



## ORIGIN OF THE INTERNATIONAL SPACE STATION PROJECT

The ISS Project was started by Valley Christian School in San Jose, Calif., in 2010, to promote and advance STEM (science, technology, engineering and math). The goal was to develop and document the process to research, design, fabricate, test and operate an experiment in a microgravity environment at a low cost within the school year. Aimed at teaching technical and science skills, the project also promotes leadership and team-building.

### EXPECTED STUDENT OUTCOMES

- Live the Girl Scouts' Leadership principles of **Discover, Connect, Take Action**
- Be engaged in the process from beginning to end
- Practice project management and leadership skills
- Work as a coordinated small project start-up team
- Apply physics, space physics, chemistry, math, science and engineering principles
- Interface with the local press
- Make technical presentations
- Design circuit boards
- Learn BASIC programming via the StampKit™
- Have fun and learn at the same time!

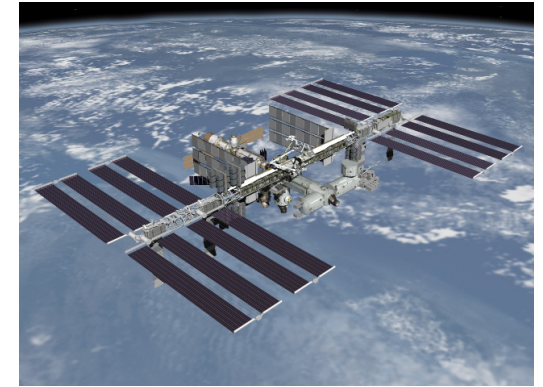
Since then, the Project has expanded to include the following participating schools and organizations for the 2012-2013 school year:

- Valley Christian School (VCS)
- Faith Christian Academy, CA
- Fremont Christian School, CA
- Maranatha Christian School, CA
- Riverside Christian School, CA
- Los Gatos High School, CA
- BeWise Girls of San Diego, CA
- Minnehaha Academy, MN
- Girl Scouts of Hawai'i

Our space station opportunity is made available by Valley Christian Schools ([www.vcs.net](http://www.vcs.net)), the Quest Institute for Quality Education ([www.thequestinstitute.com](http://www.thequestinstitute.com)) and NanoRacks, LLC ([www.nanoracks.com](http://www.nanoracks.com)) via its Space Act Agreement with NASA's U.S. National Lab.



***Design It! Build It!! Launch It!***  
***The International Space Station Project***



***Design It! Build It! Launch It! The International Space Station (ISS) Project*** allows students to conceive, design, build, test, deliver and launch into orbit, a MicroLab science experiment, to be launched during the spring of 2013. The 1.5" x 1.8" x 6" MicroLab module contains a digital camera and a student-programmed, micro-controller, as well as the payload, known as the science experiment.

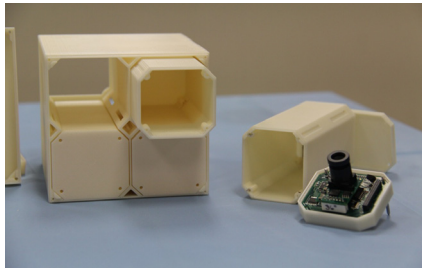
This project is based on a curriculum created by ASME (Applied Math, Science and Engineering Institute) and has been used and tested, with much success, by Valley Christian High School in San Jose, beginning with their 2010-2011 school year.

The MicroLab will be in operation on the ISS for a minimum of 30 days. MicroLab experiment data will be downloaded to an astronaut's laptop and sent to earth for evaluation by the students.

## PROGRAM FAQs

### What's a MicroLab?

Picture a mini science lab. All the work you and your team do will fit into a NASA-regulated container the size of a Twinkie. Now picture a circuit board the size of a small pencil case. You program it. You give it commands. You adjust and modify it. The team's MicroLab, along with other experiments from U.S. high schools nationwide, will be launched on a spacecraft for delivery to the International Space Station. It will stay there for one month and during that time, you'll get data downloaded from an astronaut's laptop to collect, monitor and analyze.



### What Role Will I Have?

As a member of the team, you'll be placed in one of five areas:

- **Electrical:** Build and solder circuit boards that drive and power the science experiment.
- **Mechanical:** Draft and design how the science experiment will fit in the MicroLab, then create the mechanical designs to NASA and ISS specifications.
- **Public Relations:** Digitally record your team's progress to share with various communities.
- **Software:** Create simple programs that tell the MicroLab what to do while up in space.
- **Testing:** Test all the parts of the project, including electrical, mechanical and software components.

### Who Will I Be Working With?

The team will consist of up to 20 girls all working on the same experiment. They'll be just like you: high-school girls who are interested in science and space, and dedicated to teamwork and leadership.

## PROGRAM DETAILS

### Enrollment

ISS applications are available on the Girl Scouts of Hawai'i website at [www.girlscouts-hawaii.org](http://www.girlscouts-hawaii.org). Once an application is submitted, participants will be notified via email by a Girl Scouts of Hawai'i representative of their acceptance.

### Enrollment Requirements

Participants must be enrolled in high school (freshmen through senior standing) during the 2012–2013 school year.

### Enrollment Costs

The program fee is \$550, which helps pay a small portion of the fees required by GSH to make the project a reality. Financial aid is available based on need.

### What Constitutes a Team Member?

To be an active member of the ISS Team, girls must be committed to the yearlong project. Saturday afternoon workshops will be held at the Girl Scouts of Hawai'i office, located on the second floor of the Ala Moana Hotel. Additional hours and visits to other various locations on O'ahu may be required.

## GET INVOLVED

### Mentors Needed!

Adults with a background in the sciences (including, but not limited to engineering, programming, computer science, etc.) are always needed to bring their expertise. Mentor applications can be found at [www.girlscouts-hawaii.org](http://www.girlscouts-hawaii.org)

### Project Advocates!

Girls are also encouraged to each have a Project Advocate, who will support her through the project, whether it's a favorite teacher or a professional scientist. Girl Scouts of Hawai'i representatives, who have completed official training for this project, will facilitate the program and be on hand for added guidance.

