



Affiliate Expansion Request for Proposals

Solicitation Released: September 2, 2010

Online Proposal Submission Due: November 3, 2010

Original Hardcopy Submission Due: November 5, 2010

Anticipated Announcement Date: December 10, 2010

www.ncspacegrant.org

North Carolina Space Grant Affiliate Expansion

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North Carolina Space Grant Affiliate Expansion - Call for Proposals

I. Solicitation Summary

The North Carolina Space Grant Consortium (NC Space Grant) is soliciting proposals from accredited colleges or universities within North Carolina to join the consortium. The objectives for NC Space Grant are to expand the organization's services to populations that are traditionally underrepresented in science, technology, engineering, and mathematics (STEM) and to expand its geographic footprint. NC Space Grant expects to make one 36-month award for \$45,000 (\$15,000 per year). After this initial award, it is expected that the successful participant will be funded on a yearly basis of up to \$15,000 per year. The selected institution will be eligible to compete with other Affiliates of the NC Space Grant for \$450,000 to \$500,000 in program funds for student fellowships/scholarships, research seed grants, higher education initiatives, and K-12/public outreach programs. Awards require a one to one cost-match of non-federal funds to awarded funds. Facilities and Administrative (F&A, or overhead) costs are not allowed.

II. Eligibility

Proposals will be accepted only from accredited public or private institutions in North Carolina that conduct at least one bachelors program in any science, technology, engineering or mathematics discipline. Submission is limited to one proposal per institution. The submitting principal investigator must be a tenured or tenure-track faculty member.

III. Background

A. National Space Grant College and Fellowship Program

Established by Congress in 1988 to "inspire the next generation of explorers," the National Space Grant College and Fellowship Program has evolved into a powerful national grassroots network that significantly contributes to developing America's critical science, engineering and technology workforce. Space Grant enhances our nation's education, research, and public outreach activities in STEM, and particularly in fields related to space, aeronautics, life science, physical science, and earth system science. There are 52 Space Grant Consortia – one in each state, Puerto Rico and the District of Columbia – ensuring that the entire national is actively committed to continued innovative global leadership in aerospace, earth science and technology.

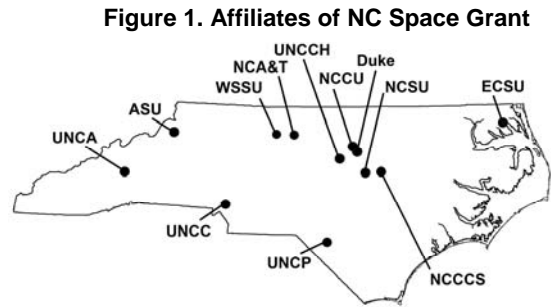
B. North Carolina Space Grant

Since its inception in 1991, NC Space Grant has demonstrated its commitment to addressing the needs for science, technology, engineering, and math (STEM) workforce development. With ties to NASA's Mission Directorates (Appendix A) and through formal partnerships with aerospace-related industry, state government agencies, and nonprofit organizations, NC Space Grant inspires students at all educational levels and facilitates their pursuit of aerospace-related careers. NC Space Grant's vision is *to expand the opportunity to participate in NC Space Grant programs to all citizens of North Carolina*, and its mission is *to promote and develop aeronautics and space-related science, technology, engineering, and mathematics programs*. In addition to annual funding from NASA, NC Space Grant program receives annual recurring funding from the NC General Assembly, supplemental competitive grants from NASA, private contributions, and resources from Affiliate institutions. In FY2009, NC Space Grant used NASA funding (\$785,000) supplemented by resources from the NC General Assembly, industry and private contributions (\$193,000) to competitively award 63 student fellowships/scholarships and 34 faculty/program grants at Affiliate institutions. An estimated 15,000 North Carolina citizens were exposed to NASA and its programs through NC Space Grant activities. Since 1991, NC Space Grant has managed and provided over \$25 million in support to North Carolina citizens.

NC Space Grant’s goals, established in its comprehensive 2010-15 Strategic Plan (Appendix B), are aligned with NASA Education Strategic Goals (Appendix C), and with NC’s identified need for education and training in STEM. Activities are supported in the following program areas: Higher Education, Precollege Education, and Informal Education. A common thread throughout the programmatic areas is expansion of programs to reach more citizens across the state and the involvement of women, underrepresented minorities, and persons with disabilities.

The Affiliates of NC Space Grant span the geographic breadth of the state and include (Figure 1):

- Appalachian State University (ASU)
- Duke University (Duke)
- Elizabeth City State University (ECSU)
- NC Agricultural and Technical State University (NCA&T)
- NC Central University (NCCU)
- NC Community College System (NCCCS)
- NC State University (NCSU)
- University of North Carolina at Asheville (UNCA)
- University of North Carolina at Chapel Hill (UNCCH)
- University of North Carolina at Charlotte (UNCC)
- University of North Carolina at Pembroke (UNCP)
- Winston-Salem State University (WSSU).

