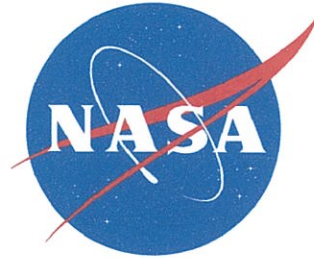


**Space Destination is proudly presented by the Bureau of Space Tourism
in conjunction with**



**Roscosmos and NASA, the leading space agencies supporting the
International Space Station.**

This program would not be possible without the support of



Space Adventures

“Our goal is to open the next frontier to everyone.”

Table of Contents

Introduction -----	1
Brochure -----	2
Schedule -----	3
Health and Safety Overview -----	4
The Effects of Microgravity on the Human Body -----	5
Contest for a Free Trip to the International Space Station -----	6
Wanted: Astronaut -----	7
Journal Entry From an Astronaut -----	8
Cooking in Space -----	9
Perspective of the Explorer -----	10
Frequently Asked Questions -----	11
Justifications -----	12-13
Works Cited -----	14-15

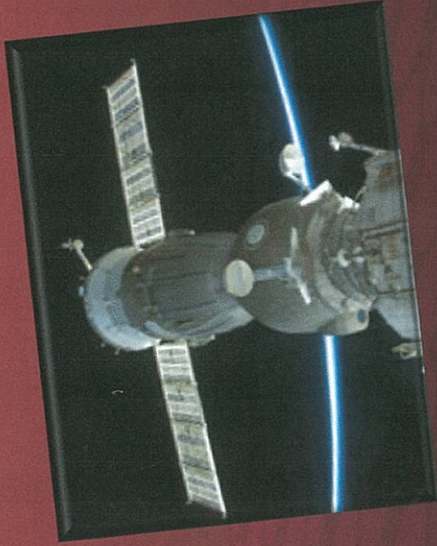
Dear Reader,

I would personally like to thank you on behalf of the Bureau of Space Tourism in conjunction with NASA (National Aeronautics and Space Administration) for requesting more information about Space Travel and potential destinations for your very own galactic getaway. Riveting experiences that are out of this world await you as you plan to escape the confines of Earth, and gravity itself. Get ready to strap yourself in for liftoff, ~~✗~~ for the best ride of your entire life. The information you requested is enclosed. This information includes a brochure, a recount of an astronaut's experience and a schedule for what astronauts tend to do on the International Space Station. As a tourist, you would not need to perform any work; all you would need to do is sit back and watch the Earth go by. I have also enclosed a special offer for you, which is a contest being run by Space Adventures. This contest is for an opportunity for a free trip to the International Space Station at no charge. This is a once in a lifetime opportunity for seats on the Russian Soyuz ^{which} tend to be around \$50 million at this time. Safety is our first priority as we oversee the space travel industry. It is my hope that you will be the next to explore the stars.

Sincerely,

-Bob Mackelroy

Director of the Bureau of Space Tourism



SOYUZ

The Russian Soyuz spacecraft is designed for comfort with custom molded seat liners that help make landings as comfortable as possible.

The Soyuz takes two days to travel to the space station, but during this time, passengers can spread out into the forward Orbital Module. Descent and landing, on the other hand takes less than three and a half hours. Other safety features for landings include four parachutes and landing engines that slow the descent rate to a mere 5 ft. per second for a soft landing.



INTERNATIONAL SPACE STATION

The International Space Station is about the size of a football field including the end zones. Features also include two bathrooms and the same amount of livable space as a 5-bedroom house as well as a gymnasium and a spectacular 360-degree bay window.

Popular pastimes include watching the Earth through one of the many windows, as well as many of the activities on Earth such as watching movies and playing cards. Of course, Astronauts are also in charge of conducting experiments in microgravity as well as maintenance to the Station.



DRAGON

SpaceX's Dragon Capsule is currently used only as cargo transport to the International Space Station. Eventually, the Capsule will be outfitted with crew couches, an upgraded life support system, and a crew escape system. This allows for

comfortable travel as well as the safety of the crew. Within a few years the Dragon Capsule will be ready for commercial spaceflight after the rigorous testing has been fully completed. The Dragon has already carried supplies to the ISS and returned to Earth safely.

Sample Schedules for an Astronaut aboard the I.S.S.

