

OCTOBER
2024

News from the field of the premiere DoD Youth STEAM education program.

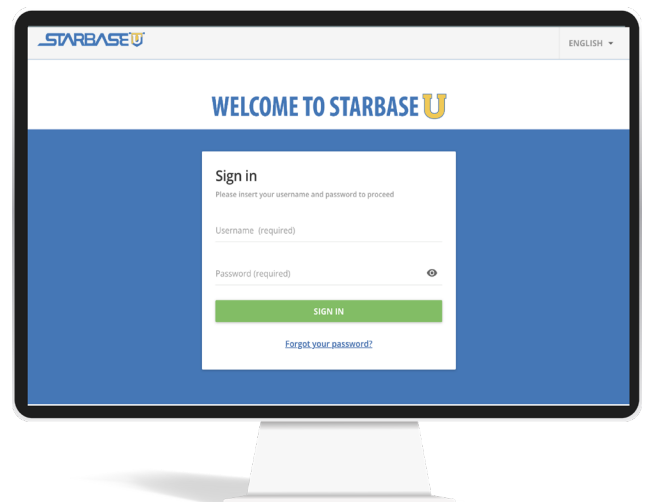
First STARBASE “Center of Excellence” Status Awarded to Peach State STARBASE and STARBASE Minnesota – St Paul

Peach State STARBASE and STARBASE Minnesota (MN) – St Paul have been selected as the first recipients of STARBASE “Center of Excellence” (COE), Level III status.

Last year, the concept of a Level III High Performing STARBASE Academy, originally implemented in FY 2018, was revised to better identify and use best practices that would be beneficial to the entire DoD STARBASE program. This concept adheres to the requirements for Level III “A High Performing Location” as defined in section 6.4 of DoDI 1025.07, January 15, 2021.

The Operational Evaluation (OE) Team and/or Resource Management (RM) Team identifies potential COE sites through observations of policy, procedures, standard practices, operational and program enhancements, higher-level problem-solving techniques, time-sensitive improvements, and/or efficiencies in operations used in an activity, or set of activities, that significantly advances the DoD STARBASE program vision and mission. Nominations are submitted to OASD/M&RA for review and approval. All COE recipients must agree to mentor and assist other STARBASE programs in their particular areas of expertise, as requested.

Congratulations go to Peach State STARBASE and STARBASE Minnesota (MN) – St Paul as official STARBASE “Centers of Excellence.” All STARBASE employees can visit the STARBASE-U course *DoD STARBASE Centers of Excellence* to see what it’s all about, read more about the work of these programs, and learn how you can utilize their expertise!



“All sorts of things can happen when you’re open to new ideas and playing around with things.”-- Stephanie Kwolek, the chemist who invented Kevlar

Summer 2024 at STARBASE

Blast Off into Learning: STARBASE Maxwell's Summer STEM Camps!



STARBASE Maxwell's Summer STEM Camps were an unforgettable journey into the world of STEM, where curiosity meets creativity, and learning was an adventure via our astounding courses of instruction. The STARBASE Maxwell Instructor Team did an amazing job leading the STEM learning journey.

The Programs supplemental summer camps offered a free of charge and exciting, hands-on experience designed to ignite a passion for Science, Technology, Engineering, and Mathematics (STEM) in young minds. Through engaging activities and interactive projects, over 300 campers explored the wonders of STEM in a fun, enlightening, and supportive environment during the STARBASE Reality, Sphero Robotics, and Engineering Design Camps!!

STARBASE Reality

During its inaugural year at STARBASE Maxwell, the STARBASE Reality course engaged students up to age 14 with advanced technology. Participants used Virtual Reality (VR) for space missions and explored the moon and Earth, while Augmented Reality (AR) dove into NASA's history. They also used ChatGPT to develop useful products for Martian Colonial life and create innovative marketing campaigns. Teams competed in "STARBASE Shark Tank," presenting their ideas, with the winning team receiving special 3D printed prizes.