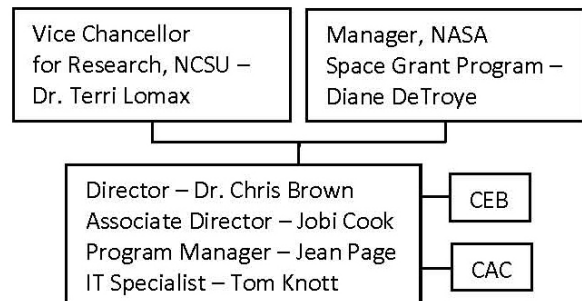


NC Space Grant Affiliates play a vital role in supporting NASA’s Mission Directorates by conducting cutting-edge, space-related research in support of the Agency’s direction and supporting NASA Education Strategic investments through programs in higher education, K-12 education, and public outreach.

NC State University is the Consortium’s lead institution; it and the other 11 member institutions make up the Consortium Affiliates.

Subcontract agreements between each institution and NCSU are reviewed annually as part of the NC Space Grant competitive proposal process. The NC Space Grant organizational structure (Figure 2) enables each Affiliate to play a role in management of the program. Overall direction, program policies, rules of governance, and budgetary priorities are established by the Consortium Executive Board (CEB), which consists of one Campus Director from each of the Affiliates, and the Director (CEB chair). Overall responsibility for the NC Space Grant rests with the Director, who along with the Associate Director, Program Manager and IT Specialist, implements the program. Strategic advising is provided by the Consortium Advisory Council (CAC).

Figure 2. Organizational Structure



C. Campus Directors

Each of the Campus Directors is a tenured/tenure-track faculty member that actively represents the NC Space Grant at his or her institution, communicating and promoting NC Space Grant-sponsored

opportunities among faculty and students by various appropriate channels. The success of the Campus Directors as NC Space Grant representatives is evidenced in the participation of interdisciplinary faculty and students from all Affiliates in a wide range of NC Space Grant programs.

D. Consortium Executive Board

The NC Space Grant is governed by the Consortium Executive Board (CEB) which is comprised of the Campus Directors representing each university member institution.

E. Consortium Advisory Council

The NC Space Grant Consortium Advisory Council (CAC) provides strategic advising to and evaluation of the program. This council consists of distinguished members holding high-level positions in educational and nonprofit organizations, industry, NASA, and other Space Grant consortia.

F. Policy for Dropping Members

The NC Space Grant is fortunate never to have had the occasion to consider the removal of an Affiliate institution because all Affiliates continue to perform. In the event that an Affiliate member fails to perform, the Director will contact the Campus Director in question and informally discuss the problem and ways to resolve it. If there is no improvement, the Director will, with the concurrence of all the other Campus Directors, send a formal letter outlining the issues of non-performance, ways to remedy them, and a schedule. If after the scheduled period the situation has not been remedied, the Director will, with the concurrence of the CEB, notify the Campus Director, the cognizant Campus official, and the National Space Grant office by letter that the affiliate is no longer an Affiliate of the NC Space Grant.

IV. Proposal Content

Proposals should present innovative strategies for accomplishing the goals and objectives of the NC Space Grant on local campuses through interdisciplinary programs for students and faculty, and should include the following:

A. Cover Page

Cover page should include the following: Principal Investigator/Campus Director Information (address, phone, email), proposal title, submitting institutional information and appropriate signatures from the Sponsored Research office.

B. Executive Summary (1 page)

C. Institutional Profile (1 page)

Describe the demographics of the institution (students, faculty) and overall unique aspects, themes or specializations that relate to science, technology, engineering and mathematics research, education, and outreach. Include a description of the regional/local community which the university serves.

D. Proposed Activities (maximum of 8 pages)

Programs must demonstrate alignment with the NC Space Grant Strategic Plan (Appendix B) and NASA Education Outcomes (Appendix C). The NC Space Grant program primarily emphasizes NASA Education Outcome 1. Outcomes 2 and 3 receive secondary emphasis. This section should:

- Describe the proposed activities and projects to be undertaken in the area(s) of higher education, research, and precollege/informal education and how they support NASA/NC Space Grant goals and objectives;
- Describe how inclusion as an Affiliate member will benefit the institution, local community, and the NC Space Grant;

- Describe any NASA sponsored or aerospace related research that is performed by the institution;
- Describe how the program will actively seek and recruit the involvement of women, underrepresented minorities, and persons with disabilities;
- Describe how the program will effectively communicate all existing and future NC Space Grant opportunities to students, faculty and staff.

E. Vita (unlimited)

The PI must include a biographical sketch (two pages) that includes his/her professional experiences, positions, and recent publications, especially those relevant to the proposed activity. Those participants who will play critical management or technical roles in the proposed investigation should include a one page biosketch (no more than one page each).

F. Support Letters (unlimited)

Letters of support demonstrating institutional commitment and/or external partner involvement are permissible.

