# Organization Chart of RIT SPEX

## Responsibilities of Members

|  |  |
| --- | --- |
| Advisers | * Get Updates * Provide Feedback * Training * Mentor to Director * Work with University * Follow up on faculty invitations |
| Director | * Organize Events/Schedules * Coordinate with Advisers * Develop Weekly updates * Set Common Direction * Scheduling * Conflict Resolution * Enforce Schedules/Support Schedules |
| Education | * Help with MATH 489 * Organize Internal Seminars * Keep Track of Training/Knowledge Gaps * Evaluate Knowledge Gaps * Connect with new advisers * Develop introductory workshops with segment leads to show off their capacities and operations * Develop Workshops |
| Development/Finance | * Get the Money * Spend the Money * Track the Money * Develop Financing Plans * Write Grants |
| Outreach | * Imagine RIT * Public Events * Open Houses * Student Recruitment   1. Develop personalized posters for projects, segments, etc.   2. Identify where skill sets physically are * Social Media |
| HR | * Internal Social Events * Resume Book * Email Lists * Secretarial Duties * Media Packet * Brand Standard * Apparel/Promotional |
| Deputy Director | * Organizes and Schedules all technical goals * Generates Project Schedules to Support Organization * Helps Choose Project Leadership * Set up Connections with specialists * Develops staffing needs for projects and work with department heads to staff appropriately * Helps set deliverables * Facilitates project testing and integration |
| ADCS | * Develops Systems Level Engineering Knowledge * Does Component Engineering * Assign Staff to Projects * Develop Projects that support engineering and science skills * If there is no “need” for a department with current group projects, they develop projects to build skill within the department (i.e., ADCS is not needed for HAB, Astrotracking, ADCS goes off to develop CMG technologies) |
| Avionics |
| Communication |
| Structures |
| Power |
| Mission Hardware | * Finds and identifies appropriate mission hardware * Connects with specialists and academics in the field * Any member can be a member as a secondary(trains into it from workshops and work with specialist) * Promotes the science mission of the group and general integration |
| Special Projects | * Undertake projects that support the science mission of SPEX * Facilitates research projects |
| Student Members | * Extend Invitations to new Advisers * Train in Focus Areas * Take Seminars/Study SMAD * Assign to Group * Assign to Project * Complete yearly/semester write up on duties, training, activities, etc. * Submit resume, GPA, For Finance and HR every semester * Attend and participate with group meetings * Receive the sign off from project leader or segment leader as have completing or working on assigned duties during the semester * Receive a leader review of work quality and character |

## Day to Day Operations

* Weekly/Bi-Weekly Group and Project Updates
  + Slide, whats happening, staffing needs
  + Provide Support to other groups
* Organize Schedule and Timeline Updates
* Check up on Outreach
* Compare to high level org goals
* Organize Files
* Choose Training Modules

## Training Modules

* DevKit Handling and Components
* DevKit Programming and Debugging
* HAM Radio Licensing
* ESD Handling
* Systems/Launch Integration
* Professional/Grant Writing
* Mechanical Design/CAD
* Machining
* MSP430/Arduino
* Project Management/Technology Management
* Multi-Attribute Decision Making/Decision Support
* Getting Jobs/Resumes
* Presentation Skills
* Payload and Mission Design
* Power Systems Design

## Election to Leadership Roles in Group

There are four major leadership roles within the group:

* Level 4 Directors are the Deputy Director and Director, who oversee the entire group, or large amounts of it, and have the express duty to make each member better, improve the quality of the group, be responsible on the organizational level for successes and failures, as well as finding eventual replacements for themselves that will do the same thing
* Level 3 Supporters are the Operations Support, who provide critical support services that enable all other students to grow with the group, grow our capabilities and succeed as a whole
* Level 2 Officers are segment leads, who are in charge of building skill sets of individual members assigned to their group, as well as ensuring that projects undertaken are staffed and competent
* Level 1 Leads, who can also be level 3 and level 2 leaders, if chosen by a community of peers and advisers and have appropriate skill sets, are the leaders of individual projects

Election of the various leaders varies based on knowledge needed and follow for all levels of leaders. For project leaders, they can omit the peer review process if necessary.

