

Robotics for Space Exploration (RSX) University of Toronto

For us, the sky is not the limit, it just gets in our way.

1 Name

The official name of this recognized campus group is Robotics for Space Exploration. The official acronym of this group is RSX, and this group will hereafter be referenced as RSX. The official slogan for this group is: “The sky is not the limit, it just gets in our way”.

2 Purpose and Objectives

The purpose of RSX is to provide opportunities for its members to apply and develop their skills in STEM education, project management, marketing and finance, and industry skills that can be applied to space robotics.

The objective of RSX is to represent the University of Toronto in competitions and challenges within the scope of space robotics while providing an all-inclusive environment for our members to learn and grow, regardless of experience level.

3 Membership

Membership to the group is open to all University of Toronto members (students, staff, faculty and alumni). Membership is also open to members of the public enrolled or employed at other post-secondary institutions.

Team members who are also University of Toronto members are permitted to run, nominate, and vote in elections and on constitutional amendments. No membership fee is necessary to be a part of RSX.

4 Team Roles

4.1 General Positions

4.1.1 Administrative Co-President

The Administrative Co-President Shall:

- i. Oversee the finances

- ii. Oversee the structure and organization of the club
 - iii. Ensures that registration for competitions are done on time
 - A. Finances
 - B. Sponsorships
 - C. Payments
 - D. Gantt Chart is made and in a format that is submittable
 - E. SAR document is created and in a format that is submittable and kicking off work
 - F. SAR Video is created and in a format that is submittable
 - iv. Provides guidance regarding team meeting organizations
 - v. Ensures quality of work in media, marketing, outreach and fundraising, providing members with guidance when necessary
 - A. Social Media accounts
 - B. Website
 - C. Outreach events
 - vi. Runs team-level administrative meetings (meetings on constitutional amendments, etc.)
 - vii. Reimburse members for Traveling and expenses
- Each of these roles can be delegated by the administrative president to a designated person or team of persons that will report directly to them

4.1.2 Technical Co-President

The Technical Co-President Shall:

- i. Oversees the technical progression of RSX tasks
 - A. Check on teams' progress
 - 1. If lack of members: Technical president to shift people to fill need
 - 2. If lack of skill: Technical president to assist if skillset overlaps
 - B. Competition-specific requirements are covered/investigated/planned for by subsystems
 - C. Presenting top level competition requirements to the RSX team at large at least 8 months in advance of a competition, in addition to key/challenging requirements.
- ii. Ensures technical milestones are met
 - A. Gantt Chart content
 - B. SAR document content is filled
 - C. SAR video content is filled
- iii. Technical sub-team leads report to technical president
- iv. Provides guidance and support on technical tasks and decisions where possible/required
- v. Runs systems-level technical meetings (design reviews, etc.)
- vi. Ensure integration of all subsystems
- vii. Design of the testing plan for the integrated rover for competition tasks

Each of these roles can be delegated by the technical president to a designated person or team of persons that will report directly to them

Both presidents are to create, maintain, and present meeting material when relevant.

In the event of a deadlock on a decision between the two presidents a simple majority vote by (execs or general members; depends) to end the deadlock. The Co-president system may be eliminated and replaced with a new system if it is found appropriate by a simple majority vote of Executives and General members who are also a UofT member (student, staff, faculty).

4.2 Rover Team Positions

4.2.1 Mechanical Systems Lead:

The Rover Mechanical Systems Lead shall:

- i. Oversee the design, manufacture and commission of the mechanical systems of the rover and their integration with the electrical and software systems.
- ii. Distribute tasks to mechanical team members and track their progress.
- iii. Keep the Mechanical team on track for major deadlines and quality standards.

4.2.2 Mechanical Team Member:

The Rover Mechanical Team Member shall:

- i. Design, manufacture and assemble the chassis, suspension and arm subsystems of the rover.
- ii. Design and manufacture custom parts, gain hands-on experience in the workshops of U of T and RSX.

4.2.3 Electrical Systems Lead:

The Rover Electrical Systems Lead shall:

- i. Oversee the design, manufacture and commission of the electrical systems of the rover and their integration with the mechanical and software systems.
- ii. Distribute tasks to electrical team members and track their progress.
- iii. Keep the Electrical team on track for major deadlines and quality standard.

4.2.4 Electrical Systems Member:

The Rover Electrical Systems Member shall:

- i. Manage the development of electrical circuits by designing and manufacturing them.
- ii. Prototype with breadboards and using electronic circuit design software.
- iii. Verify circuit functionality and integrate them into the rover system.