G. Budget and Budget Narrative (unlimited)

Provide a detailed budget using the format provided in Appendix D (NC Space Grant Affiliate Program – 2011-2013 Budget Templates) along with a budget narrative, **for each year of the project (\$15,000 per year for a total of \$45,000 for 36 months)**. Each format should include expense summaries as well as the 1:1 non-federal cost match requirement. Specific budget details are noted below:

- Direct salary expenses for PI and students should be separated by titles or disciplines, and total amounts for each position.
- Proposed travel should include the number of trips, destination, duration, etc. International travel is not allowed. Make sure to include travel associated with required Consortium Executive Board meetings (typically two per year, in state).
- All students (graduate and/or undergraduate) supported with NC Space Grant funds must be permanent U.S. citizens.
- NASA training grant funds cannot be used to purchase equipment (including computers).
- The NC State University/NASA National Space Grant College and Fellowship Program grant does not cover facilities and administrative (F&A, or overhead) costs. Unrecovered facilities and administrative costs may be used for required cost-matching. The detailed budget must include a description of the required 1:1 non-federal matching funds.
- The NASA Grants and Cooperative Agreements Handbook, Sections A and B, located at <http://ec.msfc.nasa.gov/hq/grcover.htm>, provides additional information on uniform administrative requirements for grants and cooperative agreements with institutions of higher education.
- *NOTE: Permanent residents, foreign nationals and resident aliens may not charge salary or travel expenses to the grant.*
- *NOTE: Unrecovered salary and travel can be used to meet the cost-match requirement.*

H. Schedule (1 page)

Describe the implementation schedule for all proposed activities. The dates of service of this proposal will be from January 1, 2011 – December 30, 2013 for a total of 36 months.

I. Evaluation Plan (1 page)

Describe the program evaluation plan including specific, measurable, attainable, realistic, and time frame (SMART) outcomes based objectives:

- **Specific** – Provide enough detail about the program to communicate exactly what will be done.
- **Measurable** – Quantify the objective. Provides tangible evidence of completion (metrics) to indicate success in the program area.
- **Appropriate** – Aligned with NASA and NC Space Grant strategic goals and target audience.
- **Realistic** – Set appropriate targets based on the budget investment.
- **Time Frame** – State when the objective(s) will be achieved; provide timeframe indicating when objective(s) will be met.

J. **Current and Pending Support**

Identify current and pending support of the Principal Investigator including: source of support; project title; amount of award; period covered by award; and months or percent of time committed by the investigator during the award period. Include this proposal in the list.

V. **Other Proposal Guidelines**

The following guidelines and restrictions apply to all proposals. Proposals not meeting these requirements may not be considered.

- Proposals must be submitted electronically in PDF format.
- The hard copy of the proposals with original signatures should be one-sided, single-spaced on standard 8 ½ x 11 paper, no smaller than 12 point font and with no less than one inch margins throughout. Text restrictions are inclusive of all illustrations, tables, charts, exhibits, etc.
- All pages must be numbered sequentially.
- Proposals should contain only appendices and attachments specifically called for.
- All information you wish for reviewers to consider should be included in your proposal. It is not acceptable to refer reviewers to websites or other external sources for additional information or as evidence for your narrative. Additional appendices and attachments are not allowed.

VI. **Proposal Submission**

Proposal submission will be conducted via the NC Space Grant website at <http://www.ncspacegrant.org/proposals/> by Wednesday, November 3, 2010 at 5:00 PM. One complete single electronic file in PDF format is required by the on-line system. Electronically submitted proposal must contain all required signatures. Questions concerning the on-line proposal submission system should be directed to proposals@ncspacegrant.org.

The original proposal with all required signatures must arrive at NC Space Grant by Friday, November 5, 2010. Late or incomplete submissions may not be considered. Hard copy submissions should be sent via FedEx or UPS:

Dr. Christopher S. Brown, Director
 North Carolina Space Grant
 NC State University, EBIII
 911 Oval Drive, Room 3002
 Raleigh, NC 27606

VII. **Other Requirements**

A. **Active Participation in the NC Space Grant Consortium**

The designated Campus Director is required to participate actively in NC Space Grant meetings. Board meetings are held twice per year (spring/fall); participation in other scheduled tele/videoconferences is also required. The Campus Director is responsible for advertising, promoting and recruiting related to Space Grant activities on their campus.

B. Annual Progress Reporting Requirements

The Campus Director is required to submit an annual report that evaluates program effectiveness relative to the proposed objectives and strategic plan. Furthermore, the Campus Director is required to provide participant data to NC Space Grant that will be included as part of the Consortium's submission to the NASA Office of Education Performance Measurement (OEPM) system. This data typically includes but is not limited to: number of students, staff, faculty, and general public involved; gender and ethnic breakdown of participants; and a full budget report. Affiliates will be given guidelines for the submission of data and the annual progress report.

C. Acknowledgment of support

An acknowledgment of NC Space Grant support must appear in all publications of any material based on this funding in the following terms: "Supported by the North Carolina Space Grant." Electronic versions of the NC Space Grant logo are available and should be used when appropriate.

D. Audit and records

Financial records, supporting documents, statistical records, and other material pertinent to this grant shall be retained by the grantee for a period of at least three years following submission of the final project report and shall be made available to NC Space Grant upon request.

E. Payments

The grantee institution shall receive payments under this grant through that institution's Office of Sponsored Projects. Invoices must be submitted no later than 30 days after the last day of the month in which the expense was incurred. Late invoices will not be honored.

