

OER Revisions and Ancillary Materials Creation Mini-Grant Application

Affordable Learning Georgia aims to support the sustainability of previous Textbook Transformation Grants implementations through revisions of created open educational resources or the creation of new ancillary materials for ALG-funded OER. Individuals or teams who would like to apply for an OER Revisions or Ancillary Materials Creation Mini-grant do not need to be the original creators of the resource(s). While we welcome original authors to revise their original materials, the nature of open licenses allows for the revision and remixing of OER materials by anyone as long as the terms of the license are adhered to.

The final deliverable for this category is the revised or newly-created materials as proposed in the application, which will be hosted through GALILEO Open Learning Materials. All revised or newly-created materials will be made available to the public under a Creative Commons Attribution License (CC-BY), unless the original materials were under a more restrictive license such as the inclusion of SA (Share-Alike) or NC (Non-Commercial).

For the purposes of this grant, we define revision as the major improvement of a resource through updates for accuracy, accessibility, clarity, design, and formatting. We define ancillary materials as any materials created to substantially support the instruction of a course using an existing open educational resource(s).

Applicant Name *

Jared Schlieper

Applicant Position *

Associate Professor

Applicant Institution *

Armstrong State University

Applicant Email Address *

Please use your institutional email address.

jared.schlieper@armstrong.edu

Other Team Members

Individuals can apply for mini-grants; a team is not required. If you do want to add team members to your grant, please provide the names and email addresses here.

Greg Knofczynski, greg.knofczynski@armstrong.edu

Type of Project *

- Revision of pre-existing OER
- Creation of ancillaries for pre-existing OER
- Other: _____

Final Semester of the Project *

This is the semester in which the materials created/revised will be completed.

- Spring 2018
- Summer 2018
- Fall 2018

Proposed Grant Funding Amount: *

This is the total (in a dollar amount) of funding you are requesting for the mini-grant. There is a maximum of \$4800, with a maximum of \$2000 per team member and \$800 for project expenses.

\$4800

Currently-Existing Resource(s) to be Revised / Ancillaries Created *

Please provide a title and web address (URL) to each of the currently-existing ALG-funded resources that you are either revising or creating new ancillary materials for below.

We will create homework problems in WeBWork to accompany the adopted OER materials for Elementary Statistics. Through a previous ALG Grant, proposal #183, two open source statistics books were adopted for use at Armstrong State. The books are Open Stax Introductory Statistics, <https://openstax.org/details/books/introductorystatistics>, and OpenIntro Statistics, 3rd edition, <https://www.openintro.org/>.

Project Description *

In at least one paragraph, describe your project's goals and deliverables.

Through a previous ALG Transformation Grant, the Armstrong math department adopted open source textbooks for Elementary Statistics but the need for a high quality online homework system that is low cost/no cost for the students and easily utilized by faculty is missing. The department currently gives faculty three options for homework systems; WebAssign, WeBWork, or paper-and-pencil homework system. WebAssign is the most used option and costs \$52 per student for access for one semester. WeBWork is open source and free but very cumbersome for faculty to select good quality homework problems. Paper-and-pencil homework is effective but is very time consuming for faculty and students alike.

For this project, we will create well-written, applicable, real data-driven homework questions for Elementary Statistics in WeBWork. While there are some problems currently available within WeBWork, many problems are inconsistent in the language used and the answer requirements. This makes finding quality problems difficult. In WeBWork, each homework problem is an algorithm so creating or editing a single problem can take considerably more time than expected. It is not unusual for a single problem to take 30-45 minutes or more to create or edit and then check. Because they are algorithms, each student can receive homework problems which contain values that are unique to them. This forces students to attempt their own homework problems and eliminates the temptation of students to simply copy another's work. Thus, although WeBWork currently offers homework problems, most of them are not suitable for our courses or are poorly written. We often have to search through dozens and dozens of problems to find one decent one, and it may still need editing.

Drs. Knofczynski and Schlieper will use WeBWork during Spring 2018 using the problems available within WeBWork. Homework problems that need editing or replacing will be identified during the spring semester, keeping track of problems which cause student frustration. That is, student questions that are related to the wording of the problem not the material being tested. The tracking, editing and creation of problems will occur within WeBWork using the built-in editor. The homework problems will be labeled and well organized according to chapter and section of the Open Stax and OpenIntro books so that other instructors can easily find problems to assign. Some instructors do not use online homework systems due to a lack of knowledge about them, or they find the system for selecting appropriate homework problems cumbersome and burdensome. To address this problem, Drs. Knofczynski and Schlieper will create a 'model course' with preselected homework sets for each section covered in the course.

Once the project is complete, all homework problems can easily be made available to all faculty wishing to use them through WeBWork. Additionally, the homework problems can be made available to other professors at other institutions through submission to WeBWork's Open Problem Library.

Timeline and Personnel *

Provide a project timeline with milestones below, keeping in mind your selected Final Semester above. Provide a short description of the roles any additional team members will take on during the activities in your timeline.

Spring 2018

January - May: Determine which current problems need editing and find areas where more homework problems are needed.

Summer 2018:

May - June: Create, edit and upload homework problems for descriptive statistics, probability, and probability distributions.

July: Create, edit and upload homework problems for Central Limit Theorem, and one and two variable inferential statistics.

August: Distribute materials to the math department through WeBWork, post the materials to GALILEO, and submit the problem sets to WeBWork's Open Problem Library.

The editing and creation of problems in WeBWork will be split evenly between Drs. Knofczynski and Schlieper. Dr. Schlieper will be responsible for distributing the completed materials.

Budget *

Please enter your project's budget below. Include personnel and projected expenses. The maximum amounts for the award are as follows: \$4,800 maximum award, \$2,000 maximum per team member, \$800 maximum for overall project expenses. Unlike standard-scale and large-scale transformations, the maximum of \$800 is not a required element of the budget, but rather meant primarily for the purchase of specific tools and software which would help with improving resources.

Drs. Knofczynski and Schlieper will each receive \$2,000 summer pay for salary and benefits. Dr. Knofczynski will also receive \$800 to purchase an iPad Pro. Besides providing remote access to WeBWork, an iPad Pro will allow Dr. Knofczynski to better annotate problems for fully online courses and will also provide a means for creating graphical or mathematical hints to be imbedded in WeBWork for the more difficult homework questions.

Budget Total: \$4800

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