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Application Summary

Competition Details

Competition Title:	Textbook Transformation Grants, Round Fifteen (Fall 2019 - Fall 2020)
Category:	University System of Georgia
Award Cycle:	Round 15
Submission Deadline:	09/16/2019 at 11:59 PM

Application Information

Submitted By:	Shafat Mubin
Appplication ID:	3606
Application Title:	495
Date Submitted:	09/17/2019 at 8:35 AM

Personal Details

Institution Name(s):	Valdosta State University
Applicant First Name:	Shafat
Applicant Last Name:	Mubin
Applicant Email Address:	smubin@valdosta.edu
Applicant Phone Number:	2292532994
Primary Appointment Title:	Assistant Professor of Physics
Submitter First Name:	Shafat
Submitter Last Name:	Mubin
Submitter Email Address:	smubin@valdosta.edu
Submitter Phone Number:	2292532994
Submitter Title:	Assistant Professor of Physics

Application Details

Proposal Title
495

Requested Amount of Funding
8800

Priority Category (if applicable)
Scaling Up OER

Final Semester:

Summer 2020

Course Title(s)
Introduction to the Universe

Course Number(s)
ASTR 1000

Team Member 1 Name
Shafat Mubin

Team Member 1 Email
smubin@valdosta.edu

Team Member 2 Name
Dereth Drake

Team Member 2 Email
djdrake@valdosta.edu

Team Member 3 Name

Team Member 3 Email

Team Member 4 Name

Team Member 4 Email

Additional Team Members (Name and email address for each)

Sponsor Name
Dr. Edward Chatelain

Sponsor Title
Chair, Department of Physics, Astronomy and Geosciences

Sponsor Department
Department of Physics, Astronomy and Geosciences

Average Number of Students per Course Section Affected by Project in One Academic Year
50

Average Number of Sections Affected by Project in One Academic Year
4

Total Number of Students Affected by Project in One Academic Year
180

Average Number of Students Affected per Summer Semester
30

Average Number of Students Affected per Fall Semester

100

Average Number of Students Affected per Spring Semester

50

Original Required Commercial Materials (title, author, price, and bookstore or retailer URL showing price)

Pathways to Astronomy

Authors: Schneider and Arny

Price: $128

https://www.amazon.com/Pathways-Astronomy-Steven-Schneider/dp/1259722627

Original Total Cost per Student

128

Post-Project Cost per Student

0

Post-Project Savings per Student

128

Projected Total Annual Student Savings per Academic Year

23040

Using OpenStax Textbook?

No

Project Goals

Our goal is to offer low-cost, high-quality learning materials for students in Introduction to the Universe (ASTR 1000) at Valdosta State University by converting from the current textbook to open access lecture slide sets containing multimedia aids. If adopted for all sections of this course, ~4 per year, the projected annual savings for students would be $23040.

Our goal is to offer students no-cost Open Educational Resources (OERs) to help supplement lecture and textbook material.

By offering this new open access OERs, we anticipate an improvement in enrollment, grade point average and DFW (Drop, Fail, and Withdraw) rates within these two courses.

We will measure the effectiveness of this transformation by comparing student course success rates for the courses taught using the new OERs and those taught using the traditional material as well as through student feedback on surveys provided periodically throughout each semester these courses are taught.

Statement of Transformation

The main stakeholders affected by this transformation will be the students who will gain access to a free open access textbook and educational resources starting on the first day of the semester. Many of our students come from backgrounds that can hamper the purchase of expensive textbooks and other resource materials, and these purchases are often delayed until the third week of classes before financial aid payouts are available. Given the generally high cost of astronomy textbooks, the proposed free resources will help reduce the financial burden of all students who enroll in this course and allow them timely access to course materials. Additionally, we project that students using these resources will be able to better meet the learning objectives for this course and thus have greater success in completing the course.

Since a uniform syllabus for this course is not pursued in the University of Georgia System, a single open-access textbook presumably cannot meet individual requirements within a concise page limit. Instead, for this transformation, we will be converting from the current purchased textbook to custom-made lecture slides reinforced with multimedia including video clips and animations. We will also be providing students open access resources from various online sources to serve as additional material to help meet course learning objectives.

Our plan is to implement these changes department-wide starting in Fall 2020. The implementation of the OERs and its associated cost reductions will attract more students to take these courses within our department.

Transformation Action Plan

Our action plan will have three parts: Identification and selection of materials, adoption and course redesign, and implementation and evaluation.

Identification and selection of materials

We are in the process of identifying and locating no-cost, online resources, which can be used as supplemental materials for instruction in this course. These resources include material found on YouTube, GALILEO, and MERLOT such as video clips and animations. These resources will be integrated into existing lecture slide sets to generate a comprehensive set of lectures that can be adopted in its entirety or modified by instructors, and that can serve as a complete unit without inherent dependence on any textbook.

