**dB-SERC Course Transformation Awards**

Request for Proposals

Submission Deadline: March 1, 2021

**Overview**

The Discipline-based Science Education Research Center (dB-SERC) invites proposals for Course Transformation Awards from the Natural Sciences Faculty members in the Dietrich School of Arts and Sciences at the University of Pittsburgh. The awards are to transform courses and improve student learning in those courses by adapting evidence-based practices.

**Eligibility**

All full-time faculty members in the Dietrich School of Arts and Sciences who teach undergraduate courses at the University of Pittsburgh main campus are eligible to submit proposals. Collaborations between faculty members in the Dietrich School of Arts and Sciences and the School of Computing and Information, the Swanson School of Engineering, or other disciplines are also eligible as long as one of the project directors is a faculty member in the Dietrich School of Arts and Sciences.

**Guidelines**

The awards are for faculty to facilitate their growth as teacher scholars consistent with dB-SERC’s mission to improve teaching and learning of natural sciences at Pitt. As such, proposals should meet some or all of the following criteria:

* Clearly describe the proposed course transformation, including student-centered evidence-based active engagement techniques to be used in the classroom.
  + Rationale for the proposed change(s) should also be discussed
* Have well-defined, measurable course goals (e.g., content-related goals, attitude related goals, affective goals, longitudinal outcome related goals, etc.).
* Include assessment measures throughout the course.
* Be sustainable (e.g., after the funding period is over, the transformed course which is found to be effective should be sustained and after an initial successful implementation in one section of the course, it could be implemented in other sections taught by other faculty members).
* Optional:
  + Address an Institutional need to transform large, foundational courses with a large D, Fail and Withdraw (DFW) rate to ensure that all students have a solid foundation to excel in STEM disciplines.
  + Address issues of access and equity that disadvantage students from traditionally-underrepresented groups.
  + Propose a realistic plan to use this award as seed funding for external funding agencies (e.g., from the National Science Foundation, National Institute of Health, or private foundations).
  + Develop new courses as part of joint bachelor degree programs, e.g., between the Dietrich School of Arts and Sciences and the School of Computing and Information.

**Size and Duration of Awards**

We anticipate awarding a mixture of grants of varying sizes (up to $10,000).

The award period will cover projects undertaken between **May 1, 2021** and **August 31, 2022.**

**Budget**

Requested funds cannot exceed $10,000. Acceptable budget items can include, but are not limited to:

* Purchase of supplies deemed crucial for the project and unavailable from departmental or other University sources.
* Salary including fringe benefit for undergraduate or graduate student(s) assisting in course transform and assessment efforts. Note that undergraduate students who assist in course transform and assessment efforts (e.g., as Undergraduate Teaching Assistants) can be given course credit instead of being paid.
* Any request for summer salary including fringe benefits for faculty developing instructional material including assessment tools for the transformed course should be discussed with the dB-SERC director prior to submission of the proposal.
* Technology and equipment needs, e.g., from the University Center for Teaching and Learning (UCTL) or to be purchased
* Upon completion of the project, if none of the project directors received salary, a $2,000 award may be given at the discretion of the dB-SERC Director, if their efforts are considered exemplary. If there are co-directors involved in the project, the award will be divided among the co-directors at the discretion of the principal Project Director.

Unacceptable budget items include the following:

* Course release time for faculty members during fall or spring semesters.

**Submission Deadline and Notification of Awards**

Proposals must be submitted by 5 pm on **March 1, 2021.**  It is anticipated that notification of awards will be made by **April 16, 2021**.

**Submission Method**

All proposals must be emailed to the dB-SERC proposal email address [dbserc@pitt.edu](mailto:dbserc@pitt.edu).

**Reporting and Other Requirements**

Successful applicants will be required to prepare a summary report describing the outcome(s) of the project, particularly with reference to the criteria for success of the transformation established in the proposal. Additional guidelines for reporting will be provided to funded Project Directors. The summary report should be emailed to the dB-SERC proposal email [dbserc@pitt.edu](mailto:dbserc@pitt.edu) by July 1, 2022.

In addition, Project Directors of all funded dB-SERC Course Transformation proposals are expected to conduct three dB-SERC lunch discussions at different stages of the course transformation with other Natural Science faculty members to discuss the following:

* + Their course transformation design for feedback before implementation.
  + How the course transformation is working during the implementation stage and receive feedback for tweaking as necessary.
  + Present their course transformation including assessment after the end of the course transformation and discuss ideas for improvement or expansion to future courses.

