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## Model Curricula: Space Foundation

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## **THE SPACE FOUNDATION**

### Education for Understanding and Awareness

The Space Foundation is a national non-profit organization advancing space awareness and space education.

The Space Foundation pursues the mission of vigorously advancing civil, commercial and national security space endeavors for a brighter future and supporting educational excellence through the excitement of space.

### **Background**

In 1983, a small group of visionary leaders saw a need to establish an organization that could bring together the various sectors of America's developing space community in a non-partisan, objective and fair manner, and serve as a credible source of information for a broad audience from space professionals to the general public. The United States Space Foundation was founded March 21, 1983 as an IRS 501(c)(3) nonprofit organization to foster, develop and promote among the citizens of the United States of America and among other peoples of the world a greater understanding and awareness of the practical and theoretical utilization of space for the benefit of civilization and the fostering of a peaceful and prosperous world.

As the global space community has evolved, so has the Space Foundation embracing all sectors of space civil, commercial and national security. The Space Foundation is one of the few space-related organizations that embrace the totality of this community rather than focusing on a narrowly defined niche.

The Space Foundation has become one of the world's premier organizations supporting space activities, space professionals and education. Its education programs accredited through 12 universities and colleges have reached more than 15,000 teachers in 49 U.S. states. It conducts two of the top three conferences for space professionals anywhere in the world today: the National Space Symposium and the International Space Symposium.

One of the purposes of the Space Foundation is to promote educational excellence, offering high-focus, high-impact professional development programs expressly for teachers.

## Educational Offerings

Research has demonstrated that space exploration and development are among the most powerful subjects teachers can introduce to their students to launch learning excitement. The Space Foundation's approach is to leverage its resources to the maximum extent by investing in teachers, who in turn, can impact students.

### Graduate Study

Master's Degree: The M.A. in Science Education/Space Studies, in collaboration with the University of Colorado, is a teacher-friendly, hands-on interactive program. Teachers can earn 15 credits towards a 33 course-hour degree by spending 5 weeks in Colorado Springs during the summer. Up to nine hours of previous post-graduate academic credits that meet the criteria can be transferred into the program. The additional nine hours can be taken the following summer, or on- line.

Space Discovery Courses: Each summer, teachers participate in intensive four-day graduate-level training in residence in Colorado Springs. Working with the U.S. Air Force Academy, the University of Colorado at Colorado Springs, Air Force Space Command, and partner aerospace companies, the Foundation education team leads teachers through an immersion program that includes underwater weightlessness training, rocketry, remote sensing, and much more. Enrollment in course work is possible without being in the Master's Program. Examples from 2002 include:

Pikes Peak or Bust: During June 24-28, 2002, teachers will be able to spend a week in Colorado discovering the parallels between Earth and Space Science. They will participate in experiments examining the results of ascending Pikes Peak. They will explore the ecosystems in the Garden of the Gods and learn how Earth systems may be monitored from space.

Space Travel: During July 8-12, 2002, teachers will study the effects of human space flight through micro gravity simulation and experience the thrill of launching a rocket they will build. They will discover space concepts which they can easily apply to the classroom.

Wonderful Life: During July 15-19, 2002, teachers will search for answers to how humans have reached beyond the home planet to maximize the benefits of space exploration. They will discover how the fundamental laws of nature shape the evolution of life. Topics include plant and animal research, *extremophiles*, and protein crystal growth experiments.

Search for the Stars: During July 22-26, 2002, teachers will focus on NASA's Enterprise for Space Science which includes examination of black holes, worm holes, time travel, star hopping, night sky identification and the physics of space.

Robotics Made Easy: During August 5-9, 2002, teachers will be given the tools for engaging their students with real space technologies and their applications on Earth. Teachers will build their own programmable or maneuverable robot. They will explore orbital mechanics, GPS and satellite operations.

Teaching With Space In-Service: Customized programming is developed based on District needs and interests. Working with school administrators and teachers, the Foundation education team conducts accredited professional development courses for teachers who want to bring the power of space into their classrooms. The one and two-day in service programs are presented on-site, and participants earn continuing education credits applicable to the currency of their teaching credentials.

### **Space In The Classroom Conferences**

In order to expose teachers to the concepts and resources of space in the classroom, the Foundation education team conducts Teaching with Space conferences in cities across the country. Teachers learn how space can be a powerful motivator for students. They are provided techniques for introducing space topics in their classrooms to stimulate student interest in math and science, as well as in literature, social studies and related subjects.

### **NASA Education Resource Center**

The Space Foundation serves as the NASA Education Resource Center for the front-range Colorado area. A comprehensive collection of lesson plans, instructional videos, and other teaching aides are available through the Center, free or at little cost to the educator.

For more information, contact Dr. Patricia Arnold, Vice President, Education, Space Foundation, Tel: +1 800 691 4000, Fax: +1 719 576 8000, URL: [www.spacefoundation.org](http://www.spacefoundation.org).