Weekend

Time	Activity
06:00 – 06:05	Reaction Self-Test
06:05 – 06:10	Morning Inspection
06:40 – 07:30	Breakfast
07:30 – 10:10	Weekly Housekeeping
10:40 – 13:10	Physical Exercise
13:40 – 14:40	Lunch
14:50 – 15:05	Journal Entry
19:30 – 21:25	Dinner
21:25 – 21:30	Reaction Self-Test
21:30 – 06:00	Sleep

Weekday

06:00 – 06:05	Reaction Self-Test
06:05 -- 06:10	Morning Inspection
06:40 – 07:30	Breakfast
07:30 – 07:45	Daily Planning Conference
07:45 – 08:05	Work Prep
08:20 – 9:30	Maintenance
09:30 – 10:25	Fitness Evaluation
10:25 – 11: 55	Physical Exercise
11:55 – 13:35	Maintenance
13:35 – 14:35	Lunch
14:45 – 17:15	Experiments
17:15 – 17:30	Private Medical Conference
17:40 – 18:10	Review Experiment Procedure
18:25 – 19:05	Evening Work Prep
19:35 – 21:25	Dinner
21:30 – 06:00	Sleep

Health and Safety Overview

Before any astronaut is sent to the International Space Station, they must pass a series of medical checks and a complete physical. If any illness or malady is found, they are not cleared for launch until cured and fully healthy. A backup crew member will take their place and they will be bumped to the next launch if this occurs.

If any injury or severe sickness appears after docking on the International Space Station, they will be looked after by their fellow astronauts. Each astronaut is trained as a medical first responder and can deal with minor maladies. Astronauts also have contact with the flight surgeons on Earth for consultation in health matters to cure whatever ailment is being suffered. If the problem is severe, the patient will be stabilized by the other astronauts before all of them return to Earth, abandoning the station until the next crew arrives. There is always at least one spacecraft docked with the International Space Station at all times for evacuation in times of emergency. Even though the International Space Station is stocked with medical supplies, there is not always a doctor aboard that can treat a patient, though there are flight surgeons standing by on Earth to consult the astronauts.

To date there have been no emergencies on the International Space Station, and we hope to keep it that way on the flight surgeon staff.

About half of ^{the} astronauts do get space sick when they first experience zero gravity. This is fairly common and only time in the zero gravity environment can cure this particular ailment. To help prevent nausea, astronauts tend to eat little to nothing before launch. Space sickness is nothing to worry about, as it is a form of motion sickness that should go away as the body acclimates to the new environment.

Daniel Whitaker

Flight Surgeon

THE EFFECTS OF MICROGRAVITY ON THE HUMAN BODY. D. Whitaker¹,
¹NASA Kennedy Space Center; State Road 405, Kennedy Spc Ctr, FL 32899

The human body changes in a microgravity environment to adapt to the new environment as best that it can. Adaptations include how the brain uses sensory information, deterioration of muscles and bone, and psychology stemming from sharing small spaces for extended periods of time. It is important to understand the effects of long-term space flight on the human body if we wish to explore other planets, such as Mars, safely. Discovering the effects is the first step in solving the problem, mitigating the effects as much as possible to allow extended periods of safe spaceflight. *Me*

is the 2nd step.
While on Earth, humans utilize a complex system of pressure receptors in the skin and the inner ear to maintain balance. However, in the absence of gravity, the signals sent to the brain are misleading, causing astronauts to feel disoriented. Sometimes astronauts even have difficulty sensing the location of their arms and legs. This disorientation causes what is known as Space Adaptation Syndrome, otherwise known as space sickness. Over half of astronauts experience space sickness. After a few days, the symptoms seem to disappear as the astronauts adapt to microgravity. It has been noted that the primary information used by the brain from orientation becomes the eyes. *Me*

