

U. S. SPACE CAMP® U.S. SPACE ACADEMYSM

U.S.SPACE CAMP/ACADEMY is an educational program which couples classroom instruction with hands-on activities. Trainees learn about space flight and the space program in lectures and seminars. and put this information to practical use with our simulators and tours.

The U.S. SPACE CAMP appreciates the direct support of the NASA-Marshall Space Flight Center in Alabama and the NASA-Kennedy Space Center in Florida in its programs.

PRINCIPAL DONORS

The following corporations are principal donors to U. S. SPACE CAMP, U. S. SPACE ACADEMY and The Space and Rocket Center. The Center acknowledges the significant support of its educational activities by these and other contributors.

Rockwell nternational

UNITED TECHNOLOGIES

MCDONNELL (oca: Cola USA DOUGLAS FOUNDATION Thickol CORPORATION BOEING Lockheed ع MARTIN MARIETTA 77 LABORATORIES TELEDYNE BROWN ENGINEERING

GoldStar



GRUMMAN



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Inspired by Dr. Wernher von Braun, the rocket scientist whose Huntsville team sent astronauts to the moon, these educational programs offered by non-profit organizations are unique in the world.

The Alabama program began in 1982 and is sponsored and conducted by The Space & Rocket Center, NASA's Visitor Information Center. The Florida program, started in 1988, is sponsored by the U.S. Space Camp Foundation and the Mercury

Seven Foundation, the organization of America's original astronauts headed by Admiral Alan B. Shepard, America's first astronaut and Apollo 14 commander.

United States

President George Bush endorsed the program during a visit when he told SPACE CAMP® trainees, "This is probably the same thrill and experience for me as it is for you. I'm absolutely convinced that what we're seeing here today, including the education of young Americans looking to the future, in terms of science, technology, and the emphasis here on space, is absolutely vital to our country."

"I'm inspired by the young people who participate in this program . . . because this really is the future."

Edward O. Buckee Director of The Space & Rocket Center



President George Bush operates SPACE CAMP's version of the Manned Maneuvering Unit during a visit to SPACE CAMP.



U.S. SPACE CAMP

SPACE CAMP strives to use the excitement of space exploration to stimulate student interest in math, science and technology. The training week includes classroom, hands-on training, tours, guest lecturers, and simulated space missions.

ARRIVAL. Check-in is scheduled for 10 a.m.-2 p.m. Follow signs to registration. You'll meet your team leader and other members of your team at the 2 p.m. orientation.

DAY ONE. Trainees are briefed on basic principles of propulsion and spacecraft guidance and control on ROCKETRY DAY before beginning assembly of their own individual model rockets. A guided tour of the rocket park which former Astronaut John Glenn calls "the most complete in the world" identifies the role of each rocket in the advancement of the space program. Most of the rockets were engineered and tested at the nearby NASA-Marshall Space Flight Center and the U. S. Army-Redstone Arsenal. Beginning tonight, such Omnimax films as "Hail Columbia" and "The Dream is Alive" are shown in the Spacedome Theater.

DAY TWO. NASA astronauts train for many years before their first flight. The objective of ASTRONAUT TRAINING DAY involves trainees in a variety of specific activities, from packaged space food to life support and waste management systems for living in space. They handle and try on space suits and helmets and study actual Mercury and Apollo spacecraft that have flown in space. A tour of the NASA Center where tomorrow's space missions are being planned is on the agenda.

SPACE CAMP is a week long program for youngsters completing grades 4, 5, 6.



DAY THREE. A highlight of the week,

MICROGRAVITY DAY, casts youngsters in the role of astronauts preparing for space walks and coping with the "zero gravity" of space. They practice in the Moon Walk Trainer, which simulates the sensation of walking on the Moon, where body weight is one-sixth that of normal.

Trainees construct and launch their own model rockets, complete with "cricketnaut" payload.

"This is a note to let you know that Nick's experience has changed his life. He said to me the day he was to leave Space Camp that he didn't want to go home because he always felt like 'I have been walking through life and for the last week I got to run, now I have to walk again.' He is earning money for a return trip to Space Academy. As a mom, I can tell you that this was the best experience of Nick's life."

Christine Cianciolo Ohio They observe as their team leader spins and tumbles in the Multi-Axis Trainer, similar to the device in which Mercury astronauts were conditioned should their craft tumble out of control. They experience the sensation of up to 3 G's – or triple normal body weight - during an experience in the Centrifuge. Also, rendezvous with an orbiting space station while aboard the Shuttle Space Liner. A tour of NASA's neutral buoyancy tank, a million gallon water tank where astronauts trained, prepares them for an underwater task involving simulated weightlessness at a swimming pool.

DAY FOUR. NASA's Marshall Space Flight Center is in the forefront of planning the nation's first permanent Space Station. Trainees study development of large space structures and their benefit for mankind. The mission of TOMORROW'S TECHNOLOGY DAY outlines a variety of careers in the aerospace field, apart from that of astronaut, that will be available in the future. They also launch their model rockets, with the mission of safely recovering their payload.

DAY FIVE AND DEPARTURE. The culmination of the week is SPACE SHUTTLE MISSION DAY, an experience about which most youngsters can only dream. Each team of 12 youngsters is divided into crews for the Shuttle spacecraft and mission control. Using equipment acquired from NASA, team members conduct a simulated mission, beginning with checkout, countdown, launch, orbit and return to Earth. Each team's performance depends upon how well campers apply principles learned earlier in the week. Family members are invited to graduation ceremonies at 9 a.m. where each trainee receives SPACE CAMP wings, certificates and color group photo. Special team awards will be presented at the conclusion of an exciting week. Certificate framing is available after graduation. (Remember to get team members' names and addresses in your Astronaut Log to keep in touch!) Schedule airline flights departing after 1 p.m. Unless other arrangements have been made, trainees should have their belongings out of the dormitory by 1 p.m.

"I cut grass all summer to get to go. It was worth it. My parents are matching what I save to come back next year."

Dan Ladwig Topeka, KS

TUITION. The fee includes meals, educational program and materials, accommodations, T-shirt and visor. See pages 24-25 for tuition and schedule.

NOTE. For best scheduling, activities may occur on days other than listed.

Experience the 5 Degrees of Freedom simulator.