Adoption and course redesign

During the Spring 2020 semester, we will be working to design modules on D2L, which correlate with different topics typically covered in this course. Each module will include a study guide, homework set, additional problems for extra practice, quick quizzes for checking knowledge of concepts, PowerPoint slides containing multimedia and links or copies of the chosen education resources, which may include demonstration videos and video sample problems.

All students will have access to these resources through D2L and public access will be available through Vtext Intuitional Repository and LibGuides. Thus, students will have access to these materials anywhere they are able to access the internet. All instructors will also have open access to these materials. And since all instructors will be encouraged to use these resources for all sections of these courses, this will create continuity across the different sections of each course and between the two courses themselves.

It will be Dr. Mubin’s role to lead this project as subject matter expert and instructional designer. Dr. Drake will aid as an instructional designer and help to develop the D2L modules. Both team members have experience in instructing this course in the past academic year using substantial custom-designed content material. Additionally, Dr. Drake offers experience overseeing OER development under a previous textbook transformation project.

Implementation and evaluation

We plan to implement the new outline for the course in Summer 2020. During this semester, we will be studying which resources students utilize most often through the “Completion Summary” report for each resource. Periodically, surveys will be provided to students to determine their perception of the helpfulness of each resource as well as suggestions from students on additional resources they would like to see added.

At the end of the Summer semester, data will be compiled to determine the students’ perception of the course along with the DFW rates for this course. Any suggestions or changes to the modules in D2L will be made at this time. The updated materials will be used during Fall 2020 and Spring 2021 courses, with continuous evaluation throughout both semesters. More information on specific evaluations is discussed in the next section of this application.

Quantitative & Qualitative Measures

Throughout the length of this project, we will be using quantitative and qualitative measures to determine the impact of this transformation on student success.

Quantitative Measures

We will be examining three different measures throughout the length of this project: DFW rate and class grade point average, course enrollment data, completion rates and pre-test comparison.

- **DFW Rate and Grade Point Average**

Through the department chair, we have access to the DFW rates and class grade point average for all students enrolled in ASTR 1000 during the last three years. At the end of each semester, we will be comparing the DFW rates for the course taught using the new format to those using the purchased textbook.

- **Course enrollment data**

Each semester we will be examining the enrollment data for this course. Our goal is to determine if offering open access materials will increase enrollment in these courses.

- **Completion rates**

The last quantitative measure we are employing is to look at completion rates. As with the DFW rate, we have access to the completion rates for the past three years through our department chair. At the end of each semester, we will be accessing these reports to determine if the completion rate has improved by using these no-cost materials.

Qualitative Measures

We will be examining two different qualitative measures throughout the length of this project: student feedback through surveys and completion summary reports through D2L.

- **Student feedback through surveys**

Surveys will be randomly distributed throughout each semester to students in order to gauge their perception of how helpful the OERs available to them on D2L appear to be. These surveys will help us to gauge student interest as well as provide us with information on other resources the students may have found when they were studying for this course.

- **Completion Summary reports**

One of the many reports available through D2L is the Completion Summary Report. These reports allow us to determine which students accessed specific materials and when they accessed it. Throughout each semester, we will be examining these reports in order to determine which resources the students utilize the most. Then at the end of the semester, we will replace any resources that students rarely use and add additional resources similar to the ones they use the most.

- **Pre-test Comparison**

At the beginning of every semester, students will be asked to take a pre-test consisting of course material questions to gauge initial familiarity with class material. Similar questions will be included in the exams for the course, and used to compare and evaluate the effectiveness of instruction. This process will be used for one or more semesters before implementing OER's, and again during one semester with OER's implemented. By comparing effectiveness of instruction before and after implementing OER's, we will obtain another metric to measure OER impact.

Timeline

Fall 2019: Identify, select and review no-cost course material for integrating into lecture sets. Search includes textbook and online content, and free-to-access online media such as video clips.

Spring 2020: Overload for Dr. Drake, if proposal is funded. Design modules in D2L organized into coherent, self-explanatory structure for users.

Summer 2020: Implement new course materials; data collection on student achievement begins. Overload for Dr. Mubin, if proposal is funded.

Sep 2020 – May 2021: Compile data from Summer 2020 classes and revise course materials based on student feedback. Upload revised course materials to Vtext and LibGuides.

Budget

- Dr. Drake - $4000 for overload in Spring 2020
- Dr. Mubin - $4000 for overload in Summer 2020
- Travel for at least two team members to attend grant kick-off meeting - $800

Sustainability Plan

The overall goal for this project is to create a master course model, which include corresponding modulus for each section of the textbook. All materials will be available to every instructor prior to the beginning of the semester through D2L and allow each instructor to customize the materials to their own teaching style. The master course and modules will be made available to faculty at all other USG institutions through Vtext Institutional Repository and LibGuides. Dr. Mubin and Dr. Drake will be responsible for maintaining the course materials for the foreseeable future.

Acknowledgment

Grant Acceptance

[Acknowledged] I understand and acknowledge that acceptance of Affordable Learning Georgia grant funding constitutes a commitment to comply with the required activities listed in the RFP and that my submitted proposal will serve as the statement of work that must be completed by my project team. I further understand and acknowledge that failure to complete the deliverables in the statement of work may result in termination of the agreement and funding.