Sphero Robotics Camp

This 4-day adventure into the world of robotics, featured the dynamic Sphero robots. Campers gained hands-on coding experience using iPads to communicate with their Sphero via Bluetooth. Each day presented exciting coding activities, from Picasso painting to the strategic game of Sharks and Minnows, and the mechanical wonders of Turing Tumble.

Highlights include the aMAZEing race, where campers programmed their robots to navigate a maze, and the thrilling Battle Bot event on the final day, where they pop competitor balloons while protecting their own. The mission is always to engage in fun, hands-on activities to learn about robotics while fostering new friendships!

Engineering Design Camp

Experience an exciting journey into Civil, Structural, and Mechanical Engineering at our vibrant camp! With a theme park focus, campers utilize the Engineering Design Process to design a safe carousel, create earthquake resistant buildings, and build a water filtration system. This camp equipped students with the essential engineering skills while teaching that failure is just a stepping stone to success.



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STARBASE Robins Collaborates with South Africa's Kliptown Youth Program for Summer Academy

In STEM education and the STEM workforce, partnerships and collaboration are important in expanding opportunities for students to learn and develop. An example of the power of collaboration is the STARBASE Robins Engineeringship Summer Academy, which brought together local middle school students and students from the Kliptown Youth Program in Johannesburg, South Africa. This international collaboration encourages the exchange of ideas, culture, and knowledge of the world and enriches the educational experience for all participants.

In today's interconnected world, networks have become a powerful tool to drive innovation and growth. "We were very excited about our partnership with the Kliptown Youth Program," said Wesley Fondal, Jr., STARBASE Robins Director. "By bringing together students from all over the world, we created a unique learning environment that promoted creativity, cultural understanding, and mutual respect. We aimed to inspire the next generation of engineers, scientists, and global leaders."

Known for its commitment to providing opportunities for learning and personal development for the youth of Kliptown, Kliptown Youth Project is delighted with this partnership. "This partnership was a testament to the strength of international educational collaboration," said Jane Moepi, Kliptown's IT Coordinator. "Our students were excited to learn, share, and grow through this unique opportunity at STARBASE Robins."

The STARBASE Robins Exploring Engineeringship Summer Academy, held June 10-14, was a multifaceted program that integrated both in-person and virtual learning experiences for middle school youth from Middle Georgia and Kliptown. The program featured several highlights, including a series of STEM Hands-On Activities and a project-based entrepreneurship program. These sessions included various activities, including 3D modeling, engineering challenges, and presenting ideas for products, services, or apps that can help reduce deforestation or conserve water. Additionally, the program fostered an environment where participants could share their unique cultural perspectives, deepen their appreciation for global diversity, and forge international friendships.



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At the Engineeringship Summer Academy After-Action meeting, Jane Moepi thanked STARBASE Robins for their help and said that Kliptown is committed to working together with them. She highlighted how working together is crucial for making valuable educational changes and moving forward in STEM innovation. Moepi emphasized the importance of working together to make a difference and move forward in STEM education. The primary objective of the program was to foster leadership and entrepreneurial skills, to nurture future community leaders. This endeavor involved the enhancement of problem-solving capabilities, creativity, and enthusiasm among the students.

Through the STARBASE Robins Explore Engineeringship Summer Academy, the power of partnership to drive positive change, a sense of citizenship, and cultural exchange to promote a global love of STEM was demonstrated. STARBASE Robins' partnership with the Kliptown Youth Program created a truly transformative experience that will have a lasting impact on all involved (students and staff).

CSI and Summer Camps in Boise



Boise is known for many exciting things. It's the City of Trees, home of the Idaho Anne Frank Human Rights Memorial, and it is the capital of the great potato state! Adding to the unique list of things that make Boise great is the Idaho STARBASE program. The STARBASE Idaho staff has worked effortlessly to update their supplemental programming offerings to maximize the impact they have in the community.