F. Notification of absence

NC Space Grant shall be notified prior to the Campus Director's absence from campus for a period of four months or more. Prolonged absences from the campus for non-project related purposes are subject to NC Space Grant review. Prolonged absences from the campus (longer than 3 months) require designation of an interim Campus Director.

G. Changes in Principal Investigator/Campus Director

If the Principal Investigator/Campus Director leaves the grantee institution or otherwise relinquishes active direction of the project, the institution must notify NC Space Grant as soon as possible with a proposed replacement Campus Director, who has been nominated by the Chancellor/Dean or College/Department Chair. Changes in Campus Directors require approval of the Consortium Executive Board.

H. Suspension or termination

This grant may be suspended or terminated if the grantee fails to comply with all the terms and conditions of the grant or if the principal investigator leaves the university without a suitable replacement (see G).

I. Nondiscrimination

No person shall be excluded from participation in, be denied benefits of, or be otherwise subjected to discrimination under this grant on grounds of race, color, national origin, religious affiliation, physical disability, or gender.

J. Compliance with regulations

The investigator must abide by all state and federal regulations related to research.

VIII. Proposal Review and Evaluation

Proposals will be evaluated in the following four major areas:

Program Implementation Plan (70%)

Alignment of the proposed activities with the NC Space Grant Strategic Plan will be evaluated for:

- Quality and Feasibility: Program objectives are stated clearly and succinctly described, fully aligned with the intent and scope of the announcement, and contributes to the NC Space Grant as well as NASA Education Strategic goals.
- Content: Programs are directly tied to or makes direct use of NASA data, information, research content, scientific or technical activities, people, or facilities to involve higher education students and/or faculty in NASA-related science, technology, engineering or mathematics.
- Focus: Programs respond to a need identified by the education on a compelling mutual need for the institution, the NC Space Grant, and NASA.
- Broad Involvement: Programs should describe a plan for involving of a wide-range of departments, colleges and disciplines.
- Pipeline: The proposed program positively impacts NASA aerospace workforce development via a strategy that may include:
 - identifying and attracting highly-qualified students, faculty, and other personnel;
 - creating linkages to subsequent STEM-related activities for the participant;
 - focusing on contributions to the higher education component of the pipeline;
 - promoting the improvement of STEM skills such as engaging participants in hands-on learning, research, use of innovative technology, peer support groups, or mentoring with professionals and other researchers.
- Diversity: Activities make a demonstrable contribution to attracting diverse students, including underrepresented minorities, women, persons with disabilities, and greater geographic diversity.
- Partnerships: Programs describe partnerships with appropriate local, regional, or national partners in the design, development, and dissemination.

Campus Director and program contributors' expertise (10%)

Expertise and capacity of the proposed Campus Director and affiliated project contributors to execute the programs contained in this proposal.

Budget (10%)

Appropriateness of the proposed budget, including matching funds, and other resources available to ensure the successful implementation of the proposed activities.

Evaluation Plan (10%)

Appropriateness of the proposed evaluation plan to document outputs, impacts, and outcomes that demonstrate progress towards achieving the objectives of the proposed activities.

IX. Contact Information

Questions relative to this solicitation should be directed to:

Dr. Christopher S. Brown, Director

cbrown@ncsu.edu

(919) 513-2457

or

Jobi Cook, Associate Director

jobi_cook@ncsu.edu

(919) 515-5933

APPENDIX A: NASA Mission Directorates

NASA's Mission to *pioneer the future in space exploration, scientific discovery, and aeronautics research*, draws support from four Mission Directorates, each with a specific responsibility.

The **Aeronautics Research Mission Directorate (ARMD)** conducts vital research to make air travel more efficient, safe, green, and to uncover leading-edge solutions for the Next Generation Air Transportation System (NextGen) in the United States. ARMD's fundamental research in traditional aeronautical disciplines and emerging disciplines helps address substantial noise, emissions, efficiency, performance and safety challenges that must be met in order to design vehicles that can operate in the NextGen.

(<http://www.aeronautics.nasa.gov>)

The **Exploration Systems Mission Directorate (ESMD)** Agency role is to develop a sustained human presence on the moon; to promote exploration, commerce, and U.S. preeminence in space; and to serve as a stepping-stone for the future exploration of Mars and other destinations. ESMD establishes the NASA exploration research and technology development agenda. Specifically, ESMD develops capabilities and supporting research and technology that will enable sustained and affordable human and robotic exploration. It also works to ensure the health and performance of crews during long-duration space exploration. In the near-term, ESMD does this by developing robotic precursor missions, human transportation elements, and life-support systems. (<http://www.exploration.nasa.gov>)

The **Science Mission Directorate (SMD)** leads the Agency in four areas of research: Earth Science, Heliophysics, Planetary Science, and Astrophysics. SMD works closely with the broader scientific community, considers national initiatives, and uses the results of National Research Council studies to define a set of "Big Questions" in each of these four research areas. These questions, in turn, fuel mission priorities and the SMD research agenda. The SMD also sponsors research that both enables, and is enabled by, NASA's exploration activities. SMD has a portfolio of Education and Public Outreach projects that are connected to its research efforts. (<http://nasascience.nasa.gov>)

