THE JOHN L. SANTIKOS MICRONAUT CENTER

ASSOCIATION FOR LEARNING ENVIRONMENTS
2023 PLANNING AND DESIGN AWARDS

EXECUTIVE SUMMARY

The John L. Santikos Micronaut Center is the first-of-its-kind facility to run the Micronaut Program. The program, which is designed for students in PreK - 4th grade, is modeled after the Challenger Learning Center program which offers next generation Science, Technology, Engineering, Arts, and Math (STEAM) education to students. Both programs carry on the legacy left behind by the Space Shuttle Challenger/STS-51LL "Teacher in Space" mission.

The newly constructed Micronaut Center is part of San Antonio College's Scobee Education Center which aims to inspire students of all ages to learn and use problem-solving skills, teamwork, communication, and applied math in hands-on and minds-on experiential education.

Exhibit Concepts had the privilege to design, fabricate and install the interior classroom space. O'Connell Robertson, out of Austin, Texas, served as the architect on the job. J.T. Vaughn Construction, in Houston, Texas, served as the general contractor for the project.

The Micronaut Center held a soft opening in April 2023 with the official grand opening taking place on May 19, 2023.

01 BIOLOGY STATION

02 ENGINEERING STATION

03 MIXED MEDIA STATION

04 WATER WONDERS STATION

05 GEOLOGY STATION

06 GEOGRAPHY STATION

07 ENERGY STATION

08 PHYSICAL WORLD STATION

09 TRAINING STATION

10 SUN, MOON EARTH STATION

11 COMMUNICATION STATION

12 WEATHER STATION

BIRD'S EYE VIEW

OVERVIEW

- LOCATION:
  - San Antonio, Texas
- ENROLLMENT
  - 1,400+ annually
  - Serving South Texas
- SIZE: ≈21,000 ft²
  - Including SAC Early Childhood Center
- BUDGET: ≈$1,000,000

- "Cradle-to-College" STEAM pathway
- Curriculum meets Texas Essential Knowledge and Skills Standards
- 12 STEAM Learning Stations
  - Engineering
  - Energy
  - Geography
  - Geology
  - Weather
  - Physical World
  - Water
  - Sun, Earth, Moon
  - Biology
  - Communications
  - Mixed Media
  - Training Center

QUICK FACTS

INNOVATING EDUCATION

The Micronaut Program at the Scobee Education Center provides young children age 4 – 9 with an authentic STEAM experience as they travel through a simulated mission to the International Space Station. The mission models “Best Practices” in early childhood education that capitalizes on the children's natural curiosities to explore and learn about the world they are a part of. By making STEAM education a focus of a child’s early education, the Micronaut Center changes the world one class at a time. The mission of the Micronaut Center is to instill a lifelong passion of learning and care for our planet Earth.

By inspiring and educating young children the Micronaut Center contributes to a national goal of a scientifically literate society.

BEYOND A CLASSROOM

The Micronaut Program consists of three components: Teacher Education, Parent Education and the immersive simulated space experience for young children. Prior to each mission, educators are provided with a day-long training program at the Micronaut Center introducing the hands-on activities that may not be a part of a traditional early childhood classroom. Each specially designed activity is aligned with the Texas Essential Knowledge and Skills (TEKS) Standards and best practices in early childhood education. In a separate application, parents are provided with STEAM at-home activities that are designed to reinforce the Micronaut Center activities provided to the teachers. Together, teachers, parents and students create a unit that culminates with a comprehensive Micronaut experience.

"When the kids come in here, because of the investment and that creative process, they come in here and they lose track of where they are in reality. They can suspend reality and be in space for 90 minutes."

