

Puerto Rico Space Grant Consortium

Guide for Objectives and Outcomes

The National Space Grant College and Fellowship Program enables NASA to continue the Agency's tradition of investing in the Nation's education programs and supporting the country's educators who play a key role in preparing, inspiring, exciting, encouraging, and nurturing the young minds of today who will manage and lead the Nation's laboratories and research centers of tomorrow. A highly educated and well-prepared workforce has been and continues to be critical to the success of the Agency's mission. NASA's investment in education is directly linked to inspiring the next generation of explorers and innovators.

With this charge in mind, please describe the objectives of your proposed activities in terms of Outcomes 1, 2, and 3 of the NASA Education Framework (see Appendix A).

Outcome 1: *Contribute to the development of the STEM workforce in disciplines needed to achieve NASA's strategic goals (Employ and Educate)*

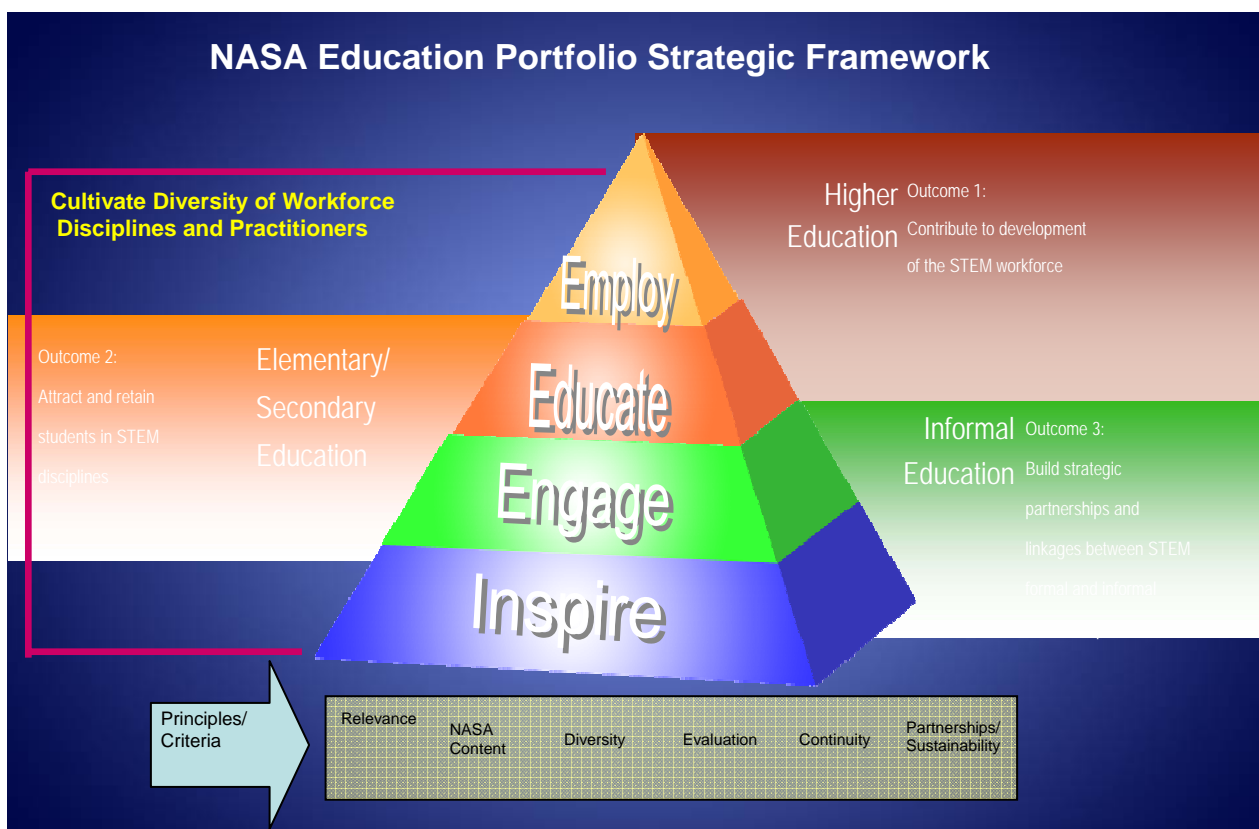
Outcome 2: *Attract and retain students in STEM disciplines through a progression of educational opportunities for students, teachers, and faculty (Educate and Engage)*