U.S. SPACE CAMP

ARRIVAL. Trainees traveling by plane should schedule flights to arrive at the Orlando International Airport by 2 p.m. to be met by a uniformed SPACE CAMP representative. Check-in at the Training Center is from 1-4 p.m., and trainees will meet their teammates and team leaders at the 4 p.m. orientation. Car arrivals before noon are subject to early arrival fees. Families driving from Orlando should travel east on the Beeline (HWY 528), exit to 407 north, then right onto HWY 405. SPACE CAMP is located with the U.S. Astronaut Hall of Fame east of the intersection at Hwy. 405 and US 1.

DAY ONE. The first meets the future at the new Training Center, adjacent to the U. S. Astronaut Hall of Fame, where trainees learn about America's original space explorers. Your adventure begins on ROCKETRY DAY with an in-depth tour of the NASA Rocket Garden at Spaceport USA, Kennedy Space Center. All types of rockets which have been launched into space from nearby Cape Canaveral Air Force Station and Kennedy Space Center are on display as well as NASA's latest exhibits on future space travel. Trainees begin assembly of their own model rockets

while learning about rocket propulsion and aerodynamics, and take a trip to the Brevard Community College's Planetarium for a hands-on astronomy lesson.

Left: NASA plans nine shuttle launches at the Kennedy Space Center within sight of the new SPACE CAMP Training Center in Florida. While schedules are flexible. tentative dates are: Feb. 1 Atlantis March 26 Discovery April 26 Columbia June 4 Atlantis July 9 Discovery Aug. 16 Columbia Oct. 5 Atlantis Nov. 11 Discovery Dec. 6 Columbia

is a week long program for youngsters completing grades 4, 5, 6, 7.

SPACE

CAMP



"Space Camp is an academicallydemanding astronaut training program for middle school and secondary students. Couselors encourage, instruct and measure the students' work."

The National Education Association

SPACE CAMP trainees visit many historical sites at Cape

with the zero gravity of space. They learn about the exciting field of robotics and what happens when earthbound toys Canaveral.

go into space. Trainees will practice in the Microgravity Trainer which simulates the sensation of walking on the moon. The Five Degrees of Freedom chair simulates the freedom of movement astronauts experience when on a space walk. A swimming pool becomes the neutral buoyancy training area to practice working with a Skylab film canister in simulated weightlessness (weather permittina).

DAY TWO. NASA astronauts train for many years before

being launched from Florida's Space Coast. The objective of

activities from eating packaged space food to learning about

ASTRONAUT TRAINING DAY involves trainees in a variety of

life-support and waste management systems for living in

space. Trainees watch as their team leaders tumble in the

Mercury-era Multi-Axis trainer and learn about the Shuttle's

heat tiles. Trainees also begin working with the astronaut

training simulators such as the rotating chair and try on a

DAY THREE. MICROGRAVITY DAY puts trainees in the role of astronauts preparing for space walks and coping

build their own version of a large space structure.

space suit. In the evening, your team will plan, design and

DAY FOUR. The

highlight of the week is MISSION DAY, where teams participate in a simulated Space Shuttle flight, based on training throughout the week. Your team's ground control and flight crew will conduct an hour-long simulated mission from



countdown to orbit and landing Trainees will launch their model rockets and determine how successfully they assembled the elements. From their hotel, trainees can look across the Indian River and see the Kennedy Space Center's Vehicle Assembly Building and launch pads 39 A & B.

DAY FIVE AND DEPARTURE. The week

culminates with graduation exercises at 9 a.m. in front of family members at the SPACE CAMP Training Center. Teams with the best mission. rocket launch and large space structure design will be recognized with special team awards. Each trainee receives SPACE CAMP wings, certificate and color group photo. Schedule airline flights departing after 1 p.m.

TUITION. The fee includes meals, accommodations, program materials, T-shirt and visor. See pages 24-25 for tuition and schedule.

NOTE. For best scheduling, activities may occur on days other than listed.



Top: The new SPACE CAMP Training Center opens in March, 1990. Bottom: Trainee performs gravity exercise underwater.



U.S. SPACE ACADEMY=I

ARRIVAL. Check-in is scheduled from 10 a.m.-2 p.m. Follow signs to registration. You'll meet your team at the orientation at 2 p.m.

DAY ONE. The space odyssey begins on SHUTTLE OPERATIONS DAY with familiarization of the Shuttle cockpit and ground control simulators developed exclusively for the SPACE ACADEMY program. The full-scale Spacelab module is derived from the actual payload crew training model they tour at the Marshall Space Flight Center, NASA's lead facility where Spacelab, Astro, Starlab and ESA crews train. The Mission Control Center in Houston is reproduced to track the simulated flights. And the Shuttle cockpit is accurate, including its ability to pitch and roll during launch and the return to Earth.

DAY TWO. After being divided into teams, the trainees narrow their choices and begin training for their mission assignments. Most will train simultaneously for crew and ground positions. The purpose of MISSION ASSIGNMENTS DAY is sharpened with studies of various space suits as life-support systems during space walks.

LEVEL I is a week long academic program for trainees completing grades 7, 8, 9.

> Trainees build a tetrahedron in simulated weightlessness.



"The emphasis on teamwork, along with the stimulating and challenging environment, made SPACE ACADEMY a memorable experience."

Jan Moths Brookfield, Wl

CANTER'

DAY THREE. As the countdown begins on the missions, the investigation of payloads on MISSION EXPERIMENTS DAY intensifies, covering satellite deployment, and operation of the large remote manipulator arm which will relate to missions in the two following days. Training for mission experiments prepares trainees for the actual, real-time experiments scheduled onboard. They handle experimental equipment to understand the objectives and mechanics of the scientific investigations, as well as how to evaluate results. Additionally, they construct a large space structure under water in simulated weightlessness.

DAY FOUR. Each flight team begins with flights which occur over a two-day period. On MISSION DAY ONE, dramatic countdown and launch are monitored by the ground control team on a multi-screen system. A computer-generated image of the Shuttle orbit tracks the path as the commander and pilot operate the control

NAS



orbit. The payload specialists conduct actual experiments inside the Spacelab module and in the Space Station, while mission specialists conduct space walks outside of the crew cabin. After docking with the Space Station, the Shuttle crew returns to Earth.

