

The Super Application

Part 3: Group Policy Handbook

Safety Plan & Rules

Standard Operating Procedures

Our most important SOPs have been attached in the Qualtrics form.

Safety Training Plan

New members are required to complete safety certifications such as EDT Safety Orientation, WHMIS, and Workplace Bullying and Harassment Prevention. These are also required for all members to complete/revisit annually. Additionally, we require that our members complete all necessary safety certifications/workshops before working at UBC labs. Internally, our leads provide detailed procedures and safety guidelines before members are allowed to work on hands-on projects. It is forbidden for a UBC Solar member to work with unfamiliar equipment by themselves. We also require members to read through the project specific safety guidelines if those exist (such as a guide of how to work with our battery). Finally, each project requires a plan of actions to be made by the member working on it that details all the steps of their work as well as safety precautions that they must take. That plan is later reviewed by a lead.

Once those requirements have been fulfilled, a lead will supervise the member's work and provide advice and corrections to their approach.

Safe Working Environment Plan

It is required that all risk involved work must be done by at least 2 people. An example is that no one is allowed to charge or work on the battery by themselves.

Additionally, we make sure that we always have PPE, sand buckets and fire extinguishers in good conditions and ready for immediate use.

It is also required that you have to leave the workspace better than you found it. This includes placing all of the materials and equipment away and also ensuring that the workspace is safe for other members to work at.

In order to ensure safety, there is a lead supervising all hands-on work at all times. Additionally we lock potentially harmful equipment such as drills and saws in a cabinet. All members are required to wear appropriate PPE during their work and if that requirement has not been fulfilled twice, they are removed from that project. At the end of the day, the captain, mechanical or electrical lead goes through our workspace to make sure that everything has been put away appropriately.

Finally, we monitor any safety concerns that anyone notices internal and external to our team. These concerns are gathered through a form, and then they are acted upon by the executive team.

Supervision Plan

Given that all of our members are undergraduate students, we realise that their hands-on work experience is limited. As such we implement the following supervision rules to make sure that everyone is safe.

- All hands-on work must be supervised by the appropriate lead.
- No one is allowed to work on the battery by themselves. (even a lead)
- No one is allowed to work with risky power tools by themselves. (drills, saws, waterjet, spot-welder, etc)
- The environment must be thoroughly prepared for the type of work that is being held.

These requirements are enforced by our leads and if they are not followed twice, the member is removed from that project.

Personal Protective Equipment Rules

Appropriate PPE must be worn when working on all hands-on projects. There are no exceptions. It is also important that after use a member verifies the condition of the equipment and places it back in its original location. Team executives must be notified immediately if PPE is out of order and it must be replaced as soon as possible.

These requirements are communicated by our leads before the beginning of each work session. Only if all the necessary PPE is present and in order, the project can be started.

Psychological Safety

The well-being of our members is the top priority for our team. We are lucky to have gathered a very diverse and talented group of hardworking individuals that share a passion for sustainability, solar energy and cars. Psychological safety is one of the main aspects that we monitor and uphold. Periodically, our captain delivers professionalism and respect related speeches at the general meetings. It is very easy to get frustrated and tunnel-visioned so we often remind everyone how important a novel and different point of view is. Our members are encouraged to reach out to their colleagues and leads about their ideas and concerns. These can be related to technical projects, the organization of the team or personal issues. We do our best to proactively monitor and mitigate any conflicts that may happen and allow our members to speak their minds freely. This also includes anonymous end-of-term feedback surveys that our executive team collects to reflect upon how comfortable the members feel with their leadership and to seek out any issues/potential improvements for the team.

Safety on Campus

Safety is crucial for our team as we deal with hazardous chemicals as well as high power batteries. In order to make sure that everyone is working safely, each member is required to fulfill all of the safety certifications for a given workplace. Additionally, leads are always present while hands-on work is being done to monitor the members and make sure that the work is being completed safely. We also never make members do things that they are uncomfortable with. Building a car is a high risk environment so we want to make sure everyone is confident in what they are doing. All members are required to follow these guidelines and no exceptions are made. This is to ensure personal as well as public safety.

Lastly, we make sure that if our work goes overnight, no one is left alone. It is prohibited to let strangers into our shared workspace and members are required to lock all the gates and cabinets after they are done using them.

Student Group Success

Membership Policy

There are no set requirements for joining the team. Throughout our recruitment process we are looking for engaged and motivated people who are ready to learn. We do not discriminate based on gender, race, age or any other diversifying factors. The most important thing for us is their desire to learn new skills, contribute to the team and foster a safe and inclusive team environment.

