

NASA Education Outcome and Objective Hierarchy

Outcome 1

Higher Education – Employ and Educate: Contribute to the development of the STEM (Science, Technology, Engineering, Mathematics) workforce in disciplines needed to achieve NASA’s strategic goals, through a portfolio of investments.

Objective 1.1 Faculty and Research Support (Employ)

Provide NASA competency-building education and research opportunities for faculty, researchers, and post-doctoral fellows.

Objective 1.2 Student Support (Educate)

Provide NASA competency-building education and research opportunities to individuals to develop qualified undergraduate and graduate students who are prepared for employment in STEM disciplines at NASA, industry, and higher education.

Objective 1.3 Student Involvement, Higher Education (Educate)

Provide opportunities for groups of post-secondary students to engage in authentic NASA-related mission-based research and development activities.

Objective 1.4 Course Development (Educate)

Develop NASA-related course resources for integration into STEM disciplines.

Objective 1.5 Targeted Institution Research and Academic Infrastructure (Employ) Improve the ability of targeted institutions to compete for NASA research and development work.

Outcome 2

Elementary and Secondary Education – Educate and Engage: Attract and retain students in STEM disciplines through a progression of educational opportunities for students, teachers and faculty.

Objective 2.1 Educator Professional Development – Short Duration (Engage)

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.

Objective 2.2 Educator Professional Development – Long Duration (Educate)

Provide long-duration and/or sustained professional development training opportunities to educators that result in deeper content understanding and/or competence and confidence in teaching STEM disciplines.

Objective 2.3 Curricular Support Resources (Educate and Engage)

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; and c) communicate information about NASA’s mission activities.

Objective 2.4 Student Involvement, K-12 (Engage)

Provide K-12 students with authentic first-hand opportunities to participate in NASA mission activities, thus inspiring interest in STEM disciplines and careers, as well as provide opportunities for family involvement in K-12 student learning in STEM areas.

Outcome 3

Informal Education – Engage and Inspire: Build strategic linkages between STEM formal and informal education providers that promote STEM literacy and awareness of NASA’s mission.

Objective 3.1 Resources (Engage and Inspire) Provide informal education support resources that use NASA themes and content to a) enhance participant skills and proficiency in STEM disciplines; b) inform participants about STEM career opportunities; and 3) communicate information about NASA’s mission activities. In addition, develop a significant pool of qualified presenters of NASA aerospace content interacting with a large number of participants.

Objective 3.2 Professional Development for Information Education Providers (Engage) Provide opportunities to improve the competency and qualifications of STEM informal educators, enabling them to effectively and accurately communicate information about NASA activities and access NASA data for programs and exhibits.

Objective 3.3 Informal Education Provider Involvement Opportunities (Engage and Inspire) Develop a national pool of qualified informal educators with experience in NASA mission and related activities. In addition, 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; and 3) communicate information about NASA’s mission activities. And further, 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.