DAY FIVE AND DEPARTURE. Team members exchange assignments on MISSION DAY TWO to increase their exposure to both onboard activities and ground support roles. A debriefing follows each mission.

The presentation of awards, wings and certificates during graduation ceremonies at 9 a.m. concludes the unique educational experience. Family members are invited. Schedule airlines flights departing after 1 p.m. Unless other arrangements have been made, trainees should have their belongings out of the dormitory by 1 p.m.



TUITION. The fee includes meals, educational program and materials, accommodations, T-shirt, and visor. See pages 24-25 for tuition and schedule. **NOTE.** For best scheduling, activities may occur on days other than listed.

"As the generation of the future, you are certainly part of our vision. Some of you here at SPACE CAMP will be the next Alan Shepard, the next Neil Armstrong, the next Sally Ride. You will make significant contributions as the generation of the future."

Vice President Dan Quayle



AVIATION CHALLENGE

Aviation Challenge is the only high school program in America to test the skills of high performance jet pilot training.

If you've ever dreamed of flying a Phantom jet at Mach 2 or strapping yourself into the pilot's seat of the Space Shuttle ready for launch, AVIATION CHALLENGE is for you. This program was developed from aviator training at Miramar, Pensacola and on the famous aircraft carrier, USS Eisenhowei Learn from experts what it takes to be accepted for aviator training at a military academy and become a jet jockey. AVIATION CHALLENGE is a week long program for aviation enthusiasts completing grades 9, 10, 11.

After dark, step into the Spacedome Theater to share barrel rolls with the Blue Angels in "To Fly" and feel the chills of crash landing on a carrier in "Flyers."

This is the beginning of your checklist:

- Select your call sign from the great U. S. aviators of all time.
- Learn crew systems and wear the flight suit and "G" suit of a true aviator.
- Train in simulators used by top U.S. fighter pilots.
- Fly missions in the F-4 all systems simulator you'll be in the front seat and the flight leader.
- Master an outdoor confidence course which requires problem-solving skills and teamwork.
- Tour a military airfield and study flight procedures.
- Learn ditch and rescue techniques in water survival.
- Experience high-speed maneuvering and low level flight in the F-4 simulator.
- Learn the skills of dogfighting in an F-86 simulator.
- Hone your skills with simulated night carrier landings.
- Experience the dunker, slide wire and egress-ingress trainer.
- Master system procedures, navigation and formation flying in the T-28 simulator.
- Join your buddies in a squadron of jet jockeys who push the outside of the envelope every day!

Only the best of the best make it at this Fightertown, in Huntsville, Alabama, home of the world famous SPACE CAMP. The aviator-to-be is clearly a motivated, mature, self-starter who has managed to mix academics, extra-curricular activities, competitive athletics and fun. So suit up with the best, and go for the coveted fighter pilot award in the new and exciting Aviation Challenge program. Left: Trainees plan mission flights for the F-4 Phantom jet simulator.



U.S. SPACE ACADEMY=II

MISSION. To help train America's youth for the demanding careers that lie ahead in aerospace and other high-tech fields, The Space and Rocket Center offers an accredited advanced level to its SPACE ACADEMY programs. Level II students may train in aircraft cockpit trainers, the Underwater Astronaut Trainer and a Space Station module. The program features a series of two-hour missions in preparation for a 24-hour simulated Space Shuttle mission.

Enrollment is open for high school sophomores, juniors, and seniors. Prior enrollment in SPACE ACADEMY is not required. Level II covers more than 90 hours of instruction and training in 8 days. Registration is from 1-5 pm.

THE PROGRAM. The training curriculum for Level II is patterned from NASA crew training manuals and is performed in facilities designed from astronaut training simulators. The program is accredited for 1 hour of college credit in science. Each student is automatically registered for credit through The University of Alabama in Huntsville. A transcript from UAH is available upon request four weeks after attendance.

SPACE ACADEMY team leaders and counselors are highly motivated and well trained young adults who attend universities throughout the U. S. Most are seeking or have

obtained degrees in engineering, science or education as their career goals. Students receive sound academic instruction, authentic astronaut training procedures, and have an opportunity to explore future careers by talking with current space professionals.

MISSION PROFILE. Stand by to launch yourself into 8 days of the best space training this side of the Astronaut Corps! Level II combines academics with flight training patterned after the astronauts' own training schedules. All students are trained in Space Level II is a college accredited 8-dav program which emphasizes the academic foundation for spacerelated careers for grades 10, 11, 12.

> Left: Trainee prepares to dive in 122,000gallon Underwater Astronaut Trainer. Below: Trainees in Atlantis flight deck.



"My son found the program fascinating. I think it's a wonderful way to give potential space-related careers an opportunity to begin!"

Harold Green Charlotte, NC Shuttle flight procedures and receive academic instruction to enhance their understanding. Students entering Level II will be placed in one of three tracks of study and training: Technology (payload specialist), Engineering (mission specialist), or Aerospace (commander or pilot). The three tracks will combine as a team for final training, a series of simulated missions, culminating in a 24 hour mission which includes mission anomalies.

TECHNOLOGY TRACK. Technology students design and conduct Space Shuttle experiments with instruction in solar and space plasma physics, space biology, astrophysics, remote sensing, materials science, optics and computers. Selected students may test their experiments in a simulated microgravity environment.



ENGINEERING TRACK. Engineering track students study robotics, optics, materials science, structures and thermodynamics to prepare for their mission specialist role. They will train in scuba techniques and may conduct EVAs and microgravity experimentation in the Underwater Astronaut Trainer at U. S. SPACE ACADEMY.

AEROSPACE TRACK. Aerospace track trainees focus on the educational requirements needed for a potential aerospace engineer, Shuttle commander or pilot, or aviation career. The academic program includes celestial navigation, meteorology, orbital mechanics and space piloting. Field visits include the Airport Control Tower or a visit to the flight line of the Air National Guard for briefings.

Tracks are determined on a first-come, first-served basis according to preferences on application. Applicants will be sent required forms for physician and parent/guardian approval for scuba instruction. Scuba form should be sent at least 6 weeks prior to arrival and no earlier than 3 months prior to arrival. Recommended physical requirements: height of 5 feet, weight of 100 pounds, age 15 (age not waiverable). All applications are subject to review by SPACE CAMP medical and diving staff. Certain medical conditions, such as asthma, may preclude participation in the scuba portion of the program.

