend throughout the entire organization, no matter the size. You will be surprised by the effects it will have on the performance of the team, and the well-being of each member.

Listening first is a concept that can be very foreign to many people. Especially in engineers, we are always trying to prove to others that we are worthy for our positions and our work. As a leader, it is absolutely pertinent to resist the temptation of this tendency and *always* listen first to your members. This is especially the case for when members come to you with problems or requesting anything from you. "If your response to team members who want to talk is, "not now, I don't have time," they may slink back to work thinking, she doesn't even listen to a thing I say, or, he doesn't respect me (Project Management for the Unofficial Project Manager)." No matter your mood, it is important to always put on a face that ensures they know you are listening to them and understand their situation and imperative. The biggest fundamental concept on this that I learned personally with UNH SEDS and leading students in rocket engineering and organizational activities was the importance of understanding the individual's imperatives. Leadership is not just leading to a group, but it is leading to

each individual person within it. Everyone is different with very different areas of life they find important. Some find that after 5:00 pm, they are not interested in working on anything school related. Others need weekends off to decompress from the day-to-day stresses of their life. Some members might be going through extreme family issue, while other could be going through a break-up. Never think you understand someone just by leading them. There are reasons for everything that someone does, so be sure to keep that in mind when people come to you with problems or complaints. They are all justified, and all should be taken seriously with focus and empathy. “The key principal at work here is empathy. If you have empathy, you don’t have to agree or disagree with the people talking with you, but you put yourself in their place and work hard at understanding where they’re coming from (Project Management for the Unofficial Project Manager).”

Clarify expectations plays with the concept discussed before about making sure people understand your actions and values. An expansion to this concept is running down the point that people need to understand their role in the greater goal of the organization. Everything you do that represents you as a leader and contributing to the organization should be thought out and practiced. Even the way you deal with spontaneous conversations with members should be practiced to ensure that how you react to anything that comes your way exhibits the core behaviors of great leaders including always being clear.

Accountability is the secret gem in leadership, especially within a college engineering organization. Almost every college engineering organization I have worked with lack in group accountability which creates a huge drag into the ability the group can grow and achieve. It is the job of a leader to detail this accountability structure. As a leader, you must be the prime example of excellence within the organization. It starts from the top. Members need to know what they are responsible for doing and what is expected of them during all organization activities. “In low accountability cultures, we see that the trouble begins at the top. The team is simply modeling the low accountability that the executive team is displaying (Smart Tribes).” When there is low to zero accountability in the members of an organization including the leadership, it sets a precedent that anyone can drop their expectation with zero repercussions, not only on themselves but the team as a whole. When accountability structures are instituted across the organization, you will see everyone perform not only at higher levels than before, but they will have a better appreciation for what people do, and understand the importance of each member of the team to the greater mission.

Final Leadership Insights

The focus and responsibility of a leader is not to individually manage each member, but they must implement the framework of the organization including the mission and vision to allow its members and any mid-level leadership to manage themselves. It is critical to developing that structure of understanding and self-guidance still based in the organizational mission and vision.

You will make mistakes. Tons of them. Whenever any mistake is visible to the group, including critical mistakes from other members of the group, you must address them. Never blame others for these mistakes. Do you think it is their mistake? It is not. As the leader, it is on you. If the team makes a mistake, it is your mistake. Own it. Discuss it. Learn from it and continue on. Travel along as a team, and never pass around blame to others. Take it and embrace it, as it really is on you. This creates a culture within the team of self-ownership and the understanding that there needs to be an extreme ownership with every task someone takes on. Watching a leader take a mistake as their own even if physically wasn’t them doing it is an immensely powerful message to the members of the team. N

Great leadership is incredibly contagious. It allows others to gain great insight onto how to lead and allows the next generation of leaders to rise naturally. Never makes excuses when you exhibit a bad leadership behavior... apologize for it and continue. A leader must never be afraid to take bad news and present it to the organization. It is part of the job of a leader.

Motivating Students

New leaders naturally take to heart that every member of their organization needs to contribute at similar levels to ensure they all feel like they are contributing. That will never happen. I spent so much of my time worrying about the bottom quartile of my members ensuring they are being assigned equal amount of work/responsibility. Ultimately, this should not be anything to worry about. Remember, people don't change very much. There is sometimes nothing you can really do to bring a bottom quartile member to the top of the organization. The imperatives of the bottom quartile member obviously do not match the imperatives of the organization. The focus should be on supporting the top quartile of members and assisting the middle half to stay engaged and contributing when they want to.

Students are a complex breed to lead, especially ones that identify as engineers. They can be difficult to communicate with, and often have complex egos to navigate. The fundamentals of leadership are all still applicable with students, but an expansion is needed particularly for the engineering student. The primary addition that must be discussed is the relationship between school and the organization. No matter the situation, *never* try to put a member under the influence to put school after the organization. For many, this is not an option. They are all spending an immense amount of money on classes, and most of the time, the situation with school is rooted in family situations. Do not put yourself and the organization into that stressful area of their life. Always emphasize the student's mental health and the priority of school over the group. That said, some top quartile members will put the organization above school, which is alright if they are comfortable doing so. Just ensure that you closely monitor the situation and ensure they are keeping up with their classes. It is often that these students are also great students and can handle prioritizing this kind of way. Foster it and support them as the leader of the group.

Students are also still young adults. They are sensitive, emotional beings with still undeveloped parts of the brain that control emotional control to their changing environment. As a student leader, it is your responsibility to control this at the deepest level to fully think before reacting to situations with your fellow students. "There may be times when you feel so frustrated you want to tell people off, throw your phone across the room, or just quit. It won't help (Project Management for the Unofficial Project Manager)." You must never overreact in the moment and burn any bridges with your team. Be controlled, and if needed, ask to have some time to think about a response before giving it. Once trust or respect is lost with a student, it is extremely difficult to get it back.

Learning to Manage a Team

Management and leadership, although they can be looped into one category, are rather quite different. What makes a good manager? What is the fundamental background of information new managers need to perform well with their team? What is the life cycle of a project, and how can I navigate it effectively? Does managing projects with other engineering students have any affect on the skills needed and the methods taken? This section will take you on that path to gain a better understanding of these core questions to managing a team effectively.

The Fundamentals of Management

The Life of a Project

Managing Engineering Students

The Art of Meetings

Increasing your Budget Sustainably

Expanding your Membership

Growing the Culture

Orbits and Transfers

The purpose of this section is to understand how to sustain what has been making your new organization great, and how to navigate the art of organizational change. This sequence in a college engineering organization's lifespan typically comes into play after Ignition and during Throttle Up. It is important to note, though, that the lessons and practices learned here are applicable to many areas of developing a student engineering organization. We begin this sequence with Sustaining the Organization and Culture which will teach you how to identify and sustain beneficial organizational project, practices and culture, but will then quickly move to the opposite. Facilitating Change will dive into the fundamental truths of humans and their relationship with change, and how, when done right, can be used to transfer out of an imminent future collision within your current orbit.

Sustaining the Organization and Culture

Facilitating Change

De-Orbit and Land

The purpose of this section is to prepare for the inevitable transition of power of your engineering organization. This sequence should officially begin the year before you graduate with the last 4 months needing a significant amount of energy. This sequence is the most important sequence of them all, as if this is not done correctly, all your work building the organization will fizzle. We begin this sequence with diving very deep into how to tackle Transitions your Leadership of the organization to the passionate underclassmen members. It then rolls into a Closing your Project section as by the end of this sequence, you have built an organization with the ability to sustain itself for decades after you are gone, carrying you and your founding members legacies.

Transitioning of Leadership

Closing your Project