



**AAU Undergraduate STEM Education Initiative
AAU STEM Department Demonstration Projects on Teaching Evaluation**

Preliminary Proposal Request

Department demonstration project preliminary proposals are to address the questions below and not exceed **8 pages**. Email submissions to Tara King, AAU Higher Education Project Manager, at tara.king@aau.edu. **Preliminary Proposal Due date: October 18, 2021**

Upon review of preliminary proposal submissions, a selection of departments will be invited to provide full details of proposed implementation, along with responses to supplemental questions and targeted suggestions for refinements. Full proposals will be due January 10, 2022.

Although all STEM departments at AAU institutions are eligible to submit a preliminary proposal, no more than one STEM department per university will be awarded funding. **Detailed information about the program, department demonstration project expectations, project timeline, proposal submission/review process, and FAQs are found in the appendix materials.**

Departmental Context

1. Department Name:
2. Describe the composition of department. In particular indicate the number of:
 - Tenured or tenure-line faculty:
 - Non-tenure line or contingent faculty (e.g., long-term contract, adjunct):
 - Graduate students (master's and/or doctoral):
 - Undergraduate student majors:
3. List the name, title, and email address of the following individuals:
 - Project leader (Department Chair):
 - Project co-leader(s):
 - Project team members:
4. In order to demonstrate overall departmental support for proposed reforms we expect applicants to discuss the proposed project at a faculty meeting and put the decision to advance the proposal up to a vote. Please indicate the date and outcome of the faculty vote to endorse this proposal submission.

Departmental Reflection on Teaching Evaluation

5. Describe the current status in your department around teaching evaluation, including a description of how it is carried out at this time and its strengths, weaknesses, and challenges.
6. Describe the department's aspirations for teaching evaluation, including a justification for why the elements of the proposed new system are well suited for the department.

Project Activities

7. Please describe the department-based project to implement a more effective and equitable way to evaluate teaching. Explain how the project activities would align the reward system with a commitment to evidence-based teaching practice and address the disincentives to devoting time to the improvement of teaching. Also, please include a draft project timeline showing when the department plans to implement specific project activities.
8. Identify the measures the department will use to:
 - a. **Measure the extent of use of evidence-based effective and inclusive teaching practices.** Provide a way to determine the extent of adoption of teaching practices by department faculty members that research shows correlate with improved student learning and engagement as well as success for all demographic groups. For example, see the [Teaching Practices Inventory](#).
 - b. **Incorporate faculty teaching reflections.** Design a targeted set of self-reflection questions that capture reflection and growth as an educator, together with a method for scoring the responses that provides faculty members with a measure of their achievement and progress. For example, see the [DeLTA Project Instructor Self-Reflection on Teaching](#).
 - c. **Incorporate meaningful student feedback.** Develop a way to collect meaningful student feedback centered around questions about students' educational experiences (and *not* their ratings of courses) and a method to score responses.
 - d. **Document and recognize educational leadership.** Design methods to document and include contributions to undergraduate or graduate education within the department or institution that go beyond the teaching of their own courses.
9. How would the evaluation system minimize bias due to factors outside of an instructor's control (such as course level or enrollment, instructor gender, instructor race/ethnicity, etc.) and be implemented with equity?
10. Describe the college and/or institutional resources and expertise that will partner with the department to advance this project.
11. What is the project evaluation plan and the forms of evidence that will be used to demonstrate the project's success?

Institutional Commitment

12. Insofar as a demonstration project will affect the entire faculty of a department, the department chair would normally want to assume principal responsibility for overseeing the project. Provide a statement from the chair indicating that they are committed to seeing the project through to full implementation across the entire department. Chairs should indicate what they see to be the main obstacles that must be overcome for full implementation, and strategies to generate

faculty buy-in for this project. Chairs should also describe a past circumstance or effort (in any domain) in which the department unit worked collectively to achieve a common goal.

13. Provide a statement from the college dean indicating the extent to which the proposed evaluation scheme is compatible with existing (or planned) procedures for promotion and tenure. The dean could also indicate how the department demonstration model might be used as an exemplar to improve the faculty reward system at the college and/or university level.



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Overview of the Program

The Association of American Universities (AAU) is advancing a [new program](#) to select and grant five departments at its member universities with \$100,000 awards to support department-level development, implementation, assessment, and dissemination of more effective methods for evaluating STEM teaching. The program will provide selected departments with structured support that focuses on critical elements necessary to improve the evaluation of teaching within STEM departments at research universities; consultations with experts on project design, implementation, and evaluation; and learning through dialogue with colleagues at other universities in virtual cross-campus learning community engagements. These aspects will allow the department-wide demonstration projects to become established, produce results, and show impact in a short amount of time. The program will take place over spring 2021-2025 (see the program timeline in Appendix C for more details), and awards to departments will be discretionary funds to be used in ways that best support department-based project efforts.