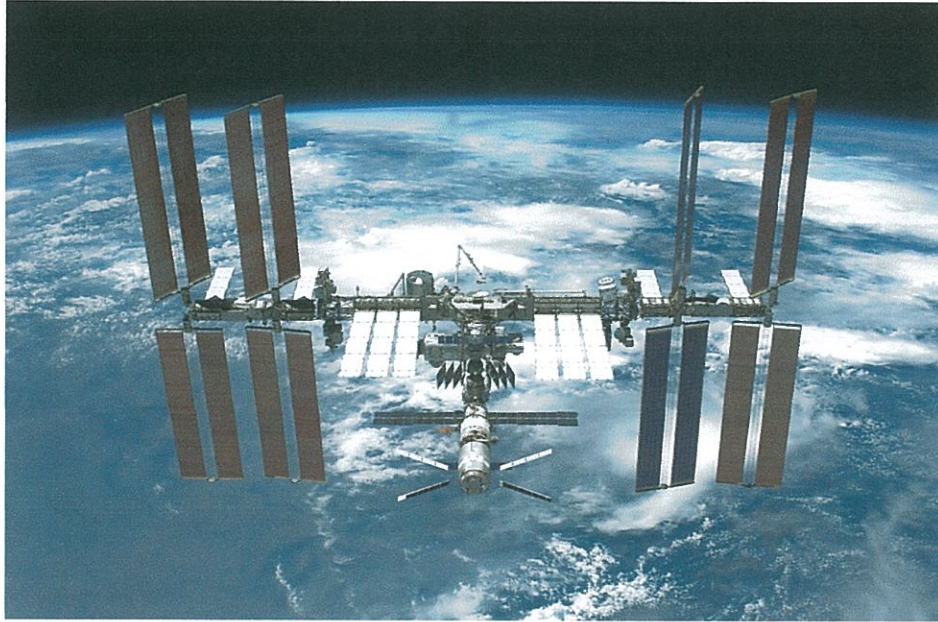
Body fluids also migrate from the legs to the head causing blocked sinuses and noses, also called the "space sniffles." Overall this isn't a serious problem that needs to be addressed. Another issue is that the red blood cell count of astronauts falls about 20% causing temporary anemia upon an astronaut's return to Earth. Without gravity, the heart doesn't need to work as hard, causing the heart tissue to shrink. The way this is currently being handled is through exercise. Exercise can help minimize the effects of microgravity.

Bone and muscle also deteriorates as they are not used to nearly the same extent as on Earth. The bone tissue is constantly being absorbed and replaced on Earth, but in microgravity, the bone tissue is not being replaced. This causes calcium levels elsewhere in the body to increase potentially causing other health problems, such as kidney stones. Muscle deterioration can be minimized through exercise, so the best recommendation for preserving muscle is for the astronauts to hit the gym like they are currently doing on the International Space Station.

The psychology of the astronauts is important, and over time their mental well-being seems to deteriorate. This is partially caused by cramped living conditions. This is not a problem for shorter missions, but extended periods of time can be strenuous. The Russians have observed that there are three phases of mental health aboard a space station. For the first two months, astronauts are adapting to microgravity. The second is full of fatigue and low motivation. The third is irritability and hypersensitivity. There is no instant cure other than a return to Earth, but private communication with families does help boost morale.

For the present time it is recommended that all stays aboard the space station are limited to six months under normal circumstances. The main exception is the mission planned where two people will stay aboard the International Space Station for one year to study the effects of long-term space flight on human beings.

Win a FREE 10 day trip to the International Space Station!*



A \$50 million value!!!

Space Adventures Proudly Presents The I.S.S. Experience!

This is an opportunity of a lifetime; few tourists have ever visited the international Space Station.

- **Experience microgravity first hand!**
- **Few people get the opportunity to watch the Earth spin beneath them**
- **Only a handful of tourists have ever been on the Space Station to experience what being an astronaut feels like.**

Are you ready for the trip of a lifetime?

Enter online at iss.sweepstakes.com

* Must be 21 years or older to enter. Must be between 4' 11" and 6' 3" tall and between 110 lbs. and 209 lbs. to qualify. Chances of winning are 1 in 256 million



WANTED: Astronaut

Do you think you have what it takes to be a premier explorer of the "Next Frontier"? If so; NASA is looking for qualified Astronauts to venture into the unknown. Missions include not only the International Space Station, but Mars as well. Will you be the first person to walk on Mars? NASA is developing spacecraft for long distance travel, the first one since the Apollo missions. The main requirements are that Astronauts must be between 4 foot, 10.5 inches and 6 foot, 4 inches. Astronauts must also have at least a Bachelor's degree in engineering, science, or mathematics and have at least three years of related professional experience. Preference is given to more advanced degrees, such as master's or doctoral. You could be the next adventurer to discover new things about the universe in which we are apart. Send your application to NASA headquarters as soon as possible as positions are filling fast.

