

Hispanic-Serving Institutions Education Grants Program Supplemental Information

Through the HSI Education Grants Program, grant activities support the creation, adaptation, and adoption of learning materials and teaching strategies to operationalize what we know about how students learn. Many of these concepts are identified in the National Research Council's publication: [*How People Learn*](#). In addition, the HSI Education Grants Program supports projects that focus on imparting both technical knowledge as well as 'soft' skills such as communication, team work, and problem solving. As described in the 2011 report: [*Comparative Analysis of Soft Skills: What is Important for New Graduates?*](#), these soft skills are abilities sought by employers. While research and extension activities may be included in a funded HSI Education Grants Program project, the primary focus must be to improve teaching, enrollment, and graduation rates within a degree-granting program. However, academic institutions should consider broadening the undergraduate student experience by integrating opportunities to participate in research, education, and extension.

This document provides supplemental information to the HSI Education Grants Program Request for Applications (RFA). It includes the following topics:

- 1) Food and Agricultural Sciences Description
- 2) Educational Need Areas Supported
- 3) Eligible Student Recipient
- 4) Collaboration Projects: Linkages and Activities
- 5) USDA Agencies
- 6) Mission Critical Occupations
- 7) Suggested HSI Project Evaluation Plan

1) Food and Agricultural Sciences Description

According to Section 1404(8) of NARETPA as amended by Section 7101 of Public Law 110-246, the term " food and agricultural sciences" means basic, applied, and developmental teaching activities in food and fiber, agricultural, renewable energy and natural resources, forestry, and physical and social sciences, or rural economic, community, or business development including activities relating to the following:

- 1) Animal health, production, and well-being;
- 2) Plant health and production;
- 3) Animal and plant germ plasm collection and preservation;
- 4) Aquaculture;
- 5) Food safety;
- 6) Soil and water conservation and improvement;
- 7) Forestry, horticulture, and range management;
- 8) Nutritional sciences and promotion;
- 9) Farm enhancement, including financial management, input efficiency, and profitability;
- 10) Home economics;
- 11) Rural human ecology;
- 12) Youth development and agricultural education, including 4-H clubs;
- 13) Expansion of domestic and international markets for agricultural commodities and products, including agricultural trade barrier identification and analysis;
- 14) Information management and technology transfer related to agriculture;
- 15) Biotechnology related to agriculture;
- 16) Artificial Intelligence and Big DATA related to agriculture; and
- 17) The processing, distributing, marketing, and utilization of food and agricultural products.

2) Educational Need Areas Supported

a) **Curricula Design, Materials Development, and Library Resources (including development of courses of study and degree programs):**

The purpose of this strategy is to promote new and improved curricula, materials, and library resources to increase the quality of and continuously renew HSI academic programs in the food and agricultural sciences. The overall objective is to stimulate the development and facilitate the use of exemplary education models and materials that incorporate the most recent advances in subject matter, research on teaching and learning theory, and instructional technology and to demonstrate the benefit of new technologies. Applications may emphasize, but are not limited to: the development of courses of study, degree programs, and instructional materials; the use of new approaches to the study of traditional subjects; the introduction of new subjects or new applications of knowledge pertaining to the food and agricultural sciences; or the acquisition of books and journals relating to the food and agricultural sciences.

b) **Faculty Preparation and Enhancement for Teaching:**

The purpose of this strategy is to advance faculty development in the areas of teaching competency and leadership, subject matter expertise, or student recruitment and advising skills. Applications may emphasize, but are not limited to: obtaining experience with recent developments and new applications in a field; expanding competence in innovative technologies and new methods of instruction delivery or student advising skills; or pursuing further graduate-level study in a field related to the food and agricultural sciences. Each faculty recipient of support for developmental activities must be an "eligible participant" as defined in the definitions section of this RFA.

c) **Instruction Delivery Systems:**

The purpose of this strategy is to encourage the use of alternative methods of delivering instruction to enhance the quality, effectiveness, and cost efficiency of teaching programs. Applications may emphasize, but are not limited to: incorporating alternative instructional methodologies that respond to differences in student learning styles; inter-institutional collaborating in such a manner to deliver instruction in ways that maximize program quality and reduce unnecessary duplication; and considering and implementing innovative instructional techniques, methodologies, and delivery systems in response to advances in knowledge and technology. This includes the development of capacity for distance education in these particular areas in which institutions partner with one another to optimize resources in offering courses/programs via distance education.

d) **Scientific Instrumentation for Teaching:**

The purpose of this strategy is to provide students in science-oriented courses the necessary experience with suitable, up-to-date equipment in order to involve them in work central to scientific understanding and progress. Applications may emphasize, but are not limited to: acquiring new, state-of-the-art instructional laboratory and other classroom equipment to help assure the success and sustainability of outstanding higher

education programs in food and agricultural sciences; upgrading existing equipment; or replacing non-functional or obsolete equipment.