**Format of the proposal**

Each proposal must contain the following features:

1. **Cover sheet which includes:**
   1. Project Title
   2. Name and signature of the corresponding Project Director (for contact and budget responsibility) with department affiliation, complete campus address, phone number, and e-mail address
   3. Total funds requested
2. **Body of the Proposal**

The length of the main body of the proposal should not exceed five single spaced pages (12 point font) (these 5 pages include the abstract). The main body of the proposal must include the following:

* 1. Abstract (maximum one page)
  2. A clear description and rationale for the proposed course transformation

dB-SERC is an interdisciplinary Center and proposal reviewers will comprise of a cross section of faculty members and staff (including those from the Engineering Education Research Center). Please describe your project such that a scientist or engineer outside of your field can understand and evaluate your proposed transformation.

The description of the course transformation proposal should include:

* Specific measurable learning and/or attitudinal goals for students in the transformed course.
* Description of the assessments used to measure the extent to which each of the goals is met, e.g.,
  + low-stakes assessments throughout the course (formative assessments) and surveys at the end of the course (summative assessments) that provide feedback both to students and instructor throughout the semester should be described.
  + studies comparing transformed and traditional courses, comparison with data from literature, or other well-defined measures.
  + pre-/post-tests (e.g., of content, attitude, self-efficacy, etc.), in-class clicker questions, conceptual individual and/or group quizzes, impact on DFW rates or longitudinal and long-term outcomes. The dB-SERC website ([www.dbserc.pitt.edu](http://www.dbserc.pitt.edu)) includes information which can be helpful in designing an evaluation plan (e.g., contains a list of established assessments in each natural science discipline and information about evidence-based teaching strategies).
* At least one paragraph which provides rationale for the proposed transformation should be included. It is strongly encouraged that the rationale be based on previous experience or published research on teaching and learning.
  1. A final reflection on the design, implementation and assessment of the proposed course transformation and how changes will be made to the transformation effort based upon feedback. You can also discuss whether you have a vision for expanding and submitting this proposal to an external funding agency.

1. **Budget**

Prepare a budget for the proposed project using the form included with this Request for Proposals. Justification for each item in the budget must be provided.

Acceptable budget items can include, but are not limited to:

* Purchase of supplies deemed crucial for the project and unavailable from departmental, or other University sources.
* Salary including fringe benefit for undergraduate or graduate student(s) assisting in course transformation and assessment efforts. Note that undergraduate students who assist in course transform and assessment efforts (e.g., as Undergraduate Teaching Assistants) can be given course credit instead of being paid.
* As noted, any summer salary request for faculty members should be approved by the dB-SERC Director before submitting the proposal.
* Technology and equipment needs (e.g., from UCTL or to be purchased).

Unacceptable budget items include the following:

* Course release time for faculty members during academic year.

1. **Appendices**

A letter of support from the department Chair or Associate Chair should be submitted as the first Appendix. Other Appendices can be submitted for references, figures and tables, and appropriate syllabi (or part of it). They can also include additional relevant materials (e.g., proposed assessment tasks and/or instruments). The appendices should not exceed 5 pages.

**University Copyright Policy**

Any copyrightable materials created by faculty, staff, or students as a result of this University-funded project will be owned by the University subject to a royalty-sharing agreement with the creator. For specific information, please refer to University Policy 11-02-02, Copyrights, at [www.cfo.pitt.edu/policies/policy/11/11-02-02.pdf](http://www.cfo.pitt.edu/policies/policy/11/11-02-02.pdf).

**Proposal Review Process**

All proposals will be reviewed by a committee convened for this purpose by the dB-SERC Director. Strong considerations will be given to proposals which:

* Are considered to achieve more objectives set forth on page 1 of this document to a high degree.
* Include quality assessments that are likely to provide an accurate depiction of the impact of the instructional transformation.
* Attempt to transform large, foundational, introductory courses with large DFW (drop, fail, withdraw) rates.

The proposals that are for seed funding for course transformation efforts to be expanded by seeking external funding (e.g., NSF or NIH or private foundations) after the initial development, implementation and assessment period will also be given preference if the reviewers discern merit in seeking external funding. dB-SERC can provide consultation in this regard if there be an interest in writing an external proposal for expanding the transform effort.

**In addition, the following services are available to all Pitt faculty members:**

University Center for Teaching and Learning (UCTL)

UCTL provides teaching related services to faculty. Visit the UCTL website (<https://teaching.pitt.edu/>) for information.

**Computing Services and Systems Development (CSSD)**

CSSD can assist faculty in planning for the effective use of technology, including providing hardware and software advice, and access to training resources. Visit the CSSD website ([www.technology.pitt.edu](http://www.technology.pitt.edu)) for information.

**dB-SERC Course Transformation Awards Budget Form**

Project:

Project Director:

Instructions: Requested funds must be itemized and all amounts must be whole dollars. Attach budget justification by line item(s). Please use additional sheets as necessary.

Salaries and Wages (must include fringe benefits):

Subtotal, Salaries and Wages with Fringe: $

Equipment:

Subtotal, Equipment: $

Supplies:

Subtotal, Supplies: $

Other (specify):

Subtotal, Other: $

Total Amount Requested: $