Department Demonstration Projects

Participating departments will commit to the development, implementation, and evaluation of a department-based project that demonstrates a better way to evaluate teaching, particularly the use of the most effective teaching practices. Demonstration projects will be expected to evaluate the use of evidence-based effective and inclusive teaching practices that research shows improve student learning, and acknowledge faculty members' contributions to education beyond teaching individual courses. It is also expected that demonstration projects will integrate a wide spectrum of perspectives by collecting data from several sources including faculty teaching self-reflections and student experience data. This more holistic approach addresses concerns and diminishes biases that often emerge when traditional student ratings are used as the primary source of information for evaluating teaching (see, Appendix B for detailed expectations and criteria).

Learning Community and AAU STEM Network Engagements

AAU will work to connect the departments participating in the program with one another. The five selected demonstration projects will be expected to participate in a series of virtual learning community meetings hosted by AAU twice yearly (in March and October). These virtual convenings will be opportunities for knowledge exchange among project teams in which they can share what they are learning from their local implementation, and seek insights from others carrying out similar work. AAU may also find ways to support cross-campus dialogue among the five demonstration projects between meetings using an online platform such as Slack or Microsoft Teams.

The five selected demonstration projects will also engage with the larger AAU STEM Network. They will have opportunities to participate in AAU STEM Network Conference and AAU STEM Department Chair convenings, held every January on a rotating basis, to share their project

work and lessons learned with colleagues from across the AAU membership. For departments that showed interest in the program yet were not selected to receive funding, AAU will welcome and encourage their involvement in STEM Network convenings and activities.

Evaluation and Documentation

Obtaining a robust evaluation and detailed documentation of the five demonstration projects is central to the success of the program. Thus, demonstration projects will be required to submit deliverables to AAU that document and describe project activities, impact, and lessons learned. Specifically, these deliverables include a project evaluation plan and progress report in Year 1 (January 2023), a progress report in Year 2 (May 2024), and a descriptive case study in Year 3 (March 2025). Demonstration project team members will consult with one or more program advisors (Drs. Wieman, Lepage, Singer, Fairweather, Miller and King) to create strong evaluation plans during Year 1. An external evaluator is not required or expected. Progress reports in Years 1 & 2 will have demonstration project team members engage in reflection, capture snapshots of campus activities, and identify challenges faced and ways they overcame those challenges. During Year 3, demonstration project team members will create a descriptive campus case study that incorporates both quantitative and qualitative data. In partnership with the demonstration projects and the program advisory committee, AAU staff will develop a structure for showcasing the campus case studies that will best spotlight learnings from the individual projects and highlight larger lessons gleaned from their compilation.

Broader Impacts of the Program

Demonstration projects of successful methods for evaluating teaching will encourage and ultimately serve to incentivize and sustain the adoption of the most effective educational practices in STEM teaching. The five department-level models created through this program will be well documented, and lessons learned from them will be disseminated widely so that they may be implemented at other AAU institutions and elsewhere.

Program Advisory Committee

[Carl Wieman](#), Cheriton Family Professor and Professor of Physics and of Education at Stanford University; [Peter Lepage](#), Tisch Family Distinguished University Professor of Physics at Cornell University; [Susan Rundell Singer](#), Vice President for Academic Affairs and Provost, Rollins College; [Jim Fairweather](#), Co-PI, AAU Undergraduate STEM Education Initiative, Professor Emeritus, Michigan State University; [Emily Miller](#), AAU Deputy Vice President for Institutional Policy; and [Tara King](#), AAU Higher Education Project Manager will provide advisory support to AAU departments engaged in the program. They will participate in AAU-hosted virtual meetings with interested departments to answer questions in the initial phase of the program, work with applicants on the development of their project proposals, and provide direct counsel to the five awarded department-level demonstration projects to support their successful design, implementation, and evaluation.

AAU Undergraduate STEM Education Initiative AAU STEM Department Demonstration Projects on Teaching Evaluation

Department Demonstration Project Elements & Criteria

AAU STEM Department Demonstration Projects are expected to design, implement, and document a more rigorous teaching evaluation system that focuses on the use of evidence-based effective and inclusive teaching practices. The goal is for the demonstration projects to serve as model for other departments and have the potential to be implemented more broadly on their own campus, at other AAU institutions, and elsewhere. It is expected that faculty members from the department are directly engaged in the development of the demonstration project.