The **Space Operations Mission Directorate (SOMD)** provides the Agency with leadership and management of NASA space operations related to human exploration in and beyond low-Earth orbit. SOMD enables current space exploration in low earth orbit through its Space Shuttle and International Space Station Programs. SOMD is also responsible for Agency leadership and management of NASA space operations related to Launch Services, Space Transportation, and Space Communications in support of both human and robotic exploration programs. (<http://www.spaceoperations.nasa.gov>)

APPENDIX B: North Carolina Space Grant Consortium Strategic Plan, 2010-15

NC Space Grant Overview

The NC Space Grant is a network of universities, community colleges, industrial partners, nonprofit organizations, and government agencies representing diverse aerospace education and research interests in North Carolina. NC Space Grant is funded through an annual base grant from the NASA/National Space Grant College and Fellowship Program, annual recurring funding from the NC General Assembly, supplemental competitive grants from NASA and other federal agencies, private contributions, and annual matching funds from Consortium Affiliates.

NC Space Grant Vision

To expand the opportunity to participate in NC Space Grant programs to all citizens of North Carolina.

NC Space Grant Mission

To promote, develop and support aeronautics and space-related science, engineering and technology training and programs in North Carolina.

HIGHER EDUCATION INITIATIVES

FELLOWSHIP AND SCHOLARSHIP

Goal 1: To deliver a competitive Fellowship and Scholarship program that provides research and education opportunities to students in science, technology, engineering, and mathematics (STEM) disciplines at NC Space Grant Affiliate institutions.

Objective 1.1: Engage students in basic and/or applied aerospace-related research projects through Graduate Research Fellowships and Undergraduate Research Scholarships.

Strategy 1.1.1: Engage graduate and undergraduate students in hands-on, aerospace-related research projects with an emphasis on networked collaborations within the consortium, NASA laboratories and other research shared facilities. *Outcome Indicator: 30-35 students supported annually.*

Strategy 1.1.2: Facilitate positive mentor relationships between students, faculty and the NASA/aerospace community. *Outcome Indicator: 30-35 mentored relationships established annually. Of these, 10-15 will conduct research on-site at a NASA center in conjunction with a NASA mentor.*

Objective 1.2: Promote undergraduate STEM-related research through Undergraduate Scholarships.

Strategy 1.2.1: Assist early undergraduate students in the establishment of relationships between students and peer/faculty mentors. *Outcome Indicator: 10-15 students supported annually.*

Objective 1.3: Offer scholarships to Community College students engaged in associate degree programs who are preparing for advanced STEM degrees or careers in STEM fields, particularly those with aerospace relevance in North Carolina.

Strategy 1.3.1: Establish the Community College STEM Scholarship program. *Outcome Indicator: Receive 25 applications and make 10-15 awards for the 2010-11 academic year. Increase the number of applicants and awards by 10% each year.*

Objective 1.4: Offer scholarships to students enrolled in STEM-related teacher education degree program at the undergraduate and graduate level.

Strategy 1.4.1: Establish the STEM Teacher Education Scholarship program. *Outcome Indicator: Receive 20 applications in the initial year of the program (2011-12 academic year) and make 5-10 awards. Increase the number of applicants and awards by 10% each year.*

Objective 1.5: Ensure a fair, equitable and competitive distribution of fellowship and scholarship funds.

Strategy 1.5.1: Promote the fellowship/scholarship programs statewide through a comprehensive marketing campaign to the member institutions. *Outcome Indicators:* Publish announcements through 12 Affiliate institution scholarship offices. Annually announce student opportunities through the NC Space Grant website in October. Continue to use a centralized application system.

Strategy 1.5.2: Utilize a statewide review committee to select awards. *Outcome Indicator: Each student application will be reviewed by a minimum of three faculty*

Objective 1.6: Leverage funds with other sources to provide additional Fellowship and Scholarship Projects.

Outcome Indicator: Facilitate at least one collaborative fellowship/scholarship project each year with industry and/or research facilities. Metrics will be established individually for each program.

RESEARCH INFRASTRUCTURE

Goal 2: To strengthen NC's aerospace-related research infrastructure and capabilities.

Objective 2.1: Provide startup funding to early career faculty at Affiliate institutions who are conducting interdisciplinary research that is directly aligned with NASA's Strategic Framework.

Strategy 2.1.1: Faculty will establish and enhance his/her professional career through research. *Outcome Indicator: Annually support 8-10 faculty seed grants. 10-15 students engaged in faculty research projects annually.*

Objective 2.2: Encourage research collaborations between faculty at NC Space Grant Affiliate institutions and NASA Field Centers/aerospace industry/research facilities. *Outcome Indicator: Facilitate at least one collaborative project each year. Collaborative research projects will engage at least 15-20 students annually.*

Objective 2.3: Ensure competitive distribution of research funds.

