

**HHMI Undergraduate Science Education - Universities
2010 Competition System
Experiments Proposal Guidelines**
These guidelines should serve as a reference in writing the proposal.

For questions related to the submission process, please contact HHMI at ugradcomp@hhmi.org or 301-215-8895. For technical assistance, please contact websupport@hhmi.org or 301-215-8580.

Overview

The Howard Hughes Medical Institute invites proposals for the 2010 Experiments in Undergraduate Science Education, which will supplement institutional “core” grants to research universities. The aim of the Experiments competition is to encourage science faculty to try well-designed and innovative experiments in undergraduate science education. All Experiment proposals must accompany a proposal for a core grant, but an Experiment is not required for an institution to participate in the core grant proposal competition. Experiment proposals will be submitted and evaluated separately from the core proposals, and only a small number of experiments will be funded. The evaluation criteria for Experiments are:

- degree to which the experiment innovatively and directly addresses one or more important challenges in science education;
- evidence of a well-designed hypothesis-driven approach, which clearly lays out all steps of experimental process (e.g., questions, methods, results, and discussion)
- evidence of an outcomes-based plan for assessment of the effectiveness of the experimental design and results;
- appropriateness of the budget to specified activities of the experiment;
- effectiveness of the leadership and key personnel in administering, assessing, and disseminating the specified activities of the experiment.

Details regarding these evaluation criteria can be found in the proposal guidelines below.

Contact Info

Enter all required fields for your contact information. Some of the contact information will have already been entered and cannot be changed (e.g., name and email address) because this information was provided to us directly by your institution when they indicated the intent to apply. Please note that the contact person is the person responsible for completing the proposal online and is not necessarily the program director.

Proposal Summary

In the Project Title text field, using no more than 400 characters, enter the title of your project. In the Executive Summary text field, using no more than 4,000 characters, enter a summary of the proposal that states its most significant elements. Note that special character formatting (e.g., superscripts, subscripts, Greek Letters) is not supported in text boxes. Spell out all symbols as necessary (e.g., alpha, beta, gamma) and place superscripts or subscripts in brackets.

Proposal Narrative

HHMI seeks proposals for experiments that address important challenges in science education and whose results will be useful to know regardless of whether the hypothesis is proven. The proposal narrative should describe a hypothesis-driven project based on a compelling rationale and on a sound interpretation of available data. The proposal should include an appropriate review of the relevant literature and preliminary results, a detailed description of the experimental approach(es), a discussion of how the results will contribute to the understanding of the problem, and plans for the effective dissemination of the results. Because it is likely that the topic of the experiment will be related to a portion of the core grant, it is important to clearly state how the proposed experiment is a significant and distinct effort and not simply an incremental addition to the core grant. The success of the core program should not depend on the Experiment being funded.

Evaluation Plan

This section should clearly present the ways by which the outcomes of the Experiment will be evaluated, divided into two parts. An outcomes-based plan will describe the applicant's process that led to the design of the program, including, for example, the inputs, strategies, outputs, outcomes, and impacts. The second part will summarize how the desired outcomes will be assessed including the questions, indicators, methods and tools of assessment. An accompanying narrative should explain the important details of the planning process and describe how the assessment will be implemented. An illustration of one way to present the evaluation plans is found in the HHMI document, Maps and Measures.

Budget

An Experiment is eligible for funding for up to \$600,000 over four years in addition to the core grant. The budget template contains data fields by line items and is divided into two categories--Personnel Costs and Operational Costs--for each of the four grant years. All totals and subtotals are calculated by the system and cannot be changed. Award payments are typically spread equally over the four years of the grant. A description of each of the budget line items is provided below to guide in assigning costs consistent with HHMI policy. In some cases, however, the budget line item description will defer to the applicant institution's definition of a line item. Use the budget justification section of the budget template to provide a clear breakdown of all personnel costs (e.g., number of full-time equivalents, positions, program roles) and operational costs (e.g., description of materials, supplies, and equipment).

Personnel Costs

- Undergraduates: Payments to undergraduate students by the grantee institution for participation in grant-related activities, such as research or special courses.
- Graduate Students and Postdoctoral Students: Payments by the grantee institution to graduate students or postdoctoral fellows of the grantee institution for their grant-related educational activities.
- Faculty: Payments by the grantee institution to faculty of the grantee institution for their grant-related activities. HHMI funds should only be used to support university faculty who assume significant leadership roles in the project. For example, it is unlikely HHMI would support a faculty member to supervise students in research projects.
- Visiting Faculty: Payments by the grantee institution to visiting faculty of the grantee institution for their grant-related activities.
- Professional Services: Payments by the grantee institution to contractors or consultants for their services provided to grant-related activities.
- Tech/Admin/Research Assistant: Payments by the grantee institution for technical, administrative, and research support for their grant-related activities.
- Teachers and Students: Payments by the grantee institution to precollege teachers and students who are participating in grant-related activities such as research experiences, workshops, or special courses.
- Other Personnel Costs (specify in Budget Justification): Expenses under the program component that are not otherwise included in the standard line items. Note: Each line item listed in *Other* must be specified in the budget justification section.