* Members are allowed to self-nominate through filling out an application, or nominated by other student members and advisers, which they can accept or deny.
* The second step, with review by advisers and directors ensures that an individual possesses the necessary skill base and quality of character to move to the student review process. Feedback is given during this phase as a formal document, along with the formal approval or denial with reasons before the student review process is started. This outcome is open to debate and re-evaluation at the request of the student member before the process for the peer review begins
* The Student Review Process functions in lieu of a traditional voting schema seen in other groups. Here it functions more of a peer evaluation and staff evaluation of a person’s ability to achieve success, and the requirements change and increase with the increasing levels of leadership (Level 1 leaders have lower standards than Level 4 leaders).
  + Each aptitude area will be measured 1-3 with three being the best, one being the worst at this skill or quality
    - They will be collected from students and correlated, with no data being thrown out or removed
    - The results for an individual will be available to the member upon request, with all identifying information removed
  + This process measures:
    - Communication Skills
      * Illustrate Ideas
      * Respond to discussion
      * Communication
      * Reduce confusion
      * Keep people in the loop
    - Leadership Skills
      * Empathy
      * Ethics
      * Encouragement of others
      * Motivation
      * Drive
      * Character
    - Management Skills
      * Allocate resources
      * Plan ahead
      * Mitigate Risk
      * Organize activities
      * Schedule operations
    - Following Skills
      * Taking Direction
      * Contributing to group goal
      * Respect among peers
    - Technical Skills and Aptitude
      * Relevant to field
      * Sustained by demonstrated ability, coursework, or other training
    - Experience with the Group, Culture, and Culture of Campus
      * Understanding of social network and culture of group
      * Ability to function within the group positively
    - Open Comments

## Management and Operations of Projects

Student projects within the group should be directly focused on developing hardware and scientific missions for flight, or other operations that support the ground operations, engineering, science, or technology.

Project leaders are chosen from student members and department heads with appropriate science and technology skills to support their work as a leadership and learning opportunity, as well as providing a way to improve the technology capabilities of the group. Work in SPEX is voluntary right now, so it requires that these projects to be of high value to volunteer members of the group. In order to maintain this, the Director produces semester goals to enact, which have both infrastructure and technical goals to meet. The Deputy Director then works with department heads and relevant technical help (members, students, etc.) to develop basic project plans, schedules and staffing needs. Students then sign up based on aptitude to these projects for the semester, with documentation fully defining what is expected of them and what kind of learning and experiences they will get in return.

**Conceptual Project Schedule with New Operations Methodology**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Power | Avionics | Communication | Structures | Mission Hardware | Special Projects | ADCS | Staff Need |
| HAB | 1 | 1 | 2 | 3 | 2 |  |  |  |
| Astrotacking |  |  |  |  |  | 6 |  |  |
| Payload I | 1 | 1 | 1 |  | 2 |  |  |  |
| Payload II | 2 | 2 |  | 2 | 1 |  |  |  |
| Dpt Staff | 4 | 6 | 3 | 5 | (Part of other dept) | (Mix of STEM/Non-STEM) | 6 |  |
| Free Staff | 0 | 2 | 0 | 0 |  |  | 6 |  |
| Alt Project |  | **RTOS/ DevKit** |  |  |  |  | **CMG** |  |

## Semester Goals

1. ImagineRIT Presentations
   1. 2 Payload Explorations, focus on subsystem design to make it happen
   2. Senior Design Projects
   3. Astro Tracking
2. Leadership Search
   1. New positions filled by march
   2. Constitution Finished by Then
   3. Way to be part of the club/research group framework
3. Outreach
   1. Three weeks look for more members to participate/fill skill gaps
   2. On campus social outreach, EGS
4. Social Events
   1. KSP Night in Two weeks, figured out multiplayer
      1. Good nights
   2. Apparel, Jackets
      1. Dinner or breakfast before meeting next week?
5. Funding
   1. Grants and In kind Donations
      1. TI
      2. Boeing/Others
   2. Start the Process
   3. Prep for Next opportunities

## Major Milestones

* Subsystems on Display in four months (ImagineRIT)
  + Design with Payload in Mind
  + Chosen concepts by March
  + ImagineRIT applications in
* 1U/18 Months
* 3U/3 Years