Strategy 2.3.1: Release an annual statewide call for proposals to all Affiliate institutions. *Outcome Indicator: Provide 1 award per three submitted proposals.*

Strategy 2.3.2: Utilize a peer review system to select awards. *Outcome Indicator: Each proposal will be reviewed by a minimum of three peers and constructive feedback will be provided.*

COURSE DEVELOPMENT

Goal 3: To provide groups of students with opportunities to engage in NASA-mission and STEM-based academic research and coursework.

Objective 3.1: Engage the future STEM workforce in basic and/or applied aerospace-related research projects and facilitate the development of relationships among students, faculty and the NASA community.

Strategy 3.1.1: Link higher education students to hands-on experiences in the scientific and technical disciplines. *Outcome Indicator: 30-35 students participate in design competitions or research collaborations annually (examples include the: Cessna/Raytheon Missile System Student Design-Build-Fly competition; AUVSI International Autonomous Underwater Vehicle Competition; High-altitude ballooning activities)*

Objective 3.2: Develop STEM courses that are aligned with NASA's research direction and corresponding Mission Directorates.

Strategy 3.2.1: Develop sustainable interdisciplinary and/or distance learning courses that are focused on enriching students understanding of complex aerospace issues. *Outcome Indicator: 3-5 course development initiatives will be supported annually. By 2015, four interdisciplinary courses will be sustained; each course will engage 10-15 students.*

Objective 3.3: Ensure competitive distribution of higher education funds.

Strategy 3.3.1: Release an annual statewide call for proposals to all Affiliate institutions. *Outcome Indicator: Provide 1 award per three submitted proposals.*

Strategy 3.3.2: Utilize a peer review system to select awards. *Outcome Indicator: Outcome Indicator: Each proposal will be reviewed by a minimum of three peers and constructive feedback will be provided.*

DIVERSITY

Goal 4: To deliver activities that facilitate the National Space Grant College and Fellowship Program's focus on involving women underrepresented groups and persons with disabilities in all higher education program areas.

Objective 4.1: Actively pursue the participation of women, underrepresented minorities, and persons with disabilities in NC Space Grant higher education program areas of Fellowship and Scholarship, Student Research and Course Development, and Research Infrastructure.

Strategy 4.1.1: Increase the participation of females. *Outcome Indicator: 55% of awards will be made annually to female applicants. The 59% target was derived from the enrollment of students in NC degree-granting institutions as published by the National Center for Education Statistics (U.S. Department of Education, 2008).*

Strategy 4.1.2: Maintain appropriate participation of underrepresented minorities. *Outcome Indicator: At least 28.3% of awards will be made to underrepresented groups. The 28.3% target was derived from the enrollment of students in NC degree-granting institutions as published by the National Center for Education Statistics (U.S. Department of Education, 2008).*

Strategy 4.1.3: Collaborate with Affiliate institutions to develop alliances with key minority education groups to recruit underrepresented students to participate in NC Space Grant programs. *Outcome Indicators: Develop and maintain 5 ongoing relationships with minority-serving groups.*

Strategy 4.1.4: Collaborate with Affiliate institutions to develop alliances with key organizations that target persons with disabilities for studies and careers in STEM fields. *Outcome Indicators: Establish relationships with the following groups NC School for the Deaf, Governor Morehead School for the Blind, and the Affiliate institutions' disability service offices.*

PRE-COLLEGE EDUCATION INITIATIVES

Goal 5: To equip NC pre-service and in-service educators with tools to inspire the future science, technology, engineering and mathematics (STEM) workforce to pursue education and careers in aerospace-related fields.

Objective 5.1: Develop, promote, or utilize new, innovative, and replicable approaches to improving NASA-focused, STEM learning and instruction through experiences and activities that are grounded in education research or utilize evidence-supported approaches, techniques, and tools.

Strategy 5.1.1: Support K-12 professional development workshops to increase teacher education and training. *Outcome Indicators: Annually provide funding for 2-4 professional development initiatives that collectively serve 35-40 pre/in service teachers.*

Strategy 5.1.2: Collaborate and partner with state, regional and national organizations dedicated to working with teachers to increase STEM discipline training opportunities and resource sharing across the state. *Outcome Indicators: NC Space Grant will strive to undertake at least one collaborative project each year that reaches a minimum of 100 teachers in the state.*

Objective 5.2: Ensure competitive distribution of Pre-College Education funds.

Strategy 5.2.1: Release an annual statewide call for proposals to all member institutions. *Outcome Indicator: Member institutions will have at least one submission for each competition each year.*

Strategy 5.2.2: Utilize a peer review system to select awards. *Outcome Indicator: Awards will reflect the diversity of the consortium's membership.*

INFORMAL EDUCATION

Goal 6: To increase interest in and understanding of NASA-mission and STEM activities by inspiring and engaging individuals of all ages throughout NC.

Objective 6.1: Link and engage providers of informal education using NASA-mission and STEM-related content through professional development projects that enable educators to carry NASA content back to their households, school, after school groups, summer camps, 4-H communities, etc.

