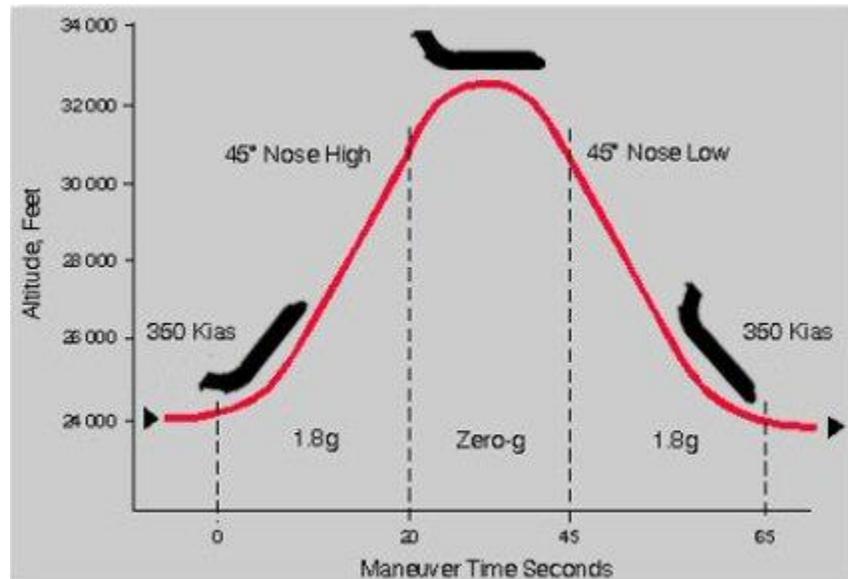


Reduced Gravity Education Flight Program Overview:

The Reduced Gravity Education Flight Program provides a unique academic experience for students to successfully propose, design, fabricate, fly and evaluate a reduced gravity experiment over the course of approximately four months. The overall experience includes scientific research, hands-on investigational design, test operations and educational/public outreach activities. Investigations will adhere to the same processes and procedures governing NASA research and test flights so that teams gain insight into the workings of NASA and ensure participant and investigation safety guidelines are followed.

The aircraft provides a reduced gravity environment, similar to the environment of space flight. The reduced gravity environment is achieved by flying an aircraft through a series of parabolic maneuvers (see below). These maneuvers will be flown consecutively, i.e. roller coaster fashion. Normal missions, lasting approximately 1.7 hours, consist of 30 parabolic maneuvers over the Gulf of Mexico. Each parabola provides about 30 seconds of hypergravity (about 1.8G-2G) as the plane climbs to the top of the parabola. Once the plane starts to “nose over” the top of the parabola to descend toward Earth, the plane experiences about 18 to 25 seconds of microgravity (0G). At the very top and bottom of the parabola, flyers experience a mix of partial G's between 0 and 1.8 (called "dirty air"). The aircraft test deck is equipped with electrical power and photo lights. NASA JSC will provide photographers for still photography and video coverage during the flight. Workspace on the ground for assembly of investigations will be provided.

During the flight, the flight team will initiate and conduct the investigation, and collect data on behalf of the students. Conditions permitting, each investigation will be flown twice so that there can be replication of the investigation and any problems encountered during the first flight can be corrected during the second.



Frequently Asked Questions:

1. Once our team has been selected, how much time do we have before our flight?

Approximately 4 months.

2. What are the weight limit and volume restrictions for our experiment?

300 pounds. Size must be no larger than 24 in X 60 in X 60 in.

Free float experiments must be no more than 50 pounds and 24 in on any side.

OPTIONAL: Teams can utilize a program glovebox with the following restrictions: The weight limit for test equipment is 18.14 kg (40 pounds). Experiments MUST be designed to fit into one of two types of gloveboxes provided by the program.

- 40 inches in length by 26.75 inches in depth by 27.75 inches in height or
- 30 inches long by 26.75 inches in depth by 40 inches tall

3. How many times can an experiment or particular piece of hardware be flown for a subsequent student flight program?

No more than three times.

4. How many members can be on a flight team?

A maximum of 5 flyers (4 students and 1 faculty). Selected teams will be assigned a NASA technical mentor for this project. If your team does not have a faculty member coming to Houston, you can replace with an additional student.

In addition, teams may include 1 OPTIONAL alternate flyer. The alternate flyer will fly only if a member of the primary flight team is unable.

5. Who can be on a team?

All team members (both students and faculty) must be a U.S. citizen and at least 18 years of age. All students must be currently enrolled as a full-time or part-time student at an eligible MSI or community college.

6. How do I know if my college or university is a Minority Servicing Institutions (MSI)?

Minority Servicing Institutions are named in the U. S. Department of Education Lists of Post-Secondary Institutions as of 12/31/2008 or after. For a list of Designated MIs, please go to:

<http://www2.ed.gov/about/offices/list/ocr/edlite-minorityvinst.html>

For institutions that serve a substantial Hispanic enrollment but have not been designated as an HSI or MI by the US Department of Education, please submit documentation that your full-time Hispanic enrollment is at least 25 percent of your total enrollment.

7. Does my community college team have to be a Minority Servicing Institution (MSI)?

No.

8. What if our team is camera challenged?

JSC Media Services provides a record of each team's experience, and includes:

- Still digital photographs of each team's equipment installed on the aircraft
- Team members participating in physiological training and social events
- Team members working in zero-gravity
- Video photography for the use of the team during outreach activities.
- Flight footage plus B-roll.

Photographic services or equipment for the purpose of individual team data collection is NOT provided. Teams should plan to incorporate data collection cameras (still and/or video) into their individual test equipment package. "Photog Staff" will be available to help teams set-up data collection camera equipment on the aircraft. Digital still images, captured of the team participating in program activities, are available for viewing and download via the program website (<http://zerog.jsc.nasa.gov>) approximately 72 hours after flight.

9. What expenses might a team incur?

Each student team assumes responsibility for:

- medical examination cost
- parts/equipment associated with building the experiment
- travel to/from Houston
- tools required for construction, operation, data collection
- food/accommodations in Houston
- shipping equipment to/from Houston
- transportation while in Houston (car rental - requirements vary on company but can include driver's age, credit card, valid D.L. and proof of insurance, etc.)

Some funding may be available for qualified teams. Other possible sources of funding include the team's institution, State Space Grant Consortium offices, corporate underwriters, and/or a private sponsor.

10. What expenses are covered by NASA?

NASA assumes responsibility for all costs (approximately \$24,000 per team) involved with the physiological training and the team's flight on the microgravity aircraft.

11. Are there advisors available to help us with technical questions?

Yes. You will be assigned a NASA advisor who will volunteer to work with a team. The program encourages team/advisor partnerships and provides information regarding program team/NASA advisor partnership expectations in order to avoid any misunderstanding as to either party's role in the partnership.

12. How and when will we know if we've been selected?

The selected teams will be announced on March 2, 2011 via email.