*-Declarative -
not?*

degrees in



Concept for NASA Space Launch System

Contact NASA for more information at:

NASA headquarters:

300 E Street Southwest,
Washington, DC 20024

Journal Entry: May 29, 2009

Everything begins to rattle and shake as the engines fire up on the Launchpad in the swelling heat. There is ominous creaking from the vessel around me. Adrenaline is pumping through my veins and I cannot believe I am on my way into space. Finally, the rocket has been fully prepared for launch and the air is electrified within the capsule. We have been training over the past year for this day. The time has come for us to leave the safety of Earth into the microgravity of the International Space Station. The rocket jostles and shakes as I am pushed back into my seat. There is no turning back now, we are on our way. A few minutes later I find myself floating in my seat before I am slammed back into my seat again as the second stage kicks in. The next two days are both dull and wonderful at the same time. It is a waiting game as we catch up to the International Space Station, but the view of Earth is magnificent. The opportunity to see the blue planet spinning beneath you like a giant glass marble is awe inspiring. We don our bulky space suits as we prepare to finally dock, ending our journey, but the beginning of the adventure. After docking, a hissing sound filled the capsule as the pressure equalized with the International Space Station. The hatch then opened, and we were greeted by the happy faces already aboard the Station earning to return home to Earth.

stuffing tense

Michael Barratt

Would love more detail - but overall very good.

Michael Barratt's Blog
Cooking in Space

Many people tend to ask about food on the International Space Station. This is because food plays an intricate role in our lives. The idea of getting food onto a space station is a daunting logistics problem, especially if every astronaut has a different taste in food and there happens to be a crew change. ^{therefore} That is why both NASA and Russia have a certain way of solving this dilemma.

For the most part all of the food is pre-planned and ready to ship by using a 16 day rotating menu. However, there are some containers set aside for our personal preferences and bonus containers we receive about once a month. These containers are filled with anything we want in them that doesn't require refrigeration.

We have found that a little extra water in any of the meals helps to keep it from floating away. The water helps the food stick together and to the spoon. The first rule of space etiquette is not to have food flying across the galley. This is partly because once a panel is stained; there is no running to get the industrial strength cleaner. The panel is stained for good. Another downside for food flying everywhere is that you spend the rest of the mealtime chasing after it instead of enjoying the meal.

Food comes in a variety of containers. Some comes in pouches or cans that may just need to be warmed up. Our most sought after item is tortillas, because it allows for experimentation and the ability to change things up a little bit. With tortillas, it is possible to mix and match certain items to make a different taste than the same meals over and over again. We have discovered combinations that were quite good such as black beans, cheese spread, and some hot sauce; and a new taste is created from the monotonous 16 day menu.

Specifics?

When eating →

A little awkward

Perspective of the Explorer

Earth is a blue marble spinning beneath me
Ever changing through the day and the night

From lights in the dark and clouds shifting throughout the day
Hurricanes spin across the glass

From above, there is no destruction or dismay
But just a perfect storm to watch to pass the day

From the outside, it is insignificant
On what we do and what we are

The perspective has shifted from the geocentric
To seeing how large the solar system even is
Eight planets spinning around the sun

And knowing that there are millions of stars like ours
Across the universe that can be seen from my window

There is much to explore in the next frontier
But when will we see the first person on Mars?

There is much to discover across the universe
But with no drive, will we ever see it?

Competition is the key
To the gate of adventure

Just look to the moon, and what it took to get there
Without competition we would not have gone to its surface

It is time to explore the universe around us
Through the desire to explore the unknown

Frequently Asked Questions: Astronauts on the International Space Station

Question: How do astronauts go to the bathroom in space?

Answer: The International Space Station is equipped with a toilet that uses flowing air to collect waste. Solid waste is compressed to be sent back to Earth, and wastewater is treated and recycled. The air is also filtered to remove odor and bacteria before returning to the cabin.

Question: How do Astronauts bathe?

Answer: Astronauts are able to brush their teeth as they would on Earth. Due to zero gravity, astronauts must resort to using sponge baths because there are no showers in space. Sponge baths prevent water from flying everywhere as well as conserving as much water as possible.

Question: What is the International Space Station?

Answer: The International Space Station is the largest scientific endeavor undertaken. It is supported by sixteen nations including Canada, Japan, Brazil, Russia, eleven members of the European Space Agency, and the United States. The space station is a laboratory in a microgravity environment that can be used to perform a multitude of experiments impossible on Earth.