e) Student Experiential Learning:

The purpose of this strategy is to further the development of student scientific and professional competencies through experiential learning programs outside the formal classroom that provide students with opportunities to solve complex problems in the context of real-world situations. Applications may emphasize knowledge and applications that provide students with skills desired by employers such as: preparing future graduates to advance knowledge and technology, and improving participants' capacity to: enhance the quality of life of communities, conserve resources, and revitalize the Nation's economic competitiveness. During these experiences, students should advance their decision-making and communication skills, and improving real-life technological expertise. Applicants are encouraged to find a USDA agency, non-profit, and/or private sector organization to assist in the development of these student experiential learning activities, including international experiences.

f) Student Recruitment and Retention:

The purpose of this strategy is to strengthen student recruitment and retention programs in order to promote and strengthen the Nation's scientific, professional, and technical workforce in the food, agricultural, and natural resource systems. Applications may emphasize, but are not limited to: supplementing efforts to attract increased numbers of outstanding underrepresented students to prepare for careers as food, natural resources and agriculture scientists, professionals, and technicians; promoting opportunities for students from HSIs to engage in a robust exchange of ideas and a more effective use of the full breadth of the Nation's intellectual resources; or mentoring programs and other initiatives (including financial assistance) to attract and retain outstanding students.

3) Eligible Student Recipient

Each student recipient must be enrolled at an eligible institution and meet the requirement of an "eligible participant" as defined in the definitions section of the RFA, Part VIII, D., The following criteria must be taken into consideration when selecting scholarship recipients:

- a) Be a citizen or national of the United States;
- b) Must be attending a public or other non-profit HSI;
- c) Leadership activities and community service;
- d) Desire to pursue a career at USDA or in food, agricultural, and natural resource systems;
- e) Major related to the food and agricultural sciences;
- f) Participation in HSI's Education Grants Program Activities;
- g) Grade point average;
- h) Essay indicating interest in food and agricultural sciences; and
- i) Potential for adding diversity.

A student earning a two-year degree could become eligible to receive support to complete a four-year degree or a student earning a four-year degree could be sponsored to complete a master's degree. The student should be selected within the first 18 months of the award and encouraged to complete funded schoolwork within 54 months of the initial award date (4.5 years). Two-year colleges must have an articulation agreement allowing the student to complete a bachelor's or professional degree at the selected granting institution.

4) Collaboration Projects: Linkages and Activities

Collaboration Projects are designed to build capacity at participating institutions to promote collaboration, open communication, the exchange of information, and the development of resources that accelerate education of underrepresented students. Applications must:

- a) Seek to bring together a team of HSIs to develop and implement a Hispanic-serving initiative to recruit, retain, and support undergraduate and graduate students from underrepresented groups for four years or until they graduate;
- b) Aim to coordinate efforts and integrate activities among individuals, institutions, states, and regions. Applications should clearly articulate how a Regular or Collaboration award will complement and/or link with existing programs or projects to make a significant impact on the education of underrepresented students;
- c) Fund and conduct recruitment activities to select at least 25 students interested in careers in food, agricultural, and natural resource systems. Include a K-12 outreach and recruitment component supporting the development of a student pipeline;
- d) Track students and document student progress to show 90 percent retention until graduation;
- e) Recruit an advisory board, including a minimum of five representatives from different institutions that have doctoral programs on the field selected;
- f) Include summer programs for screening potential undergraduate or graduate students and enroll them in an agriculture or related program that includes completion of a degree;
- g) Negotiate summer paid internships off campus with a USDA/affiliate agency or a local non-profit organization serving the food and agricultural sciences community. Results of each internship should be documented consistently and must demonstrate learning and career/professional development outcomes;
- h) Encourage more effective partnerships and reduce duplication of efforts among participating academic institutions;
- i) Leverage funding to maximize the number of students participating in the project;
- j) Document measurable impacts and target audiences;
- k) Develop a project website with information on the students funded;
- l) Provide professional development opportunities to participating students, such as resume development, mock interviews, dressing for success, and effective communication;
- m) Hold USDA internship application workshops for students twice a year; and

Undergraduate and/or graduate students' activities may include any of the following activities:

- n) Cross-institutional and multi-disciplinary exchanges that will give students brief exposure to work at a collaborating institution and a new team;
- o) Summer internships (or research/extension experiences) for undergraduate students;
- p) Opportunities for students to serve as institutional ambassadors to recruit other students into their programs;
- q) Curricula and training that incorporates the principles of professionalism and professional ethics (undergraduate and graduate levels);

- r) A degree-appropriate understanding of the scientific method, experimental design and methodologies, and analyzing, interpreting, and communicating data;
- s) International experiences leading to an understanding of global issues;