Outcome 3: *Build strategic partnerships and linkages between STEM formal and informal education providers that promote STEM literacy and awareness of NASA's mission (Engage and Inspire)*

A handy tool to use in the development of your objectives is SMART, which includes the following:

- **Specific** – Please provide enough detail about your proposal to help us to know exactly what will be done.
- **Measurable** – Your goal should be such that when you are through you have some tangible evidence of completion (metrics) to indicate success in the area.
- **Acceptable** – Aligned with the NASA guiding documents (e.g. 2006 NASA Strategic Plan, 2006 NASA Education Strategic Coordination Framework, The *Vision for Space Exploration*, and the national Space Grant goals and objectives).
- **Realistic** – Set appropriate targets based on your budget level.
- **Time Frame** – Include short-term and long-term goals. Keep in mind that this is year 4 of a 5 year grant based on the period of performance for each consortium. This should be included in the proposal and reflected in the budget information provided

Appendix A



The following objectives have been developed under each of the NASA Education Outcomes above. All NASA programs (including Space Grant, from the national level) will report their contributions to these objectives.

Outcome 1 Objectives

- 1.1 Faculty and Research Support – Provide NASA competency-building education and research opportunities for faculty, researchers, and post-doctoral fellows.
- 1.2 Student Support – Provide NASA competency-building education and research opportunities to develop qualified undergraduate and graduate students who are prepared for employment in STEM disciplines at NASA, industry, and higher education.
- 1.3 Student Involvement Higher Education – Provide opportunities for groups of post-secondary students to engage in authentic NASA-related mission-based R&D activities.
- 1.4 Course Development – Develop NASA-related course resources for integration into STEM disciplines.
- 1.5 Targeted Institution Research and Academic Infrastructure – Improve the ability for targeted institutions to compete for NASA research and development work.

Outcome 2 Objectives

- 2.1 Educator Professional Development—Short Duration – Provide short duration professional development and training opportunities to educators, equipping them with the skills and knowledge to attract and retain students in STEM disciplines.
- 2.2 Educator Professional Development—Long Duration – Provide long-duration and/or sustained professional development and training opportunities to educators that result in deeper content understanding and/or competence and confidence in teaching STEM disciplines.
- 2.3 Curricular Support Resources – Provide curricular support resources that use NASA themes and content to a) enhance student skills and proficiency in STEM disciplines; b) inform students about STEM career opportunities; c) communicate information about NASA’s mission activities.
- 2.4 Student Involvement K-12
 - Provide K-12 students with authentic first-hand opportunities to participate in NASA mission activities, thus inspiring interest in STEM disciplines and careers
 - Provide opportunities for family involvement in K-12 student learning in STEM areas.

Outcome 3 Objectives

- 3.1 Resources
 - Provide informal education support resources that use NASA themes and content to 1) enhance participant skills and proficiency in STEM disciplines; 2) inform participants about STEM career opportunities; 3) communicate information about NASA’s mission activities
 - Develop a significant pool of qualified presenters of NASA aerospace content interacting with a large number of participants.
- 3.2 Professional Development for Informal Education Providers – Provide opportunities to improve the competency and qualifications of STEM informal educators, enabling informal educators to effectively and accurately communicate information about NASA activities and access NASA data for programs and exhibits.
- 3.3 Informal Education Provider Involvement Opportunities
 - Develop a national pool of qualified informal educators with experience in NASA-mission and related activities
 - Engage informal educators using NASA themes to enable them to 1) enhance participant skills and proficiency in STEM disciplines; 2) inform participants about STEM career opportunities; 3) communication information about NASA’s mission activities.
 - Establish and maintain a single informal education network for accessing NASA materials that has the flexibility for Special Interest Groups to function as a subset of the larger network.