Strategy 6.1.1: Support a variety of professional development workshops to increase informal education and training. *Outcome Indicators: Annually provide funding for 2-4 professional development initiatives that collectively serve 35-40 informal educators.*

Strategy 6.1.2: Build strategic partnerships and linkages between STEM formal and informal education providers that promote STEM literacy and awareness of NASA's mission. *Outcome Indicators: NC Space Grant will partner with NC informal learning institutions (science museums, planetariums, 4-H, etc.) to undertake at least one collaborative project each year.*

Strategy 6.1.3: Participate in statewide activities to disseminate NASA-related activities at informal venues and career/science fairs. *Outcome Indicator: Annually participate in the NC Museum of Natural Science's Astronomy Days event; participate in 10 additional activities annually.*

Objective 6.2: Ensure competitive distribution of Informal Education Professional Development and Public Outreach funds.

Strategy 6.2.1: Release an annual statewide call for proposals to all member institutions. *Outcome Indicator: Member institutions will have at least one submission for each competition each year.*

Strategy 6.2.2: Utilize a peer review system to select awards. *Outcome Indicator: Awards will reflect the diversity of the consortium's membership.*

CONSORTIUM MANAGEMENT AND PUBLIC RELATIONS

Goal 7: To expand the geographic diversity and awareness of NC Space Grant.

Objective 7.1: Increase the number of Affiliates and Partners to represent the geographic diversity of the state.

Strategy 7.1.1: Add the NC Community College System (NCCCS) as a Higher Education Affiliate/Member Institution. *Outcome Indicator: NC Community College System assumes member status and actively engages in all NC Space Grant activities. NCCCS representative serves on the Consortium Executive Board.*

Strategy 7.1.2: Add two additional universities as Affiliate institutions. *Outcome Indicator: Pending funding increases, two additional universities will be selected for membership through consensus of the Consortium Executive Board.*

Strategy 7.1.3: Add additional Partners from education, industry and government. *Outcome Indicators: Add 4 educational affiliates and 5 industrial affiliates by 2014. All Partners are represented on the Consortium's Advisory Board.*

Objective 7.2: Increase the funding base for NC Space Grant to allow for expanded programming with adequate staffing and program support.

Strategy 7.2.1: Work through the NC General Assembly to obtain an increase in appropriated funds. *Outcome Indicator: NC Space Grant will request that its budget line be increased to reflect the expanded reach of the Consortium's reach in the state.*

Strategy 7.2.2: Pursue supplemental competitive funding opportunities as they arise from NASA and other sources. *Outcome Indicator: Evidence of submitted proposal activity and award of solicited funds.*

Objective 7.3: Build upon and intensify NC Space Grant efforts for creating public awareness and visibility of NASA and NC Space Grant activities.

Strategy 7.3.1: Continue to develop the NC Space Grant website (www.ncspacegrant.org) as an informative, user-friendly communication tool. *Outcome Indicator: NC Space Grant website will be maintained in an up-to-date manner.*

Strategy 7.3.2: Continue to use *the Aerospace Capsule*, NC Space Grant's online quarterly newsletter, as a primary communication vehicle. *Outcome Indicator: NC Space Grant newsletter will be released 4 times per year to continually updated database.*

Strategy 7.3.3: Develop effective informational materials on NC Space Grant programs and activities (brochures and displays). *Outcome Indicator: NC Space Grant materials will be annually updated to reflect the current activities of the Consortium.*

Strategy 7.3.4: Engage local, state and nationally elected representatives to NC Space Grant programmatic events and activities located in congressional/senatorial/state assembly districts. *Outcome Indicator: Participation of elected officials or their staff in at least two NC Space Grant-supported events.*

APPENDIX C: NASA Education Strategic Coordination Framework

Overview

As identified in the 2006 NASA Strategic Plan, education is one of the Agency's cross-cutting management strategies. High achievement in STEM education is essential to the accomplishment of NASA's mission. NASA contributes to national efforts for achieving excellence in STEM education through a comprehensive education portfolio implemented by the Office of Education, the Mission Directorates, and the NASA Centers. NASA will 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 that will manage and lead the Nation's laboratories and research centers of tomorrow.

The ***NASA Education Strategic Coordination Framework: A Portfolio Approach*** describes the alignment of NASA's education portfolio with the *2006 NASA Strategic Plan* and creates an agency-wide strategic planning, implementation and evaluation framework for NASA's investments in education. This Framework establishes three educational outcomes:

- **Outcome 1 – Higher Education:** Contribute to the development of the STEM workforce in disciplines needed to achieve NASA's strategic goal through a portfolio of investments.
- **Outcome 2 – Elementary and Secondary Education:** Attract and retain students in STEM disciplines through a progression of educational opportunities for students, teachers, and faculty.
- **Outcome 3 – Informal Education:** Build strategic partnerships and linkages between STEM formal and informal education providers that promote STEM literacy and awareness of NASA's mission.

The plan encompasses all education efforts undertaken by NASA and guides the Agency's relationships with external education partners. Proposers are strongly encouraged to become familiar with this document. It may be found at: <http://education.nasa.gov/about/strategy>

NASA Education Outcomes and Objectives

Outcome 1 Objectives:

- Objective 1.1 – Faculty and Research Support: Provide NASA competency-building education and research opportunities for faculty, researchers, and post-doctoral fellows.
- Objective 1.2 --Student Support: 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: 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: Develop NASA-related course resources for integration into STEM disciplines.
- Objective 1.5 --Targeted Institution Research and Academic Infrastructure: Improve the ability of targeted institutions to compete for NASA research and development work.