Our team members are split into three categories:

1. General members
2. Leads (oversee their respective sub-teams and members)
3. Executive team: captain, mechanical and electrical leads (oversee the entire team and make sure that everyone operates at the highest level of professionalism and safety)

Our leadership is selected through a combination of technical and communication skills. It is important that a lead has enough technical knowledge to give advice to members but also has good project management and people skills to keep the team organized and healthy.

Minimum participation requirements are 10 hours a week. 5 hours on Saturdays and 5 hours during the week.

Recruitment and Onboarding Plan

Before recruitment each term our team hosts one or two info sessions when we go through the high level overview of the team's goals, structure and workload. There we welcome any and all questions potential members may have about our team. Additionally, we attend UBC events such as Imagine Day to allow the public to see our car and ask questions about UBC Solar. We are also preparing an information package to be posted on our website. This document will include a more in depth description of each subteam and the work they do. We hope that this will be another useful resource for potential applicants to help them make more informed decisions.

Once the recruitment cycle is done and all new members have joined the team, Solar hosts a general presentation outlining the history of the team, community of solar car racing, requirements, team standards and much more. In addition to this,

each sub-team hosts their own onboarding session where new members are introduced to the leadership and the project that they will be working on.

Throughout the term we strive to host several social events for our members. These include movie nights, board games and BBQs. We strongly believe that friendships and the connections people make on the team is what makes them stay committed to the team in the long term.

Collaboration Plan

Within UBC we very often collaborate with other vehicle teams such as Formula E, Formula Gas, Baja, Supermileage and Thunderbikes. We all share similar struggles and sharing such experience benefits all teams allowing us to make better design decisions and perform better at competitions.

Additionally, we collaborate with high schools around Vancouver. A great example of that is our partnership is St. Regis Secondary School. Most of the students of this school are refugees of the war in Ukraine and representatives of marginalized groups. As of April last year, we have started to give monthly presentations to their students about the technology and science behind solar-powered cars. By doing so we hope to help foster a curious and creative younger generation that would embark on sustainability issues in the future.

Finally, we also participate at annual Solar Car Conferences. These conferences are a great opportunity to learn from the experience of other solar car teams and share valuable knowledge that helps everyone push for a sustainable future. Each solar car team is eager to help the rest and by attending these conferences our members feel a deep sense of community and belonging. Finally, our members are able to meet industry leaders in renewables and automotive industry. Those connections become crucial in some of our members' careers.

Succession Plan

The membership on the team does not expire unless the member decides to leave the team or they violate the standards of our team. Previously, UBC Solar did not have a well-established knowledge transfer pipeline and this is something that our team has focused on this year.

We have established the UBC Solar Wiki system where everyone documents their projects, and decisions which lead to the chosen designs/procedures. Writing this documentation is a requirement for every member of our team. As we are finishing our third generation car this

spring, we will have every system of the car described in great detail on our wiki by the end of summer. This is specifically important as a lot of our senior leads are graduating and we must retain their knowledge in the team.

Secondly, this year we have started transitions for leads and a new executive team six months before their effective transition. This is critical to ensure that the new leads have the time to learn from the current leads and prepare for the new design cycle in September. The transitory materials involve technical knowledge as well as leadership skills, team and finance management as well as deciding on the next car concept.

Senior Member Continued Development

Firstly, if senior members show aptitude for leadership, they can become leads. Being a lead means having the technical knowledge necessary to assist and advise junior members but also having the soft skills required to be an effective communicator and leader. Becoming a lead allows our senior members to gain a deeper expertise in technical as well as people skills.

Secondly, for senior members who do not wish to be leads, we strive to come up with novel ideas and try things that UBC Solar has never done before. For example, this year we tried making large scale composite parts in one piece and designed a bell-crank suspension for the first time in the team's history.

Academic Success Plan

Everyone on the team is a student and we all understand the struggle of combining full-time studying with participating at a design team. As such we do not frown upon members not coming to meetings due to exams or school projects as long as their absence is communicated far in advance. Communication is key for a proper operation of any community as such we hold high standards for communication within the team. With that said, we are proud that our members are developing the time-management skills needed to perform well in both school and Solar.

Student Code of Conduct

Each member is required to:

- behave respectfully to anyone they communicate with. This includes professional speech, timely response to emails and being on time to the scheduled meetings.
- prioritize their safety and of everyone around them.

- comply with UBC Code of Conduct as well as the team standards regarding communication and technical work.
- not use any abusive language or discriminate against anyone on the team.
- notify the executive team if there is a breach of team standards or conflict within members.
- contribute to the team as more than 80 people depend on their work.

These requirements are monitored by UBC Solar leads as well as the executive team and failure to comply with these may result in a team membership termination.