

**NASA Marshall Space Flight Center
FY 2009 Visitor Information Center Annual Report**

SPACE CAMP Mission Center Complex Upgrades

Administered by U.S. Space & Rocket Center (USSRC)

Type of Agreement: Cooperative Agreement

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256-721-7197

PROJECT DESCRIPTION:

The SPACE CAMP focus has been on low earth orbit activities and the International Space Station for many years, and that focus is the core of the Mission Center Complex activities. The complex upgrades will focus on exciting students and educators about lunar activities with a look to heading to Mars as part of the Constellation program goals.

PROJECT GOALS:

- Create a lunar surface of approximately 3000 square feet.
- Purchase a capsule and Altair Lander based on the Constellation program.
- Design and build lunar surface activities and science- based experiments related to various scenarios that would take place on the lunar surface.
- Earth-based Mission Control scientists analyze actual data from LCROSS/LRO activities.

PROJECT BENEFIT TO OUTCOME:

Outcome 2.0: Attract and retain students in STEM disciplines through a progression of education opportunities for students, teachers, and faculty.

Outcome Measure: Level of Student awareness of the projected progress of NASA in regards to both Lunar and Mars programs.

PROJECT ACCOMPLISHMENTS:

- Removed and repositioned two Space Station modules (modified and upgraded from existing modules donated by Boeing) allowing space on the existing Mission Center Complex for a Lunar Surface.
- Moved two space shuttle orbiters out of the Lunar Surface Location. One of these orbiters will be modified as the Lunar Rover.
- Placed a bid package for a capsule and Altair Lander.
- Developing graphics for mission software to support mission operations including EVA's.

PROJECT CONTRIBUTIONS TO PART MEASURES:

These upgrades will create a lunar surface, Orion capsule, Lunar Rover, and Altair experiences for SPACE CAMP attendees. Mission experience is expected to be a 2-3-hour simulation for 16 participants at a time. Approximately 90-120 student participants each week will experience the Lunar Surface/Constellation activities when the full implementation begins in mid- summer 2010.

Student involvement will start at the 6th-8th grade level program called Space Academy. As we add new aspects to the mission scenario, the 4th-6th grade and 9th-12th grade level programs will be impacted.

IMPROVEMENTS:

This round robin experience for SPACE CAMP participants is the first phase of a larger plan to reconfigure the entire Mission Center Complex at SPACE CAMP to support Constellation-related simulated missions. The re-themed Lunar Mission will both educate and excite students and educators from around the country on the future of NASA and returning to the Moon.

PROJECT PARTNERS AND ROLE OF PARTNERS IN PROJECT EXECUTION:

For the project moving forward, the only anticipated partners are the USSRC and NASA Marshall Space Flight Center (MSFC). Other partnerships such as America's Army, Inergi, Wonder Works, and Binary Star might be established or continued as the program becomes operational.

Educator Resource Center

Contract: WILL Technology: NNM07AA77C
Project Manager: Jeff Ehmen
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PROJECT DESCRIPTION:

Educator Resource Center Labor/Travel/Professional Development Conference

This cross-cutting element will provide contractor support to oversee the implementation of each activity proposed and be responsible for ensuring evaluation data is planned/collected and aggregated. Work will be done under the direction of the MSFC Education Technology & Products Lead in Academic Affairs. Additionally, this item will support the continued development of USSRC and Educator Resource Center (ERC) staff in the K-12 and informal 6-state service region. There are a few opportunities annually that provide invaluable experiences for our staff to become knowledgeable or updated on space exploration content. In order for our local workshops to have accurate information and for our staff to update content for our support materials, we feel it absolutely necessary to provide our staff with appropriate professional development experiences. By enhancing their knowledge, the content they deliver will be of even greater value to our workshop attendees. This will include attendance at National conferences and training related to Hubble, working on the moon (spacesuits, nutrition, etc.), lunar missions, and others.

PROJECT GOALS:

Explanation: Result in deeper content understanding and confidence in teaching STEM disciplines. The percentage of the educators who use these resources is an important measure of their utility, effectiveness, and relevance

PROJECT BENEFIT TO OUTCOME (1,2, OR 3):

Outcome 2: Percentage of elementary and secondary educators who obtain NASA content-based education resources or participate in short-duration education activities and use NASA resources in their classroom instruction.