MISSION PLANNING.

Teamwork is the key to space missions. All three Level II tracks work together in integrated group sessions to plan their Space Shuttle missions.

DEPARTURE. With Saturday graduation ceremonies beginning at 1 p.m., those departing Huntsville by air should make reservations for flights after 4 p.m. Unless other arrangements have been made, belongings should be out of the dormitory by 4 p.m. Families are invited to attend graduation.

TUITION. The tuition for the program includes college credit, meals, accommodations, program travel and educational materials. See pages 24-25 for tuition and schedule.

ACCREDITATION. Completion of each track (Aerospace, Engineering and Technology) earns 1 hour credit of freshman level science from The University of Alabama in Huntsville.

NOTE TO LEVEL II PARTICIPANTS. An additional health form is required for persons who will participate in underwater scuba activities. Your acceptance to the program is conditional upon satisfactory completion of the second document. It will be mailed to you with your confirmation form following registration.

Satellite in orbit is repaired.

"You achieved one of your goals: My daughter is now considering space science as a possible career choice."

Doris Henson Delhi, NY



ADULT PROGRAM

"I ordered the application for my grandson. When I got it and saw that there was a program for adults, I came instead. I'm having a blast!"

Mildred Coleman St. Louis, MO Adults can join in the excitement of learning about the Shuttle Transportation System and America's future in space. While program material might not be difficult enough for pilots, engineers and aerospace-trained personnel, the broad range of subjects and activities brings a unique astronaut experience within the grasp of the general public and professionals alike.

DAY ONE. After registration and check-in, staff members
conduct an orientation on the Space Shuttle, mission
simulation and astronaut training activities. Participants learn
that the Shuttle's propulsion system was developed in
Huntsville by NASA and its contractors. The trainees are
divided into teams for mission preparation.

The active, hands-on program continues with simulator orientation. Participants experience activities in two space walk simulators: The Five Degrees of Freedom (5DF) and the Manned Maneuvering Unit (MMU).

DAY TWO. Team members take turns inside the Multi-Axis Simulator while other trainees experience triple gravity in the Centrifuge and tour the Earth's largest space museum. In the

next period, the schedule is reversed. One group takes positions in mission control and the Shuttle simulator for mission practice while others experience one-sixth gravity in a device similar to the one that trained Apollo astronauts to walk on the Moon. In each mission, the 20 members are divided into two groups. The flight crew strap themselves inside the Shuttle trainer for countdown and launch. During space walks, mission specialists don space suits and use the remote manipulator to build large space structures.



DAY THREE. The final day goes by quickly, with the second round of Shuttle simulations. Team members who performed tasks in mission control take their seats in the Shuttle and flight participants fulfill their new duties in ground control. Recipients of The Right Stuff awards are announced, along with presentation of wings and certificates. A highlight of Sunday afternoon is a presentation by a visiting astronaut. The schedules of various astronauts associated with SPACE ACADEMY determine which astronaut visits with participants.

TUITION. SPACE ACADEMY registration fee is \$450 and includes meals and dormitory accommodations. **CHECK-IN/OUT.** Friday registration begins at 8 a.m., with graduation Sunday at 5 p.m. Airport transportation is included in tuition.

1990 ADULT SPACE ACADEMY DATES

 Sept. 7-9
 Sept. 21-23
 Oct. 5-7
 Oct. 19-21

 Sept. 14-16
 Sept. 28-30
 Oct. 12-14
 Oct. 26-28

"The adults flying the shuttle mission gave themselves up to absorbing adventure . They spend three days hearing lectures on space flight, getting a sampling of astronaut training and flying missions in the simulated shuttle."

Mission Control crew

monitors flight.

Time



TEACHERS PROGRAM

A unique partnership of sponsors brings classroom teachers up-to-date on subjects involving mankind's adventure into space and offers hands-on training so they are better prepared to relate science and other subjects to today's students, who are the leaders of the 21st century.

Teaching the Future: Space Orientation for Professional Educators is offered jointly by the U.S. SPACE ACADEMY and The University of Alabama in Huntsville, and is supported by NASA's Marshall Space Flight Center. Attendees receive 3 semester hours of graduate credit in elementary education, secondary education or science from UAH.

"This is the future for the kids I teach." Jim Conley West Union, SC

TEACHING

FUTURE:

Orientation

Professional

Educators

THE

Space •

For 🟅

MISSION PROFILE. The course introduces educators to a wide variety of space related subjects, including a first-hand look at state-of-the-art technology. The program covers a five-day period from Sunday evening until Friday afternoon and includes 12 blocks of formal instruction, plus films, laboratory demonstrations, and a guided tour of NASA's Marshall Space Flight Center. Educators learn principles of space science and technology from leading experts in the corporate, NASA and university communities.

In addition, educators will train at U.S. SPACE ACADEMY in Space Shuttle simulators and professional astronaut training devices in preparation for two simulated Space Shuttle missions. Teachers will be assigned positions such as commander or pilot, perform extravehicular activities in space suits, conduct experiments in the space station, or direct the missions from mission control.

"Teachers dress as astronauts, ride in machines used to train astronauts and bring home the excitment of space to their students."

Weekly Reader

The entire course provides approximately 40 hours of intensive classroom, laboratory, and training time, and features highly qualified instructors and guest lectures.

SESSIONS. The five-day course begins with registration on Sunday at 5 p.m. and concludes Friday at 3 p.m. Dates are:

 Feb. 18-23
 June 17-22
 Aug. 5-10

 June 10-15
 July 29-Aug 3
 Aug. 12-17

CURRICULUM. NASA: History and Mission; Space Transportation System; Hubble Space Telescope; Space Station; Astronomy/Astrophysics; Impact of Space Technology; Working/Living in Microgravity; Space Physiology; Science Communications; Optics/Holography; Principles of Rocketry/ Propulsion; Space Education Seminar; Space Transportation Systems; Space Simulators Orientation; Shuttle Mission Training; NASA Education Materials; International Space Programs.