Additionally, undergraduate and graduate students' activities must:

- t) Lead to measurable, documented changes in learning, actions, or conditions;
- u) Include academic guidance and tutoring as required as well as an internship search;
- v) Include travel support for a minimum of four students to attend professional conferences and make presentations;
- w) Include academic support mechanisms so that participating students maintain good standing of a 3.0 GPA or higher with a minimum of 15 credit hours per semester as an undergraduate;
- x) Provide resources to support assigned faculty in mentoring activities.
- y) Provide opportunities for students to acquire research experience with faculty;
- z) Recruit students to replace any dropouts and meet the minimum students' goal; and
- aa) Collect letters of commitment from students that indicate their accordance with all expectations. Students must confirm their understanding of any potential circumstances if they do not fulfill the requirements of the program, such as loss of reimbursement privileges.

5) USDA Agencies

Applicants are encouraged to collaborate with a USDA agency to leverage grant funds and/or contribute towards overall goals and objectives. USDA agencies are listed below:

- a) Agricultural Marketing Service (AMS)
- b) Agricultural Research Service (ARS)
- c) Animal and Plant Health Inspection Service (APHIS)
- d) Economic Research Service (ERS)
- e) Farm Service Agency (FSA)
- f) Food and Nutrition Service (FNS)
- g) Food Safety and Inspection Service (FSIS)
- h) Foreign Agricultural Service (FAS)
- i) Forest Service (FS)
- j) National Agricultural Statistics Service (NASS)
- k) Natural Resources Conservation Service (NRCS)
- l) Rural Development Agency (RD)
- m) Risk Management Agency (RMA)
- n) Rural Utilities Service (RUS)
- o) Rural Housing Service (RHS)
- p) Rural Business-Cooperative Service (RBS)

6) Mission Critical Occupations

Examples of collaborative activities with USDA could include but are not limited to: internships, USDA Career Days, HSI student visits or tours, and USDA staff presentations to students and faculty. The USDA Office of Human Capital Management has identified 20 Mission Critical Occupations (MCOs) in its FY 2008 Federal Equal Opportunity Recruitment Program Plan. Using this information, the HSI Education Grants Program encourages collaboration on food and agricultural science fields, which are primarily the top fifteen occupations listed below:

- a) Forestry Technician
- b) General Biological Scientists
- c) Biological Science Technician
- d) Soil Conservation Specialist
- e) Soil Conservation Technician
- f) Forestry Specialist
- g) Dietician and Nutritionist Specialist
- h) Consumer Safety Specialist
- i) Soil Science Specialist
- j) Veterinary Medical Officer
- k) General Business and Industry
- l) Statistician Specialist
- m) Consumer Safety Inspection
- n) Food Inspection Specialist
- o) Agricultural Commodity Grader

7) Suggested HSI Project Evaluation Plan

Below are ways for you to quantify the products and individuals served by the projects. Ways in which to quantify your impact are listed too. To answer these impacts and outcomes questions, consider using valid and reliable methodology (i.e., pre/posttest instruments and surveys, focus groups, interviews, etc.). It would be best to present this information in your application - “what you intend to do” - and your annual and final reports “what you have done.”

CURRICULUM, MATERIALS, PROGRAM DEVELOPMENT

Products and Individuals Served:

Please identify: Program, course, curriculum, instructional materials

Please identify: on campus instruction, distance education

of courses developed

of modules developed

of degree programs developed

If applicable, degree level _____

of certification programs developed

of credits/credit hours

of students enrolled in new course/degree program

of students using technology/materials derived from project

of degrees conferred in new program

Outcomes and Impacts:

Does the curriculum, materials, or programs developed/changed affect students’ interest, engagement, or learning in the food and agricultural sciences?

To what extent do other institutions adopt the program or curriculum developed?

SCIENTIFIC INSTRUMENTATION FOR TEACHING

Products and Individuals Served:

Type of instrumentation obtained: lab equipment, computers, lab supplies, printed materials, books

Other (please specify): _____

of individuals using instrumentation within department

of individuals using instrumentation outside of department

Outcomes and Impacts:

Does the new scientific instrumentation affect students’ interest, engagement, or learning in the food and agricultural sciences?

FACULTY DEVELOPMENT

Products and Individuals Served:

of faculty supported to attend or participate in the following training or developmental activities:

Degree or certification programs

Workshops
Experiential learning opportunities
Professional meetings
Sabbaticals/Visiting Scholar Programs
Other (please specify):_____

Outcomes and Impacts:

Does the faculty development opportunities supported by the grant affect faculty competencies in teaching food and agricultural sciences?