Summer camp updates now feature hands-on lessons in forensic chemistry, including blood type analysis, blood stain detection, and forensic entomology.

Continuous growth and innovation are hallmarks of DoD STARBASE and STARBASE Idaho continues to exemplify these ideals. The reflective and responsive team continues to give Idaho youth exposure to science, technology, engineering, and math and their applications in real-world careers. These experiences will open the doors of possibility to our youth to build confidence and find a passion for science in many capacities.

DoD STARBASE Supports Marine Corps JROTC Camp with Hands-On STEM Learning

Over the past four summers, DoD STARBASE sites across the country have played a vital role in supporting Marine Corps JROTC camps organized by Mr. Paul Jornet, USMC 1st Sgt (Ret). In July 2024, six DoD STARBASE locations—including Los Alamitos, CA, and the five Kansas sites—teamed up to deliver cutting-edge instruction to MCJROTC cadets attending the Missouri camp. Hosted at the Missouri Military Academy Campus in Mexico, MO, the camp welcomed cadets across the United States and U.S. Territories, with 164 participants engaging in the STARBASE Advanced 3.0 electronics session.

Throughout the week, a dedicated 21-member DoD STARBASE staff guided cadets through a hands-on learning experience with Arduino microprocessing boards and CTC Go Core Kits. The Summer 2024 program introduced key concepts in electronics

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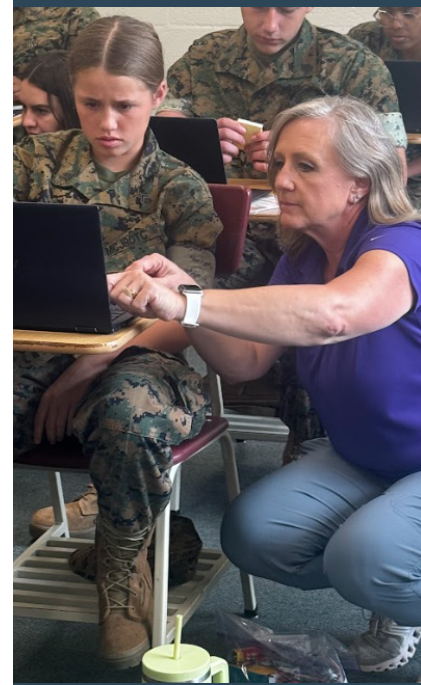
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and coding, with each cadet working on building, programming, and troubleshooting their projects. Using Arduino boards, breadboards, and C++ coding in Arduino software, the cadets brought their projects to life. The course also explored electricity through TinkerCAD and the PhET simulation app, where cadets could design and test virtual circuits before moving on to real components to build and program tabletop games.

As part of the DoD STARBASE mission, this initiative strives to ignite curiosity and excitement in cadets about electronics and the many opportunities within STEM careers. Feedback from cadets was overwhelmingly positive. Alexander Licudan from Guam said, "The STARBASE and CTC Go Project was a really fun experience. The people here were extremely helpful, friendly, and entertaining. I learned a lot about construction, coding, and circuitry."

Ethan Grippi from Arizona shared, "The experience was overall positive, as the kits introduced concepts that I hadn't understood before. The instructors' repeated support helped deepen my understanding of technology and engineering while boosting my confidence. I would gladly continue with the next class in this series."

The DoD STARBASE team thoroughly enjoyed inspiring the next generation of STEM learners and looks forward to our ongoing partnership with MCJROTC in the future. Team Lead Heidi Savage shares, "Having the opportunity to work with the MCJROTC cadets at STARBASE is one of the highlights of my year. Seeing the creativity and tenacity of students from across the globe as they work to build and code projects encourages me with what our future leaders will accomplish. As an educator, my favorite part of the project is watching someone who has never coded or worked with circuitry find success with the projects and feel a sense of pride and accomplishment."



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Abstracts Due

Don't forget that we have an abstract call going on! Abstracts are due back to the SCAG for review by November 18th!