4.2.5 Software Systems Lead:

The Rover Software Systems Lead shall:

- i. Oversee the design, production and deployment of the software systems of the rover and their integration with the electrical and mechanical systems.
- ii. Distribute tasks to software and autonomy team members and track their progress.
- iii. Keep the Software team on track for major deadlines and quality standards.

4.2.6 Software Member:

The Rover Software Member shall:

- i. Write software systems to process sensor data, control the rover, visualize data, and support communications between components.
- ii. Manage the design, implementation and testing of their software subsystems to ensure their usability and reliability.

4.2.7 Autonomy Systems Lead:

The Rover Autonomy Systems Lead shall:

- i. Oversee the design, production and deployment of the Autonomy systems of the rover and their integration with the electrical and mechanical systems.
- ii. Distribute tasks to autonomy team members and track their progress.
- iii. Keep the Autonomy teams on track for major deadlines and quality standards.

4.2.8 Autonomy Member:

The Rover Autonomy Member shall:

- i. Build systems to process sensor data that controls the rover allowing it to function autonomously in a desert terrain.
- ii. Manage the design, implementation and testing of the autonomy systems to ensure their usability and reliability.

4.2.9 Arm Lead:

The Rover Arm Lead shall:

- i. Oversee the design, manufacture and integration of all electrical, mechanical, software and controls components of the rover arm.
- ii. Distribute tasks to members, ensuring communication and integration with other subteams.
- iii. Review prototypes and final designs, and ensure deadlines and quality standards are met.

4.2.8 Arm Member:

The Rover Arm Member shall:

- i. Design and build the necessary electrical, mechanical and software systems that will be implemented in the rover arm
- ii. Manage the design, implementation, and testing of arm systems to ensure its usability and reliability

4.2.10 Science Lead:

The Rover Science Lead shall:

- i. Oversee the design, manufacture and commission of all science tools and their integration with all systems of the rover.
- ii. Develop scientific experiments to be conducted by the rover on site and by the team off site.
- iii. Distribute tasks to science team members and track their progress.
- iv. Keep the Science team on track for major deadlines and quality standards.

4.2.11 Science Member:

The Rover Science Member shall:

- i. Design and manufacture the science apparatus .
- ii. Design scientific experiments to be conducted by the rover.

4.2.12 Marketing and Events Lead:

The Marketing and Events Lead shall:

- i. Oversee the branding of the RSX team.
- ii. Oversee the social media of the RSX team, including the RSX website.
- iii. Coordinate outreach events for the RSX team.

lv. Promote and engage in sponsorship efforts for the RSX team.

4.2.13 Marketing and Events Member:

The Marketing and Events Lead shall:

- i. Design assets for RSX promotional material.
- ii. Help plan and organize RSX events.
- iii. Help coordinate sponsorships for the RSX team.
- iv. Help in the up-keep of RSX social media (and website).

4.3 Expulsion of Team Members

Any member may call for the removal of any other member in RSX and shall report a call for a removal to any executive member or president of RSX. This claim shall be reviewed by the executive team and upon being found valid by a simple majority of the executive team the removal process shall be initiated. In the event of a call for removal is initiated the person subject to removal shall be given a grace period to rectify their behaviour. The length of this grace period shall be decided by a simple majority of the executive team. If by the end of this grace period no resolution can be found, an impeachment vote made up of general and executive members shall be called wherein the offending member may be removed from the club by a simple majority of attending members. In the event that the offending member has been accused of severe infractions that violate the U of T code of conduct that member shall be reported immediately to the Engineering Society and proper authorities within the University. In the event that the CRO and all presidents are impeached then the executive committee shall approach the engineering society directly. Any member facing removal shall have the right to appeal the decision of the Executive Committee to the general membership. In the case of an appeal, a simple majority vote at a meeting of the general membership shall be required to sustain the revocation of membership.

4.4 Impeachment of Executives

In the event that a team lead is removed for failing to meet responsibilities, the lead shall be removed from their office and the team's junior lead shall take their place. If there is no junior lead present then the president shall become acting lead for that subteam until such time as a new lead is appointed. In the event that a president is impeached, a snap election shall be called and a simple majority of the attending body may elect a new president. In the case all the presidents are impeached, the CRO will assume presidency for the duration of the election. Any executive member facing removal shall have the right to appeal the decision of the Executive Committee to the general membership. In the case of an appeal, a simple majority vote at a meeting of the general membership shall be required to sustain the revocation of membership.