Outcome 2 Objectives:

- Objective 2.1 Educator Professional Development—Short Duration: Provide short duration professional development 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: 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.
- Objective 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; and/or b) inform students about STEM career opportunities; and/or c) communicate information about NASA’s mission activities.
- Objective 2.4 Student Involvement K-12: Provide K-12 students with authentic, firsthand opportunities to participate in NASA mission activities, thus inspiring interest in STEM disciplines and careers; and/or provide opportunities for family involvement in K-12 student learning in STEM areas.

Outcome 3 Objectives:

- Objective 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.
- Objective 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.
- Objective 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.

APPENDIX D: NC Space Grant Affiliate Program – 2011-2013 Budget Templates

Please use the tables provided for each year to complete your budget.

NC Space Grant Affiliate Program
 January 1, 2011 - December 31, 2011 (Year 1 of 3)

Enter Institution Name Here			
Enter PI Name Here			
	NASA Funding	Cost Share	Total
Salaries	\$0	\$0	\$0
Travel	\$0	\$0	\$0
Supplies	\$0	\$0	\$0
Services	\$0	\$0	\$0
Equipment*	\$0	\$0	\$0
Student Salaries/Stipend	\$0	\$0	\$0
Other (Explain)	\$0	\$0	\$0
Indirect Costs**	\$0	\$0	\$0
	NASA Funding	Cost Share	Total
TOTAL:	\$0	\$0	\$0

*NASA funds cannot be used to purchase equipment.

**NC State University/NASA National Space Grant College and Fellowship Program does not cover facilities and administrative costs. Unrecovered facilities and administrative costs may be used to meet the required cost-match.

BUDGET NARRATIVE:

NC Space Grant Affiliate Program

January 1, 2012 - December 31, 2012 (Year 2 of 3)

Enter Institution Name Here			
Enter PI Name Here			
	NASA Funding	Cost Share	Total
Salaries	\$0	\$0	\$0
Travel	\$0	\$0	\$0
Supplies	\$0	\$0	\$0
Services	\$0	\$0	\$0
Equipment*	\$0	\$0	\$0
Student Salaries/Stipend	\$0	\$0	\$0
Other (Explain)	\$0	\$0	\$0
Indirect Costs**	\$0	\$0	\$0
	NASA Funding	Cost Share	Total
TOTAL:	\$0	\$0	\$0

*NASA funds cannot be used to purchase equipment.

**NC State University/NASA National Space Grant College and Fellowship Program does not cover facilities and administrative costs. Unrecovered facilities and administrative costs may be used to meet the required cost-match.

BUDGET NARRATIVE:

NC Space Grant Affiliate Program

January 1, 2013 - December 31, 2013 (Year 3 of 3)

Enter Institution Name Here			
Enter PI Name Here			
	NASA Funding	Cost Share	Total
Salaries	\$0	\$0	\$0
Travel	\$0	\$0	\$0
Supplies	\$0	\$0	\$0
Services	\$0	\$0	\$0
Equipment*	\$0	\$0	\$0
Student Salaries/Stipend	\$0	\$0	\$0
Other (Explain)	\$0	\$0	\$0
Indirect Costs**	\$0	\$0	\$0
	NASA Funding	Cost Share	Total
TOTAL:	\$0	\$0	\$0

*NASA funds cannot be used to purchase equipment.

**NC State University/NASA National Space Grant College and Fellowship Program does not cover facilities and administrative costs. Unrecovered facilities and administrative costs may be used to meet the required cost-match.

BUDGET NARRATIVE:

APPENDIX E: Useful Web Sites

NASA Links

- NASA
<http://www.nasa.gov>
- National Space Grant College and Fellowship Program
<http://www.nasa.gov/offices/education/programs/national/spacegrant/home/index.html>
- 2006 NASA Strategic Plan
http://www.nasa.gov/pdf/142302main_2006_NASA_Strategic_Plan.pdf
- NASA Education Strategic Coordination Framework
<http://education.nasa.gov/about/strategy>
http://www.nasa.gov/audience/foreducators/topnav/materials/listbytype/Strategic_Coordination_Framework.html

Grant and Administrative Links

- NASA Grant and Cooperative Agreement Handbook
http://prod.nais.nasa.gov/pub/pub_library/grcover.htm

National, Congressional, and Agency Focus on Education Links

- NASA Authorization Act of 2008 (H.R. 6063)
<http://thomas.loc.gov>
- NASA and The Future of the Aerospace Workforce – Remarks By Nasa Administrator Charlie Bolden
http://www.nasa.gov/pdf/386965main_NASA_Bolden_AIA_Breakfast_Final.pdf
- Memorandum to Heads of Executive Agencies and Offices – Office of Science and Technology Policy priorities
http://www.ostp.gov/galleries/press_release_files/Final%20Signed%20OMBOSTP%20Memo%20-%20ST%20Priorities.pdf