Please submit your proposed abstract to email@dodstarbase.org!

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Bayou State Summer at STARBASE



During the summer of 2024, Bayou State STARBASE extended program services into various communities around the Baton Rouge area by hosting three summer robotics camps. Participants thoroughly enjoyed building and coding the LEGO Spike Prime robots. The camps were filled with fun, laughter, valuable lessons, engaging activities, and exciting challenges that the participants eagerly embraced. By the end of the camp, everyone left as "Robotics Engineers."

In addition to the robotics camps, Bayou State STARBASE had a wonderful opportunity to participate in JAGcation at Southern University and A&M College in Baton Rouge, LA. JAGcation is an annual hands-on experimental summer camp that focuses on various levels of science. All JAGcation participants enjoyed the Sphero robotic activities and challenges that Bayou State STARBASE introduced during the weeklong camp. Bayou State STARBASE understands the importance of connecting with the community and providing services that promote exposure to and education in STEM fields and looks forward to continuing the efforts during the summer of 2025!

Inaugural Summer at STARBASE New Hampshire

STARBASE New Hampshire just completed their first summer in operation! Throughout the four summer camps, the program hosted 68 participants, including 31 military dependents. Summer camps that were conducted this year included:

- » CSI – STARBASE: This camp concentrated on solving a mystery through scientific techniques such as fingerprinting, DNA analysis, and powder examination.
- » Coding and Robotics: During the week, students built and programmed LEGO Spike robots and acquired computer coding skills, which enabled them to create, and 3D print various projects.
- » The World Around Us and Energy: Students explored the concepts of wind, solar energy, and air through various activities during the camp, such as utilizing a solar oven, making ice cream, and participating in other engaging projects.
- » Engineering: Students engaged in a variety of activities, including utilizing CAD (Computer-Aided Design) software, constructing bridges, coding, and designing Rube Goldberg machines.



STARBASE Guam Meets with Future Educators

The STARBASE Guam team conducted professional development in September at the University of Guam with aspiring primary-level educators to introduce the Engineering Design Process (EDP) and demonstrate how it can be applied in the classroom. The training for 20 up-and-coming teachers began with an ice breaker activity surrounding the problem of downed telecommunication lines as a result of a typhoon. In a simulation, paired students stacked cups to test their ability to communicate and work together to build the tallest cell phone tower as one person had their eyes closed and the other guided them. Participants were given a 3-minute time limit to stack their cups and measure the height of their finished product to see which team constructed the tallest structure. The simulation allowed the class to see the connection of Science, Technology, Engineering, and Math as they took on the role of communication specialists by connecting natural disasters, measurement, and everyday technology to the real world.

Once the tone of excitement was set, the class was introduced to the EDP to recognize the process and identify how it could be embedded in their curricular and instructional practices. Students were provided with worksheets and infographics to record how they participated in each step of the EDP. The accompanying activity asked participants to build a contraption with a localized problem as they put on their hard hats and became expert builders. Frustrated, excited, stressed, and focused, teams of four worked together to move a simple block in a complicated manner. The contraption was chosen not only as a way to effectively showcase the EDP, but to remove the stigma of STEM and that the associated activities do not require expensive equipment for their students to be engaged and how practical, everyday items can have an equally effective impact. The STARBASE Guam team looks forward to their endeavors as teachers and all the learning, growing, and memories they will instill in the island's youth.

The STARBASE Guam team would like to thank University of Guam's Dean of School of Education Dr. Alicia Aguon, Associate Professor, Elementary Education Dr. Jackysha Green, Association Professor Elementary Education Dr. Zena Sablan, and the University of Guam School of Education for their partnership and affording us the opportunity to share the world of STARBASE and STEM with their students.



A Call for Participation

Throughout the year, this newsletter will continue to spotlight the achievements, partnerships, and tips of the participants of the DoD STARBASE program. Please share your achievements, success stories, and helpful tips with us at email@dodstarbase.org.