Demonstration projects will be expected to evaluate the use of evidence-based effective and inclusive teaching practices that research shows improve student learning, and acknowledge faculty members' contributions to education beyond teaching individual courses. It is also expected that demonstration projects will integrate a wide spectrum of perspectives by collecting data from several sources including faculty teaching self-reflections and student experience data. This more holistic approach addresses concerns and diminishes biases that often emerge when traditional student ratings are used as the primary source of information for evaluating teaching.

The STEM Department Demonstration Projects will be expected to advance work in specific areas. The following set of demonstration project elements and criteria are to further clarify for departments the expectations to participate as an AAU STEM Department Demonstration Project on Teaching Evaluation.

1. **Measure the extent of use of evidence-based effective and inclusive teaching practices.** Provide a way to determine the extent of adoption of teaching practices by department faculty members that research shows correlate with improved student learning and engagement as well as success for all demographic groups. This may be achieved by using an instrument such as the [Teaching Practices Inventory](#).
2. **Incorporate faculty teaching reflections.** Design a targeted set of self-reflection questions that capture reflection and growth as an educator, together with a method for scoring the responses that provides faculty members with a measure of their achievement and progress. For example, resources for this work might include [DeLTA Project Instructor Self-Reflection on Teaching](#).
3. **Incorporate meaningful student feedback.** Develop a way to collect meaningful student feedback centered around questions about students' educational experiences (and *not* their ratings of courses and instructors because of the demonstrated bias in such ratings) and a method to score responses.
4. **Document and recognize educational leadership.** Design methods to document and include contributions to undergraduate or graduate education within the department or institution that go beyond the teaching of their own courses.

In addition to integrating the elements outlined above into department teaching evaluation, department demonstration projects will need to meet general criteria for a good evaluation system.

- It must be fair, in that it can allow comparisons of all faculty members without bias due to factors outside of an instructor's control, such as course level or enrollment, instructor gender, instructor race/ethnicity, etc.
- It must be practical to do every year without placing onerous time burdens on either the faculty member to produce or on the evaluation committee or chair to review.
- It must be a credible proxy for desired student outcomes (e.g., learning and other measures of success).
- It must yield actionable feedback on teaching effectiveness, showing areas for improvement and quantitative measures to document when such improvement occurs.

Departments selected as part of the program should be positioned to launch their projects in spring 2022 and energetically participate through the program's conclusion in spring 2025. In addition, selected departments are expected to have a plan for how to sustain effective activities developed or used in their projects beyond the conclusion of program. Departments must also coordinate demonstration project team activities to effectively meet program expectations, timetables, and deadlines.

It is also an expectation that leadership at participating institutions (Presidents/Chancellors, Chief Academic Officers, Deans, Department Chairs, and other relevant university leaders) will publicly endorse the demonstration project objectives and commit the appropriate institutional support needed to participate in the AAU program.

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Program Timeline

Date	AAU	AAU Demonstration Departments
March 2021	Establish gift from Wieman & Gilbert Charitable Fund	
April 2021	Announce gift via AAU Press Release Develop: Request for Letter of Intent, Preliminary Proposal Request; Expectations for participation; Criteria or key factors for selection	
May 2021	Announcement of Program to AAU Provost and AAU STEM Initiative Point of Contact Zoom meeting to address questions related to the announcement	
June 14, 2021		Letter of Interest due to AAU (allows AAU to know the universe of interested departments)
June – October 2021	Host a zoom meeting for campuses preparing to submit preliminary proposals. With this, begin to form a learning community. (Note: opportunity to join in a knowledge exchange being coordinated by TEval project for fall 2021).	
October 18, 2021		Preliminary Proposal due to AAU.
October 2021 – January 2022	Help arrange consultations and support to member campuses in the design and development of full proposals. Develop with committee the method to evaluate proposals that builds from expectations and criteria.	
January 2022	Feature departments designing proposals at the AAU annual STEM Network Conference (virtual). AAU prepares proposals for review.	Full Proposals due to AAU on January 10, 2022 prior to the AAU STEM Network Conference.
February 2022	Selection committee reviews full proposals and makes decisions.	
March 2022	Inform selected institutions.	Campus press releases