CREDITS AND FEE. Registration fee of \$750 includes: The University of Alabama in

Huntsville registration for 3 semester hours of graduate credit or 3 teacher equivalency units, meals from Monday breakfast through Friday lunch, lodging from Sunday night through Friday noon and laboratory course materials fee. Registrations can be made by calling 1-800-63 SPACE.

FUTURE MISSIONS. For those who have completed Teaching the Future, contact UAH's Division of Continuing Education at 1-800-448-4032 for information on the Washington, D.C. program.

Above: Teachers conduct experiments inside the Space Station module. Left: SPACE ACADEMY Multi-Axis Trainer simulates a tumbling spacecraft.

1990 SESSION DATES

SPACE CAMP = ALABAMA SPACE ACADEMY LEVEL I = ALABAMA

(Sunday-Friday;	5 Days)		Oct 31.34
Feb. 11-16 Feb. 18-23 Feb. 25-Mar. 2 Mar. 4-9 Mar. 11-16 Mar. 18-23	May 6-11 May 13-18 May 20-25 May27-June 1 June 3-8 June 10-15	July 29-Aug. 3 Aug. 5-10 Aug. 12-17 Aug. 19-24 Aug. 26-31 Sept. 2-7 Sept. 9-14	Oct. 21-26 Oct. 28-Nov. 2 Nov. 4-9 Nov. 11-16 Nov. 18-23 Nov. 25-30 Dec. 2-7
Mar. 25-30 April 1-6 April8-13 April15-20 April22-27 April29-May 4	June17-22 June 24-29 July 1-6 July 8-13 July15-20 July 22-27	Sept. 9-14 Sept. 16-21 Sept. 23-28 Sept. 30-Oct. 5 Oct. 7-12 Oct. 14-19	Dec. 9-14 Dec. 16- 21 Dec. 30 -Jan 4, '91

SPACE CAMP • FLORIDA

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RED WEEKS (Sunday-Friday;	5 Days)	BLUE WEEKS	Monday; 5 Days)	
	July 8-13 July 15-20 July 22-27 July 29-Aug. 3 Aug. 5-10 Aug. 12-17 Aug. 19-24 Aug. 26-31 Sept. 2-7 Sept. 9-14 Sept. 16-21 Sept. 23-28 Sept. 30-Oct. 5 Oct. 7-12 Oct. 14-19 Oct. 21-26 Oct. 28-Nov. 2	Mar. 7-12 Mar. 14-19 Mar. 21-26 Mar. 28-April 2 April 4-9 April 1-16 April 25-30 May 2-7 May 9-14 May 16-21 May 23-28 May30-June 4 June 6-11 June 13-18 June 20-25 June 27-July 2 July 4-9	July 11-16 July 18-23 July 25-30 Aug. 1-6 Aug. 8-13 Aug. 15-20 Aug. 22-27 Aug. 22-Sept. 3 Sept. 5-10 Sept. 12-17 Sept. 19-24 Sept. 26-Oct. 1	×

AVIATION CHALLENGE = ALABAMA

(Sunday-Frid	ay; 5 Days)		
June 3-8	July 1-6	July 29-Aug. 3	Aug. 26-31
June 10-15	July 8-13	Aug. 5-10	Sept. 2-7
June 17-22	July 15-20	Aug. 12-17	
June 24-29	July 22-27	Aug. 19-24	

SPACE ACADEMY LEVEL II ALABAMA

(Saturday-Satu	rday; 8 Days)		
Feb. 10-17	April 28-May 5	July 14-21	Sept. 29-Oct. 6
Feb. 17-24	May 5-12	July 21-28	Oct. 6-13
Feb. 24-Mar. 3	May 12-19	July 28-Aug. 4	Oct. 13-20
Mar. 3-10	May 19-26	Aug. 4-11	Oct. 20-27
Mar. 10-17	May 26-June 2	Aug. 11-18	Oct. 27-Nov. 3
Mar. 17-24	Juñe 2-9	Aug. 18-25	Nov. 3-10
Mar. 24-31	June 9-16	Aug. 25-Sept. 1	Nov. 10-17
Mar. 31-April 7	June 16-23	Sept. 1-8	Nov. 17-24
April 7-14	June 23-30	Sept. 8-15	Nov. 24-Dec. 1
April 14-21	June 30-July 7	Sept. 15-22	Dec. 1-8
April 21-28	July 7-14	Sept. 22-29	Dec. 8-15

Reservation agents are available seven days a week until 7:30 p.m. Central Time. NOTE: Easter is April 15, 1990. Labor Day is Sept. 3, 1990. Thanksgiving is Nov. 22, 1990.

HOW TO REGISTER

Registrants may use a credit card to reserve a specific session by phone, and should forward the completed application by mail. Phone toll-free to the Reservation Center for assistance at

1-800-63 SPACE

We accept Visa, MasterCard and the American Express Card. If you register by phone, PLEASE indicate this on the printed application you mail later to insure your credit card will not be charged twice. NOTE: Your account will be billed upon reservation.

Registration may also be made by mailing the completed application with appropriate choices of date (pending availability) with a check or money order payable to "The Space and Rocket Center." You will receive a printed Confirmation Notice of your registration, a Transportation Form for you to complete and return should your arrival be other than by car, and a **HEALTH FORM WHICH MUST BE COMPLETED** and returned prior to arrival at SPACE CAMP. Acceptance to the program is contingent upon receipt of these forms and completion of the Health Form to SPACE CAMP's satisfaction.

An alternate method of registration is completing the application form with the appropriate credit card information indicated and sending by FAX to number 205-837-6137.

SAVE \$50 WITH A FRIEND. SPACE CAMP trainees who enroll at the same time as a friend for the same session, in most months of the spring, can reduce their enrollment fee by \$50 each. Sessions near Easter do not apply. Both reservations must be made at the same time, either by mail or phone. Check the "Buddy Deduction" on the registration form and deduct \$50 from the tuition. A limited number of deductions are available per session. Ask the reservation agent for details.Available only for SPACE CAMP sessions.

DATE CHANGE FEE. You are entitled to make a change of your session date once with no charge. Any transfer afterward is subject to a \$25 charge per session change. If you transfer from one year to another, you are subject to a \$50 transfer fee at the time of transfer.