September 10th, 2019

To Whom It May Concern,

This letter is in enthusiastic support of Affordable Learning Georgia Textbook Transformation Grant proposal submitted by Dr. Dereth Drake (Associate Professor of Physics) and Dr. Shafat Mubin (Assistant Professor of Physics) in the Department of Physics, Astronomy, and Geosciences at Valdosta State University. The study outlined is a vital and timely endeavor at this time of soaring textbook costs in the State of Georgia.

The first three weeks of ASTR 1000 class are important in determining student success in a course, and many students at this stage have yet to purchase their textbook due to financial considerations or delays in financial aid, putting them at serious risk of failure or being resolved to playing catch-up for the entire semester in that class. Not only does this project eliminate the costs of textbooks, which for non-science majors can be overwhelming, but provides each student with instant access to all course materials from the first day of class. Most of the course drops and withdrawals in the first few weeks of class would be prevented, and the rigor of the course can be embraced by all students equally and immediately. Therefore, the challenges of retention for the university and graduation in a timely fashion for the student are both satisfied by the results produced by this grant.

Sustainability of this project at Valdosta State University is particularly vital, as enrollment and retention concerns have become especially important to maintaining our Physics program. I see this study as an essential key to success of both students and science departments in the USG.

Your consideration on this matter is greatly appreciated. Thank you.

Sincerely,

Edward E Chatelain, Head
Physics, Astronomy, and Geosciences

DEPARTMENT *of PHYSICS*, ASTRONOMY & GEOSCIENCES
PHONE 229 333-5752 • FAX 229 219-1201 • WEB www.valdosta.edu/phy • ADDRESS 1500 N Patterson St • Valdosta, GA 31698-0055

Textbook Transformation Grants, Round Fifteen (Fall 2019 – Fall 2020)

Proposal Form and Narrative

Notes

- The proposal form and narrative .docx file is for offline drafting and review. Submitters must use the InfoReady Review online form for proposal submission.
- The only way to submit the official proposal is through the online form in Georgia Tech's InfoReady Review. The link to the online application will on the Round 15 RFP Page in July 2019.
- The italic text provided below is meant for clarifications and can be deleted.

Applicant, Team, and Sponsor Information

*The **applicant** is the proposed Project Lead for the grant project. The **submitter** is the person submitting the application (which may be a Grants Officer or Administrator). The submitter will often be the applicant – if so, leave the submitter fields blank.*

Institution(s)	VALDOSTA STATE UNIVERSITY
Applicant Name	SHAFAT MUBIN
Applicant Email	smubin@valdosta.edu
Applicant Phone #	229 253 2994
Applicant Position/Title	ASSISTANT PROFESSOR OF PHYSICS
Submitter Name	SHAFAT MUBIN
Submitter Email	smubin@valdosta.edu
Submitter Phone #	229 253 2994
Submitter Position	ASSISTANT PROFESSOR OF PHYSICS

Please provide the first/last names and email addresses of all team members within the proposed project. Include the applicant (Project Lead) in this list. Do not include prefixes or suffixes such as Ms., Dr., Ph.D., etc.

	Name	Email Address
Team Member 1	SHAFAT MUBIN	smubin@valdosta.edu
Team Member 2	DERETH DRAKE	djdrake@valdosta.edu
Team Member 3		
Team Member 4		
Team Member 5		
Team Member 6		
Team Member 7		
Team Member 8		

If you have any more team members to add, please enter their names and email addresses in the text box below.

Please provide the sponsor's name, title, department, and institution. The sponsor is the provider of your Letter of Support.

Dr. Edward Chatelain, Chair, Department of Physics, Astronomy, and Geosciences, Valdosta State University

Project Information and Impact Data

Priority Category / Categories	Implementation of OERs for students in ASTR 1000
Requested Amount of Funding	$8,800
Course Names and Course Numbers	ASTR 1000: Introduction to the Universe
Final Semester of Project	Spring 2020 or Summer 2020
Average Number of Students Per Course Section Affected by Project	50
Average Number of Sections Affected by Project in One Academic Year	4
Total Number of Students Affected by Project in One Academic Year	180
Average Number of Students Affected per Summer Semester	30
Average Number of Students Affected per Fall Semester	100
Average Number of Students Affected per Spring Semester	50
Original Required Commercial Materials	Pathways to Astronomy, by Schneider and Arny
Total Price of Original Required Materials Per Student	$128
Post-Project Cost Per Student	$0
Post-Project Savings Per Student	$128
Projected Total Annual Student Savings Per Academic Year	$23040
Using OpenStax Textbook?	NO

Narrative Section

1. Project Goals

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Note: Letter of Support

A letter of support must be provided from the sponsoring area (unit, office, department, school, library, campus office of the Vice President for Academic Affairs, etc.) that will be responsible for

receipt and distribution of funding. Letters must reference sustainability. In the case of multi-institutional affiliations, all participants' institutions/departments must provide a letter of support.