5 Elections

The Elections of the President for the following year shall take place at the end of March. The executive committee shall strike the Elections Committee and appoint one Chief Returning

Officer (CRO). All general members may act as scrutinizers, and may bring concerns about the election to the CRO and the CRO will call a meeting of both exec and general members to resolve election issues. The CRO shall be unbiased in the results of the election and disclose any and all potential conflicts of interest in the election.

The CRO shall accept nominations/applications only from group members that are also registered U of T students for candidacy of executive positions from the general membership before the beginning of June. Candidates have to be members in good standing and be part of the group for at least one month prior to the nomination period. The CRO shall select a voting period of at least 1 week. These dates will be announced in a minimum of two weeks prior to elections.

After the election is over, the CRO and Scrutinizers shall count the ballots. The candidate with the most votes shall be elected to the position. The CRO and Scrutinizers shall submit a report of the results of the elections to the Executive Committee and general members. The term of the presidency shall be from April 1st to March 31st, and must not exceed 16 months in case of extreme circumstances.

The process to choose new subteam leads will be initiated after each presidential election as follows:

1. All voting executive positions are open to all student members of the University of Toronto and the Robotics for Space Exploration Team.
2. The date of each subteam lead election is not to exceed 4 months following the presidential election, this date is chosen by the sitting president.
3. Candidates will declare their candidacy at least 3 weeks prior to the election date.
4. For each subteam with at least one approved candidate, an election will be held where general members of that subteam vote.
 - If the CRO is involved in an election, the Administrative President will perform the duties of the CRO for that election.
5. The candidate with the most votes (simple majority if only one candidate) will be promoted to an executive position.
6. For teams where there is already a subteam lead who wants to stay involved in their subteam, procedure is as follows:
 - The current subteam lead can choose to stay on in a co-lead capacity for 4 months after the new candidate is chosen. This time period is subject to the discretion of the executive team as a whole, and can be any time period from no time to the entire year - 4 months is to be used as a guideline.
 - After the above time period elapses, the current (now old) subteam lead will step down from their role. They can run for selection as leads in other subteams, as mentioned above, or provide support in an informal, advisory capacity as a general member.
 - Overall, subteam leads are strongly recommended to move on from their positions after 1 season, and should not run after (running or serving) 2 seasons. The purpose of this guideline is to encourage leadership development within the team.

If no person on a subteam is willing to go through the process, a simple majority vote from the current executive will be required to reaffirm the current subteam lead. If there are no suitable and willing candidates to assume a subteam lead position, the president shall assume the

position of that executive until a candidate emerges. Once this occurs, the above process will be used.

Subteams are free to create other managerial roles as they see fit, however each subteam can only have up to 2 voting seats in votes by the executive body. Other roles assigned past this point will not be allocated votes.

Votes are only valid if the voter is a registered UofT member (student, staff, faculty).

6 Finances

The Accountant (or person serving that role) shall keep records of all income and expenses. The Executive Committee will vote on expenditures over \$500.00 or recurring subscriptions by majority vote at an executive meeting.

The group's executives or members may not engage in activities that are essentially commercial in nature. This is not intended to preclude the collection of membership fees to cover the expenses of the group, or of charges for specific activities, programs, or events, or to prohibit groups from engaging in legitimate fundraising. However, the group will not have as a major activity a function that makes it an on-campus part of a commercial organization, will not provide services and goods at a profit when that profit is used for purposes other than those of the organization, and will not pay salaries to some or all of its officers.

7 Meetings

7.1 General Meetings

General meetings shall take place every week, where dates and times are to be set by the presidents.

7.2 Work Sessions

Work sessions shall be held at least once per week, where dates and times are to be set by the President.

7.3 Executive Meetings

Executive meetings shall be separate meetings composed of the executive body that shall take place at least once per week where dates and times are to be set by the exec body by most availability

7.4 Subteam Meetings

All subteam meetings are at the discretion of the subteam lead(s). In the event that a subteam's meeting structure is found to be lacking, then a simple majority of the executive team may vote to have the subteam lead propose a new subteam meeting structure.

8 Amendments

Any member of RSX who are also a UofT member (student, staff, faculty) may propose an amendment to this document at any time. If the member has gathered the support of 4 other RSX who are also a UofT member (student, staff, faculty) members they shall produce a draft of their amendment which will be put to a vote on the next town hall meeting at the time of proposal. In order to ratify the amendment a $\frac{2}{3}$ majority of the attending body who are also a UofT member (student, staff, faculty) is required and must not be vetoed by a simple majority of the executive team.