Operational Costs

- Materials and Supplies: The cost of any item considered consumable or with an expected useful life or purchase cost below the threshold for equipment. Use the guidelines in place at the grantee institution to define supplies. Such guidelines usually are based on expected minimum useful life and a threshold acquisition cost.
- Meetings and Travel: The cost for travel and registration for students, faculty, or others supported by the HHMI grant for participation in scientific or other professional meetings relevant to the project. This includes costs of participation in a meeting that is part of an HHMI grant-supported activity and costs of organizing a meeting that is part of the HHMI project. Note: Allowable costs and any limits for travel expenses (transportation, lodging, meals, etc.) are to be based on guidelines in place at the grantee institution for reimbursement from grant funds.

- Equipment (specify any item greater than \$10,000 in Budget Justification): The cost of equipment, using the guidelines in place at the grantee institution to define equipment. Such guidelines usually are based on expected minimum useful life and a threshold acquisition cost. If parts or accessories are purchased along with the major piece of equipment, then include those items as part of the purchase cost of the equipment; if they are purchased later, report them as supplies unless they meet the criteria for equipment.
- Equipment Maintenance: The cost of equipment maintenance and repair, using the guidelines in place at the grantee institution to define equipment.
- Housing: The cost of housing participants involved in grant-related activities.
- Other Operational Costs (specify in Budget Justification): Expenses under the program component that are not otherwise included in the standard line items. Note: Each line item listed in *Other* must be specified in the budget justification section.

HHMI undergraduate grant initiatives do not allow for indirect costs; however, up to 10 percent of the Experiments Proposal budget may be for program administration, which includes clerical support, preparation and dissemination of participant recruiting materials, and Internet access charges. Costs for program administration should be budgeted in the *Other Personnel Costs* and *Other Operational Costs* line items and must be explained in the budget justification section. Requests for program administration in both categories **may not exceed 10 percent of the total budget.**

Curriculum Vitae

Program Director: The program director will be responsible for administration of the grant and for establishing the necessary review and evaluation processes for program activities. The individual designated as program director should have a strong record of achievements in research, education, and administration. The program director for the core grant proposal will also be the program director for the Experiment in Undergraduate Science Education grant proposal.

Key Faculty or Personnel: Key faculty or personnel are individuals with substantial involvement in the implementation of the proposed activities. They can include members of an advisory committee, program coordinators, faculty, and teachers. It may be appropriate to identify one or more leaders of the Experiment who are different than the program director; be sure to indicate this individual's responsibilities in the proposal narrative. A program co-director may be designated, but HHMI considers the program director as the individual responsible for the administration of the grant.

Letters of Support

Signed letters of commitment or support from up to 10 collaborators may be included. Where appropriate, one letter of support signed by all collaborating institutions in a joint activity can be used instead of multiple letters.

Other Items

Instructions for Proposal Formatting

- Observe limitations on length for each proposal section and minimum font size (11-point font, proportional, preferably Times New Roman). The limitations in the following table are indicated before each relevant text or upload field in the system.

Field	Limit
Proposal Summary	Project Title: 400 characters Executive Summary: 4,000 characters
Proposal Narrative	10 pages (3,500 words double-spaced)
Evaluation Plan	3 pages (1,050 words double-spaced)
CVs for Program Director and up to 5 Key Faculty or Personnel	4 pages (2,800 words) per CV
Up to 10 Letters of Support	1 page (700 words) per letter

- Use the budget and other forms as they are provided in the HHMI Competition System.
- Proofread the entire proposal carefully before submitting it. Applicants will be able to review the content in a PDF version from the Validate/Submit page of the competition system. The PDF version, which can be viewed and printed at any time, gives applicants an opportunity to see the proposal as the reviewers will see it.

Validating and Submitting the Proposal

- Proposals cannot be submitted until they are validated.
- The validation page will reveal the status of each of the proposal's elements and instances where revisions will need to be made.
- Validations include those related to completeness and format (e.g., checking for page length).
- Once all validation issues have been resolved, the applicant is able to view the proposal in PDF and then to submit it.
- The deadline for the electronic submission of the proposal is 2:00 p.m. ET October 1, 2009. The deadline for receipt at HHMI of the hard copy of the proposal is 2:00 p.m. ET October 8, 2009.
- The Proposal Contact will receive an email confirming that the electronic submission has occurred successfully. Applicants submitting a core grant proposal and Experiments grant proposal will receive a separate email confirmations for each submission.
- Mail one hard copy of the Experiments proposal for receipt at HHMI by October 8, 2009 to:
HHMI Undergraduate Science Education Program
Grants and Special Programs
4000 Jones Bridge Road
Chevy Chase, Maryland 20815-6789
- Hard copy submissions for the Experiments grant proposal may be mailed in the same package as the core grant proposal.

Important Dates and Times

May 14, 2009, 2:00 p.m. ET – Deadline to submit intent to apply

October 1, 2009, 2:00 p.m. ET – Deadline for electronic submission of the proposal

October 8, 2009, 2:00 p.m. ET – Date for receipt of hard copy of proposal by HHMI

May 2010 – Announcement of 2010 awards

Questions

For inquiries, contact Andrew Quon, program officer, or Billy Biederman, program assistant, at (301) 215-8895, or e-mail ugradcomp@hhmi.org.

For information about this competition, including a list of invited institutions and descriptions of programs funded in previous competitions, go to www.hhmi.org/universities.