STUDENT EXPERIENTIAL LEARNING

Products and Individuals Served:

Location of activity: on campus, off campus, both
of experiential learning opportunities at the following locations:
Businesses
Organizations/non-profits
Academic institutions
USDA agencies
Federal agencies other than USDA
State/local government
International
Other (please specify)_____

of experiential learning opportunities:
Internships
Research opportunities
International/ study abroad
Peer mentoring
Volunteer opportunities/community service
Outreach/extension activities
Other (please specify) _____

of publications (i.e., journal, newsletter articles or other media)
Citations: _____
of products (i.e., webpages, games, etc.)
of presentations (i.e., oral or posters)

Outcomes and Impacts:

Do the experiential learning opportunities developed affect students' interest, engagement, or learning in the food and agricultural sciences?

COLLABORATIVE ACTIVITIES

Products and Individuals Served: # of internal institutional partnerships

of external partnering institutions

Please identify: government, business, academic institution, non-profit

If academic institution, please specify: 1890, 1862, public non-land grant, 1994, MSI, HSI, private

Duration of partnership. From _____ to _____

of shared courses

of shared faculty

of shared facilities

Outcomes and Impacts:

Does the collaborative activity affect students' interest, engagement, or learning in the food and agricultural sciences?

Do the collaborative activities strengthen the capability of the institution to recruit, retain, and graduate students in the food and agricultural sciences?

STUDENT RECRUITMENT

Products and Individuals Served:

of students contacted (include K-12)

of students recruited in the current academic year

of students enrolled as a result of recruitment efforts

of underrepresented students recruited

Types of activities:

- a) institution field trips
- b) academic preparation workshops
- c) # of parent contacts

Outcomes and Impacts:

Do the techniques used in the project influence the number of students (or number of underrepresented students) recruited in comparison to recruiting techniques used prior?

STUDENT RETENTION

Products and Individuals Served:

of students retained in the current academic year

underrepresented students retained in the current academic year

of tutoring hours

of advisor hours

Outcomes and Impacts:

Do the techniques used in the project influence the number of students (or number of underrepresented students) retained in comparison to retention techniques used prior?

CONFERENCE PLANNING

Products and Individuals Served:

Conference type: regional, national, state, local

of attendees

of presenters

of poster sessions

of presentations given

Outcomes and Impacts:

Did the conference result affect attendees' knowledge in the food and agricultural sciences?

INSTRUCTIONAL DELIVERY SYSTEMS

Products and Individuals Served:

of students using the new instructional delivery system

of capstone courses developed

of cooperative learning opportunities developed

of service learning opportunities developed

of case studies developed

of online classes developed

Outcomes and Impacts:

Does the new scientific instrumentation affect students' interest, engagement, or learning in the food and agricultural sciences?

RESEARCH PROJECTS

Products and Individuals Served:

of participating students

of participating faculty

of participating institutions

of conference poster presentations

of conference talks

of peer-reviewed journal articles

of publications besides peer-reviewed journal articles

of patents

Outcomes and Impacts:

What new discoveries were generated through this research project? What are the benefits and who will benefit?

EXTENSION PROJECTS

Products and Individuals Served:

- Primary grant type: agriculture, youth, natural resources, nutrition/health
- # of community members served (estimate):
- # of farmer contacts
- # of acres improved
- # of youth contacts
- # of youth clubs
- # of community contacts
- # of health and wellness activities
- # of educational materials developed (i.e., CDs, brochures, etc.)

Outcomes and Impacts:

Did the project result in a change in knowledge or attitude by community members, youth, farmers, ranchers, or other extension personnel?

In addition, applicants are encouraged to develop proposals that include the following characteristics:

Focus:

All HSI-funded projects should focus on improving the quality of academic instruction within the K-20 system in order to recruit and retain a greater number of qualified graduates who are either: (a) capable of entering the agricultural sciences workforce with occupational competencies expected by employers, or (b) encouraged to pursue an advanced degree in disciplines supporting the six NIFA Priority Areas. 'Academic instruction', as used in the previous sentence, includes improving curricula, faculty competencies, and interactions with other academic institutions or employers to increase student recruitment and retention levels in order to meet the demands of a changing U.S. agricultural sciences workforce.

Scale:

All HSI-funded projects should seek to address a greater number of prospective students or qualified faculty and demonstrate the potential for adoption by other academic institutions to address similar challenges. Projects should also maximize available educational resources, encourage partnerships, and reduce duplication of efforts among participating academic institutions, especially in areas of faculty expertise, course offerings, and transfer or articulation agreements between institutions, all to enhance students' interests and abilities to pursue advanced degrees.

Impact:

All HSI-funded projects should seek to create measurable impacts. Impacts are defined as anticipated benefits for the target project audience. Measuring impacts begins with a comprehensive Project Evaluation Plan that includes developing assessment instruments at the time objectives are planned. The Project Evaluation Plan explained in Part I.C.8., provides further specific guidance on the importance of developing a compelling impact.