PROJECT ACCOMPLISHMENTS:

The MSFC Educator Resource Center and the USSRC Education Department hosted a national meeting for staff of the Educator Resource Centers June 14-16. The meeting combined best business practices discussions as well as learning opportunities on new NASA education products, materials, and MSFC-managed missions as well as other activities NASA-wide. Conference training for ERC staff was not pursued due to the congressionally directed restrictions on conference attendance. ERC staff is collaborating with the Alabama Math, Science, Technology Initiative representatives to expand the reaches of NASA education in area schools. ERC staff also conducted a total of 79 workshops for educators.

PROJECT CONTRIBUTIONS TO PART MEASURES:

K-12 Educators who participated in short-duration activities: The MSFC ERC served 1,025 K-12 educators (including pre-service teachers) in FY09. The number of educators documented on the Office of Education Performance Measurement system (starting in March, 2009) was 358.

Percentage of elementary and secondary educators who obtain NASA content-based education resources or participate in short-duration NASA education activities and use NASA resources in their classroom instruction. (short duration education experiences): While it is probable that educators served by the MSFC ERC are using NASA resources in their classrooms, there was not any recorded data in the Office of Education Performance Measurement system from the 120-day follow-up surveys that educators were automatically sent starting in mid-July, 2009.

IMPROVEMENTS:

The MSFC ERC staff and USSRC staff continue to look for collaborative opportunities to take advantage of the audiences that visit the USSRC. ERC staff conducted more than 25 hands-on workshops for USSRC summer teacher groups in 2009.

MSFC supported the presentation of a Hubble workshop by USSRC staff at the 2009 Space Exploration Educators Conference in Houston, TX.

PROJECT PARTNERS AND ROLE OF PARTNERS IN PROJECT EXECUTION:

The USSRC hosted the national ERC conference by providing meeting space and food.

Informal Educator Workshop

Administered by U.S. Space and Rocket Center and Marshall Space Flight Center
Grant and Cooperative Agreement

Contact: Cathrine Summer
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PROJECT DESCRIPTION :

This workshop scheduled for January 13-15, 2010, will help professionals in informal education settings (e.g., libraries, museums, science centers, after school programs) adapt formal education curricula and materials developed by NASA and the U.S. Space and Rocket Center. Focusing on the Constellation program, educators will have an opportunity to work with NASA scientists, engineers, and educators to learn and create activities and experiences suitable for use within their unique informal education environment.

PROJECT GOALS:

- Working in small groups, informal educators will explore the options and opportunities to use a variety of materials in their unique informal education environments to promote current exploration projects including Constellation.
- Workshop participants will receive copies of or have access to all NASA educator resources.
- Workshops will encourage collaborations between various informal organizations and possibly build partnerships within the region.

PROJECT BENEFIT TO OUTCOME:

Outcome 3.0: Build strategic partnerships and linkages between STEM formal and informal education providers that promote STEM literacy and awareness of NASA's mission.

Outcome Measure: Measure increase in number of Informal Educator participants in NASA Constellation programs including instructional and enrichment activities.

PROJECT ACCOMPLISHMENTS:

- Registration completed with 33 informal educators applying from seven states including; Alabama, Tennessee, Georgia, Arkansas, Missouri, Iowa, Louisiana, and Mississippi.
- Informal educators represent 23 different organizations including museums, scouts, and planetariums.
- Speakers representing MSFC and Constellation-related projects are being scheduled.
- Visit the Ares Propulsion Lab, meeting with engineers and view Ares mockup.

PROJECT CONTRIBUTIONS:

USSRC will conduct an evaluation through surveys done before and after the workshop and if available use the NASA Education Performance Measurement system.

PROJECT IMPROVEMENTS:

The MSFC ERC staff and USSRC staff are working together to prepare this workshop and everything is progressing according to plan.

PROJECT PARTNERS:

The USSRC and MSFC education teams use this opportunity to continue to support one another and are looking forward to working with the 23 organizations and establishing basis for further collaboration between all organizations.