Question: How is trash disposed of on the International Space Station?

Answer: Since the end of the Space Shuttle Program, trash is taken back to Earth whenever a new shipment of supplies arrives. The new supplies are unloaded from the capsule before the trash is loaded in to be sent back to Earth.

Question: How big is the International Space Station?

Answer: The International Space Station is about the size of a football field including the end zones.

Justifications

Brochure: I decided to make a brochure with information pertaining to the International Space Station, but also the Soyuz and Dragon Capsules. In the future, space tourism will expand to the common person and so brochures about different modes of transportation and destinations would exist as advertising. ✓

Schedule: A tourist would likely want to know what a typical day would look like on the International Space Station. I researched this on the NASA website and compiled what I believe to be a typical day for an astronaut on the International Space Station. The schedules are very precise, often down to the minute for what astronauts need to be doing.

Health and Safety Overview: Safety is a major concern for astronauts that will be in orbit for six months. I wanted to show through this document that there were precautions in place that have been working for the past decade as well as the emergency plan which has never needed to be used.

The Effects of Microgravity on the Human Body: The effects of microgravity over a period of time would be important for how long a tourist would want to stay in space. There are medical effects that are temporary, but could become serious over a few years. I wrote a scientific style abstract to convey these effects.

Contest for a Free Trip to the International Space Station: I used this contest to show the cost of traveling to the International Space Station through the Roscosmos, the Russian Space Agency. In the fine print, I also included the height and weight requirements for flying in a Soyuz capsule.

Wanted: Astronaut: This is an advertisement seeking for astronauts. It contains the basic criteria to be eligible for becoming an astronaut through NASA. In this genre, I have included the basic requirements for becoming an astronaut. Many people want to become astronauts, but they are unable to actually become one. NASA only has 20 positions every two years with thousands of applicants, so an advertisement like this would be unlikely at this time. I also include one of NASA's long-term goals of a mission to Mars.

Journal Entry from an Astronaut: This is a narrative scene in the form of a journal entry. I thought it would be fascinating to tell a story of what it is like to launch into space aboard a Soyuz rocket. Most of the information I could find were detailed timelines of what each step in a launch was at what time. I used that information along with information about the shuttle launch's I remembered from visiting Kennedy Space Center to recreate the sensations an astronaut most likely feels aboard a Soyuz rocket. ✓

Nice!

Nice!

Cooking in Space: I thought that what astronauts eat in space would make an interesting topic for a blog entry. I used an actual astronaut's blog for inspiration and information on how food is prepared and eaten in space. I believe eating in space also tends to be a question many people have, because on Earth, we rely on gravity to keep our food from flying across the room which they don't have on the International Space Station. ✓

Perspective of the Explorer: This is a poem that I wrote using the view of Earth from space as inspiration. From the International Space Station, astronauts have a different perspective about the universe than humans do on Earth. Space is the next frontier for humanity to explore. I also used the space race to the moon between the Russia and the United States as inspiration behind how competition is an important drive behind exploration. ✓

Frequently Asked Questions: People have many questions about life in space. I hoped to address the most popular questions pertaining to life aboard the International Space Station using this genre. I wanted to use this to wrap up the information packet and hopefully answer the reader's remaining questions about life in microgravity.

Melanson, Donald. "NASA Says International Space Station Is Now 'essentially' Complete."

Engadget. N.p., 10 Mar. 2011. Web. 18 Dec. 2012.

"Russian Soyuz TMA Spacecraft." *NASA*. Ed. Amiko Kauderer. NASA, 23 Oct. 2010. Web. 18 Dec. 2012.

"Space Adventures to Sell Tickets to Space for Armadillo Aerospace." *SpacePlex*. SpacePlex, 30 Apr. 2010. Web. 18 Dec. 2012.

"Space Launch System." *NASA*. Ed. Brooke Boen. NASA, 14 Dec. 2012. Web. 18 Dec. 2012.

"Student Features: Astronaut Requirements." *NASA*. Ed. Shelley Canright. NASA, 4 Jan. 2010. Web. 18 Dec. 2012.

SUNSERI, GINA. "Singer Sarah Brightman Outbids NASA for Space Tourist's Seat." *ABC News*. ABC News Network, 03 Oct. 2012. Web. 18 Dec. 2012.