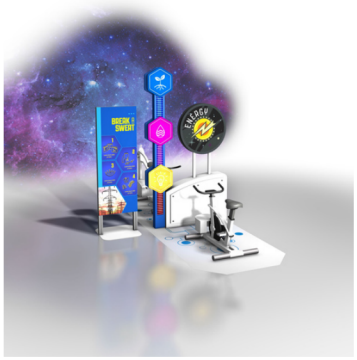
Rick Varner, Center Director

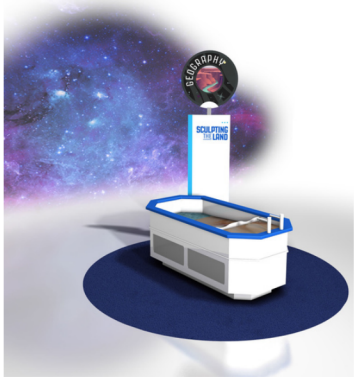
EXPANDING OFFERINGS

The John L. Santikos Micronaut Center was created out of a need to expand Scobee Education Center's space-focused STEAM education to younger generations. Prior to construction of the Micronaut Center, educators and site coordinators were forced to adapt and retrofit the pre-existing Challenger Learning Center to cater to the needs of younger students and the Micronaut Program. In utilizing the pre-existing shared space for both the Challenger and Micronaut programs, the Scobee Education Center saw a reduction in available programming space. To remedy the situation, San Antonio College chose to construct the Micronaut Center in conjunction with the new Early Childhood Center. Together, the large facility adds more than 21,000 square feet of space to the Scobee Education Center campus. The new build opportunity allowed the project to be built to the exact standards needed to outfit the next-generation Micronaut Center with its tech-heavy engagements.

"There's not going to be another area in San Antonio, or maybe even in Texas, or even in the nation that you're going to get space education and STEAM education with high-level, hands-on activities for our youngest students in elementary."

Brittany Garcia, Academic Program Specialist





LEARNING STATIONS

Learning STATIONS

- Engineering
  - Starting with a basic design template, Micronauts modify a "rover" and test how far it rolls. The Micronauts make drawings and write in journals to record results.
- Energy
  - Micronauts investigate transforming mechanical energy into electrical energy with bicycles and handcycles.
- Geography
  - Micronauts learn economics, develop geographical awareness, and crucial problem-solving and decision-making skills while working independently and in teams.
- Geology
  - Micronauts observe, describe, and sort rocks by size, shape, color, and texture; as well as physical properties of natural sources of water; and give examples of ways rocks, soil, and water are beneficial to Earth.
- Weather
  - Micronauts record weather and work to recognize patterns and how the atmosphere effects our lives.
- Physical World
  - Micronauts test a variety of objects for their reactions to forces and the resulting motions. In the process of these tests, Micronauts use their senses and tools to record measurements in their journals.
- Water
  - Micronauts identify the physical properties of water, such as flow and pressure and learn that potable water is necessary for life on the space station.
- Sun, Earth, Moon
  - The Micronauts will use a model representing the movements of the earth and moon relative to light from the sun to demonstrate the causes of daytime and nighttime. The phases of the moon are observed and drawn in student journals.
- Biology
  - Using experiences with nature, Micronauts develop criteria for distinguishing between living and nonliving organisms.
- Communications
  - Micronauts express themselves clearly to provide announcements for a simulated space station activity.
- Mixed Media
  - Micronauts use their creativity and imagination to develop new and original ideas, explore the properties of matter, and document what they know and enjoy.
- Training Center
  - Micronauts participate in healthy practices related to exercise and routines. Micronauts use tools to measure height and weight and listen to their own heartbeat. Micronauts also exercise to train like an astronaut using gross motor skills.


Santikos
Micronaut
Center


WHAT DO YOU NOTICE?
THE TANK
THE SCIENCE
WHAT IS ENERGY?


WATER WONDERS
MARAVILLAS DEL AGUA
DIRTY WATER
SLIDE TO OPEN
ENGLISH
ESPAÑOL


COMMUNICATIONS
MISSION CONTROL
SAN ANTONIO, TEXAS


WEATHER
TIEMPO
HOW DOES WEATHER AFFECT MY DAILY LIFE?
THE WEATHER
SAN ANTONIO, TEXAS


WHAT IS ENERGY?
THE POWER
WHAT FORCES SHAPE THE EARTH?
THE BOX
ENERGY POD 2
POD 1
POD 2


GEOLOGY
GEOLOGÍA
WHAT DO ROCKS AND MINERALS TELL US?
¿qué nos dicen las rocas y los minerales sobre la Tierra?


A105


GEOGRAPHY
GEOGRAFÍA
WHAT FORCES SHAPE THE EARTH?
¿qué fuerzas dan forma a la tierra?

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SCOBEE EDUCATION CENTER
SAN ANTONIO COLLEGE