PROGRAM	FEBMAY	JUNE-AUG.	SEPTDEC
SPACE CAMP-Alabama	\$450	\$550	\$425
SPACE CAMP-Florida	\$450	\$550	\$425
SPACE ACADEMY Level I	\$500	\$600	\$475
AVIATION CHALLENGE	\$650	\$650	\$650
SPACE ACADEMY Level II	\$675	\$675	\$675
Adult SPACE ACADEMY			\$450
TEACHERS (FebAug.)	\$750	\$750	

PLEASE NOTE. Keep this booklet until you leave home to answer your questions about transportation, items to bring, graduation, etc.

"The idea of Space Camp originated with the rocket pioneer Wernher von Braun who envisioned a program that would allow young people to become involved in science as Little League, for example, helps build interest in baseball." The New York Times "SPACE CAMP was a wonderful experience for our son. He said it was the best week of his life. We were pleased with every part of camp."

Barbara Gibson Carlsbad, NM **WAITING LISTS.** If the session of your choice is filled, we can place you on the waiting list for available openings. You must pay full fee for the session at the time you register for the waiting list. Waiting list reservations only are refunded at 100% if you choose to cancel or no openings come available. Refund is made according to the method of payment used to make the reservation.

GIFT CERTIFICATES for all programs are available and suitable for presentation for Christmas, birthdays and other special occasions.

REFUNDS. Should it become necessary to cancel registration, a portion of the tuition is refunded on the following schedule:

- Refunds will be issued in the same manner in which payment was made.
- 80 percent of the fee is returned if written notice is received four weeks or more prior to the session start
- 75 percent returned upon written notice received three weeks prior
- 50 percent returned upon written notice received two weeks prior
- Cancellation received one week or less before the opening day forfeits the tuition. Trainees who must leave Camp or Academy during training for emergency reasons or illness will be invited to return at a future date at no additional tuition. Trainees who leave for other reasons (homesickness, etc.) will receive no refund.

Apollo 11 Astronaut Buzz Aldrin visits on 20th anniversary of his historic mission.



SCHOOLS GROUP RATES. Schools may receive special group rates for sending more than 10 persons to attend sessions in Alabama and Florida prior to June, except during the Easter period.

A 50 percent deposit is required 60 days after the reservation is made, with final payment due 60 days prior to arrival. Two weeks following the reservation, the coordinator will receive a confirmation notice with deadlines for the return of application/health forms and payment schedule. Contact the Group Reservations Office at 1-800-63 SPACE for printed information on policies and procedures.

TRAVEL AGENTS. Travel agents and international groups contact Marketing Department at 1-800-63 SPACE for group arrangements.

INFORMATION

WHAT TO BRING. The average spring and fall temperature is 65 degrees and the average summer temperature is 88 degrees.

shirts/blouses

blue jeans

soap

notebook/pen

suntan lotion

jacket (spring)

wristwatch

raincoat

PACK IN A CLOTH BAG! Don't overpack!

- copy of health form
- any needed medication
- walking and/or tennis shoes sleepwear
- toothbrush and toothpaste swimwear
- comb/brush
- shorts (in good taste)
- combination padlock for locker (Alabama only)

MONEY TRANSFER. Trainees who need emergency funds may receive cash advances. Parent/guardian may use a credit card to provide cash to the trainee. For the Alabama program, phone 205-721-7185. For the Florida program, phone 407-267-3184. We STRONGLY recommend that trainees bring funds in travelers checks only. SPACE CAMP provides a deposit service, but cannot accept liability for items or cash not in our possession.

Trainees may purchase "Shuttle Bucks" upon arrival which are a form of travelers checks that may be cashed for merchandise only by the purchaser. After 3 weeks, they are reimbursable if lost or stolen.

HOUSING IN ALABAMA is provided in the U. S. SPACE CAMP and ACADEMY Space Habitat complex. Trainees are housed in the complex according to program needs.

HOUSING IN FLORIDA is conveniently located at the Howard Johnson Lodge in Titusville on U.S. 1 north of Highway 405. Trainees stay in a private wing of the motel with its own security. Additional rooms are available for parents.

The following items are furnished at each location:

- 2 towels2 sheets1 pillow
- 1 bath cloth
 1 blanket
- 1 pillowcase

MEALS in Alabama are served in the Training Center cafeteria which is also open to the public. Meals in Florida are served at a cafeteria near the lodging facility. All meals are provided from afternoon arrival through graduation. Snacks are available at several locations during break periods. Soft drinks, crackers and other items are stocked in vending machines at various sites.

"I was on the Boeing team. I wrote the president of Boeing a letter to thank him for

- sponsoring Space
- Camp and he
- actually wrote me
- back. I think I'd
- like to be an
- enaineer for
- Boeing some
- dav."
- Darien Landis Portland, OR

the movie, did no justice to the camp: SPACE CAMP was better. Thank you for making this a most memorable education experience for both of our kids." Ron Riley

"SpaceCamp,

Naperville, IL

"Every step in a mission is authentic. Real NASA equipment adds to the sense of actual space travel."

Boys' Life

HEALTH CARE. The health and safety of our trainees is a matter of major concern to us. Nurses staff our sick bay 24 hours a day and a physician is on 24 hour call. For accident or illness requiring outside treatment or special prompt care for your child, the health information sheet which will be included in your confirmation package must be completed before arrival. Please make extra copies of your health form to keep and also bring one with you.

Some of the simulators used by SPACE CAMP/SPACE ACADEMY simulate the various aspects of spaceflight and may cause motion sickness for those prone to motion sickness. **Some training devices have maximum and minimum height and weight restrictions**

Trainees use an Apple computer. with maximum weight of 260 lbs. Participation in the simulator activities is not a prerequisite for graduation. Also, for safety or maintenance reasons, simulators used by the trainees may vary.

> **RESPONSIBILITY.** Replacement or repair costs of furniture, supplies or other materials will be charged to parents/guardians of trainees associated with any such acts, at the direction of the director. NOTE: All trainees are responsible for their belongings. SPACE CAMP assumes NO liability for lost or stolen items.

PHONE CALLS can not be received by participants on a routine basis since they are involved in many areas of the facilities and tour other space-related centers in the area. Pay phones are located throughout the facilities for use by trainees during break times each day.