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March 2022	Announce selected demonstration departments with joint campus press releases.	
April 2022	Fully execute MOUs with demonstration departments/institutions	Contracts/grants offices work with AAU to fully execute MOUs.
May/June 2022	AAU virtually convenes selected demonstration departments to help launch projects. Distribute \$40K to each department to start implementation.	Demonstration departments participate in a learning community virtual meeting.
September 2022 – May 2023	Design Year 1 progress reports.	Year 1 – Implementation starts with design of evaluation plan. Departments will have opportunity for consultations.
October 2022		Demonstration departments participate in a learning community virtual meeting.
January 2023	AAU hosts department chair workshop (in-person) and features demonstration projects. Funds to support chairs to attend the meeting. Upon receipt of Y1 progress reports and evaluation design AAU distributes \$40k.	Departments submit Y1 progress reports. Design of evaluation plan completed and accepted by department faculty. Attendance at Department Chair Workshop.
March 2023		Demonstration departments participate in a learning community virtual meeting.
June 2023 – May 2024	Design Year 2 progress reports.	Year 2 – Administer and collect evaluation data. Departments will have opportunity for consultations.
October 2023		Demonstration departments participate in a learning community virtual meeting.
January 2024	AAU STEM Network Conference (in-person)	Encourage campus participation in the conference.
March 2024		Demonstration departments participate in a learning community virtual meeting.

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May/June 2024	Upon receipt of Y2 progress reports AAU distributes \$20K.	Departments submit Y2 progress reports.
June 2024 – May 2025	<p>Discuss strategy for documenting demonstration projects.</p> <p>Collaborate with demonstration departments to develop/design a way to disseminate strategies and outcomes.</p>	<p>Year 3 – Refine and continue to administer and collect evaluation data.</p> <p>Departments develop case studies to document lessons learned.</p>
October 2024		Demonstration departments participate in a learning community virtual meeting (focus on case study request).
January 2025	AAU STEM Department Chair Workshop (in-person) - work to share and scale lessons learned from demonstration projects at meeting. Funds for chairs to attend.	<p>Drafts/posters of case studies with lessons learned featured at Department Chair workshop.</p> <p>Attendance at Department Chair Workshop.</p>
March 2025		<p>Final case studies due to AAU.</p> <p>Demonstration departments participate in a learning community virtual meeting.</p>

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Responses to Common Questions

Q&A Meeting on May 26, 2021: [Video Recording](#) and [Slide Deck](#)

Use of Award Funds

The \$100,000 award will be unrestricted funds that a department can use in any way to help them achieve their aspirations.

Demonstration Project Scope

Being a demonstration project will require a large lift by a department and its chair. To better understand what will be expected, see Appendix B. For this reason, we are seeking to grant awards to individual departments.

Evaluation

The evaluation of the success of the demonstration projects will be carried out by the individual departments with support from university resources, and in consultation with the program advisory committee. It will not involve the use of external evaluators.

The Application Process

AAU will provide consultations and support to member campuses in the design and development of proposals.

1. Letter of Interest (LOI) – one submission per campus, due June 14, 2021

Campuses are to coordinate a response to the three questions outlined in the [letter of interest guidelines](#). The purpose of the LOI is informational—it is a way for AAU to learn which campuses and departments are interested in this opportunity. AAU will follow up with the contact persons identified in the LOI to provide more information on the preliminary proposal solicitation. To gain a sense of what will be required by STEM Department Demonstration Projects, see Appendix B. Please note, AAU will send out a detailed set of questions to guide the development of preliminary proposals.

2. Preliminary Proposal – one submission per department, due October 18, 2021

Any STEM department at an AAU institution may submit a preliminary proposal. This includes AAU STEM departments that were not mentioned in campus LOIs. AAU uses the NSF definition of STEM for all efforts within its Undergraduate STEM Education Initiative, including this one. Departments with the most promising preliminary proposals will be invited to provide full details of proposed implementation, along with responses to supplemental questions and targeted suggestions for refinement (i.e., a full proposal). If more than one department from the same institution is invited to submit a full proposal, AAU will let those departments know and indicate the total number invited from the same campus.

3. Full Proposal – one submission per invited department, due January 10, 2022

The full proposal will not be an additional set of standard questions, but rather specific additional questions and targeted requests for clarification or improvements on preliminary proposals invited to submit more details of proposed implementation and refinements. AAU will provide further consultation and support in developing full proposals. The selection committee will evaluate full proposals and make award decisions, which will be announced in early March 2022. Five awards will be granted in total, and no more than one department from an individual AAU campus will be selected.