In case of an emergency, call the Huntsville switchboard 205-837-3400 or SPACE CAMP Duty Office 205-721-7185 at any hour. In case of an emergency regarding a Florida trainee, the daytime number is 407-267-3184. The evening number is 407-267-7900.

"It was the best time of my life!"

Michael Bruno Naperville, IL" **MAIL** can be received at the following address:

IN ALABAMA: Name, Date Registered SPACE CAMP (or SPACE ACADEMY) HABITAT One Tranquility Base Huntsville, AL 35807 IN FLORIDA: Name, Date Registered U. S. SPACE CAMP 6225 Vectorspace Blvd. Titusville, FL 32780

Please allow four to five days for mail delivery from more than 100 miles away. Also, for timely delivery, please put the date of the session for which the person is registered on the envelope.

STAYING OVER? Consult the

appropriate section in this booklet for your program's start and conclusion times. Oftentimes, airline and bus schedules require trainees to arrive early or leave late. Counselor supervision, meals and lodging are available at the following rate:

- All early-arrival or late-departure charges are payable four weeks before arrival.
- \$60 fee for overnight accommodations.

SCOUTS EARN MERIT BADGE!

Girl Scouts and Boy Scouts can complete the requirements of the Aerospace or Space Exploration Merit Badge during SPACE CAMP. Scouts must bring their blue card for SPACE CAMP staff to sign.

SCHOLARSHIPS. Scholarships

funded by corporations and individuals are matched by The Space and Rocket Center to make the programs in Alabama and Florida available to as many youngsters as possible.

Students choose the categories in which they wish to complete: Scholastic Achievement, Ethnic Background or Financial Need.

The competition is based on short essays submitted by applicants. To receive topics and entry information, write (do not phone) Scholarship Office, U. S. SPACE CAMP, The Space and Rocket Center, One Tranquility Base, Huntsville, AL 35807.

Because sessions fill quickly, you might wish to consider registering while pursuing a scholarship. Should you receive a scholarship, your tuition will be refunded. (A number of youngsters who waited last year to learn if they received a scholarship before attempting to enroll were unable to attend because sessions were filled.)

Deadlines for receipt of completed essays are Jan. 1 and June 1. Winners will be notified by the end of the months. Entries are not carried forward to the next competition. Scholarship recipients will attend during the school year. "When we so often hear negative things about our country, it made us proud to see the positive things that are going on at SPACE CAMP. Our boys truly enjoyed the experience."

Susan Sanders Somers, NY

TRANSPORATATION

AIRLINE RESERVATIONS. For the first time, airline tickets can be secured through a toll-free phone call at the same time reservations are made for attending sessions. One free call does it all.

Established at the request of parents,

- the airlines desk opened November 1,
- 1989 within the Reservations Office.

Super-saver air fares are available from major carriers, plus you will realize additional savings only if you book through the Reservations Office's Airlines Desk. For example, the Unaccompanied Minor Travel fee, normally charged by all airlines, is waived by some airlines by special arrangement with SPACE CAMP's Airlines Desk.

1-800-63 SPACE

To receive the lowest airline rates, make your session reservation by calling toll-free and staying on the line to be transferred to the Airlines Desk. Should the Airlines Desk agents be busy with other customers, you will receive a return telephone call shortly to handle your airline reservation needs.



Your airline ticket will be mailed to you at the appropriate time by the Airlines Desk.

IMPORTANT. A SPACE CAMP staff member will be at the airport or bus station to meet trainees who are not arriving by automobile. If you will complete the TRANSPORTA-TION FORM that you receive with your Confirmation Notice and return it no later than FOUR WEEKS prior to scheduled arrival, it will ensure assistance and pick up. Verification of transportation is mailed four weeks prior to arrival if you have notified SPACE CAMP of your plans.

If you have a transportation problem enroute or upon arrival, call the SPACE CAMP office at 205-837-3400 in Alabama or 407-267-3184 in Florida, identify yourself and state your present location and problem.

DO NOT LEAVE THE AIRPORT or BUS TERMINAL. Your problem will be resolved.

If we have not received the Transportation Form TWO WEEKS prior to the program date, we will assume you are arriving by car and, therefore, we will not have SPACE CAMP personnel scheduled to meet your plane or bus.

If there is any change in your transportation arrangements or if the method of transportation changes from that indicated on your application, you must notify the SPACE CAMP transportation office.

VIDEOS & FLIGHTSUITS

TEAM VIDEOTAPE. A videotape of activities during your week at SPACE CAMP or SPACE ACADEMY Level I is available by prior arrangement on a limited, first-come basis for \$40. This tape, which **must be ordered when making reservations**, shows you and your team with team members being shown about 3 minutes each.

Reserve your tape when making the session reservation by phone and/ or complete the appropriate section of the Application Form and forward by mail. Persons who are on a video team will be taped several times during their training activities. About six weeks following graduation, you will receive a 40-minute VHS Tape. Video orders are accepted UNTIL one week prior to the start of the session. Videotapes are not available for AVIATION CHALLENGE, ACADEMY Level II and ADULT trainees. Videotapes and flightsuits are included in tuition cost for the Teacher Program.

IMPORTANT. Coming with a friend? If you order a videotape AND express a teammate preference, the friend will be on the same video tape ONLY if he/she also reserves a tape. A request for a video will override teammate preference.

Should we not be able to accommodate your video order, you will receive a refund. (Available in Alabama and Florida).

FLIGHTSUITS. Official flightsuits with emblems and the American flag are available either by pre-payment or purchase after arrival for \$70. Our flightsuits are duplicated from the ones the NASA astronauts wear. Should you wish to pay in advance, complete the appropriate space on the Registration Form and add \$70 to the total figure for your check or credit card payment. Trainees will be measured by Gift Shop personnel for the appropriate size after arrival.

SPACE GEAR AVAILABLE BY MAIL. You can order Official SPACE GEAR clothing, mission insignias, books, videos and other items by mail. To receive a colorful Gift Shop catalog, call 1-800-533-7281 or in Alabama 1-800-572-7234.

GIFT SHOPS are located on site in Alabama and Florida for participants to visit during breaks and after graduation. A large selection of official Space Gear clothing, NASA mission insignias, books, postcards and spacecraft models are available for purchase or mail order. (A survey of campers indicates they spend an average of \$60 on gifts, souvenirs, books and snacks.) Also available on site in Alabama is FUJI one hour film processing. "The video was great. Thank you very much for doing it. It helps to explain to parents who don't have the knowledge of Space Camp what our kids do." Sarah Bruce Tulsa. OK





THE SPACE & ROCKET CENTER

The Space and Rocket Center, which established U.S. SPACE CAMP in 1982, is America's largest showcase of space technology and is widely noted for its "learn by doing" exhibits related to astronaut training and rocket technology.

"The largest space museum in the world has an unparalled collection of spacecraft. models, artifacts and working simulators relating to America's space program."

The Smithsonian Guide to Historic America

The Museum includes America's only full-scale Space Shuttle model, Wally Schirra's Mercury spacecraft, the Apollo 16 spacecraft returned from lunar orbit and the full-scale working model of Skylab. Also featured are the rockets developed in Huntsville that launched America's first satellite; the first astronaut, Alan Shepard; seven crews of Apollo astronauts to the Moon; and Space Shuttles.

The Spacedome Theater has a 67 foot domed screen and state-ofthe-art sound system which will take you for a ride to the stars through the eyes of the Space Shuttle astronauts. As Alabama's largest tourist attraction, The Center provides the only public access to NASA's Marshall Space Flight Center through bus tours.

OTHER ATTRACTIONS. Seven miles from the Space Center is the Twickenham Historic District, with many homes dating from the 1820's and 1830's, and comprising Alabama's largest Antebellum district. Constitution Hall Park is a half-block "living village" of reconstructed buildings where Alabama became a state in 1819. The Huntsville Depot is a transportation museum dating from the Civil War. The Huntsville Museum of Art adjoins the Von Braun Civic Center, named for the city's leading rocket pioneer who inspired U.S. SPACE CAMP. Overlooking the city from atop Monte Sano mountain is the Burritt Museum which features items of local interest.

ALABAMA GRADUATION

Family members are invited to participate in Huntsville graduation activities at the conclusion of the session. You'll want to attend the morning program to see your youngster graduate and enjoy a leisurely tour of The Space and Rocket Center attractions afterward.

You'll receive two free tickets for the Space Center's Museum, Spacedome Theater and NASA Bus Tour. Tickets for other family members will be available for a fee.

While in Huntsville, stay at the MARRIOTT on the grounds of The Space and Rocket Center. Call the hotel at 205-830-2222 and ask about availability of the special Space Center family rates for Friday, Saturday and Sunday. Ask about specials for other nights. The hotel offers comfortable quest rooms overlooking the Space Center, indoor-outdoor swimming pool, family dining in Seasons restaurant and other amenities. Marriott

"If you can't wait to travel aboard the Space Shuttle, the next best thing is spending a day among the simulators at The Space & Rocket Center in northern Alabama."

The New York Times

Decatur has its popular wave pool at Point Mallard along the Tennessee River. Ave Maria Grotto in Cullman is a collection of models of religious shrines built by a monk. Ivy Green in Florence is the childhood home of Helen Keller and the basis of the play, "The Miracle Worker". Boaz features shopping centers of factory-owned outlet stores. The quaint town of Lynchburg, Tenn. is the home of Jack Daniels distillery. You'll receive other tour and travel opportunities by mail following registration.



Mileage from Huntsville to Major Cities Atlanta: 196 Gatlinburg: 256 Chattanooga: 105 Birmingham: 96 Nashville: 110 Knoxville: 216





"This is first class. We're proud of these young people here and how this program is preparing them for their futures."

Alan B. Shepard First American in Space



U.S. ASTRONAUT HALL OF FAMETM

Visit the U.S. Astronaut Hall of Fame at the entrance to the NASA-Kennedy Space Center and enter the world of the astronauts in the shadow of the launch towers where they left Earth!

Watch the emotion on John Glenn's face as he becomes the first American to circle the planet. Listen to Alan Shepard describe the forces of gravity as his rocket thrusts him to the edge of space. Feel the universal pride as you overhear conversations between mission control and orbiting astronauts.

Never before have astronauts told their own stories - in their own words - as they lived through the dramatic flights that redefined

the word "hero."

Examine the actual space suit that Gus Grissom wore during his Mercury flight. Hear Wally Schirra talk about his record Mercury, Gemini and Apollo missions.

Scott Carpenter discusses the process of astronaut selection and the rigors of astronaut training. See Deke Slayton fly in space with cosmonauts and hear Gordon Cooper describe his record-setting flights. And smile at the humor that surfaced amidst their trying ordeal of unprecedented training and human endurance. You'll never forget your trip into space with the first men who lived it.

You'll tour the Astronaut Hall of Fame during your visit to the U.S.

SPACE CAMP campus near the Kennedy Space Center. And you'll want to visit KSC's Spaceport USA® nearby.

Open 7 days a week from 9 a.m. to 6 p.m. Phone 407-267-3184. Admissions collected by the non-profit Mercury Seven Foundation and U.S. SPACE CAMP Foundation benefit science scholarships.

GRADUATION

Plan now to bring the family and attend the graduation exercises at 9 a.m. in the new SPACE CAMP Training Center adjacent to the U.S. Astronaut Hall of Fame. Afterwards, tour the Astronaut Hall of Fame as guests of America's original astronauts at no charge and visit the SPACE CAMP gift shop for souvenirs of your space adventure. Families may also visit the nearby Kennedy Space



Center's Spaceport USA and tour NASA facilities.

Central Florida is the nation's top family vacation destination, with many popular attractions close to the Space Coast beaches. We suggest that families visiting the Orlando-Disney World area stay at the Holiday Inn Maingate East in Kissimmee (phone 1-800-532-2309). Those planning to stay overnight near trainees in Titusville may contact the Howard Johnson Lodge at 407-267-7900.



ASA recently selected the Alabama Space Grant Consortium to participate in the newly established National Space Grant College and University Fellowship Program. The Consortium consists of five PhD granting institutions in Alabama: The University of Alabama in Huntsville, The University of Alabama, The University of Alabama in Birmingham, Alabama A & M University, and Auburn University. The Space and Rocket Center is an affiliate of the Alabama Space Grant Consortium.





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