

**Affordable Learning Georgia Textbook Transformation Grants
Round 2
Summer 2015, Fall 2015, Spring 2016
Proposal Form and Narrative**

Institution Name(s)	College of Coastal Georgia				
Team Members (Name, Title, Department, Institutions if different, and email address for each)	1. Jose Lugo, Assistant Professor of Mathematics, jlugo@ccga.edu 2. Laura Lynch, Assistant Professor of Mathematics, llynch@ccga.edu 3. Jamil Mortada, Assistant Professor of Mathematics, jmortada@ccga.edu 4. Treg Thompson, Assistant Professor of Mathematics, tthompson@ccga.edu 5. German Vargas, Department Chair and Assistant Professor of Mathematics, gvargas@ccga.edu 6. Victor Vega, Associate Professor of Mathematics, vvega@ccga.edu				
Sponsor, Title, Department, Institution	Lance Carluccio, Interim Vice President for Academic Affairs, College of Coastal Georgia.				
Course Names, Course Numbers and Semesters Offered (Summer 2015, Fall 2015, or Spring 2016)	1. College Algebra, MATH 1111, Summer/Fall/Spring 2. Trigonometry, MATH 1112, Summer/Fall/Spring 3. Precalculus, MATH 1113, Fall/Spring 4. Probability and Statistics, MATH 2112, Summer/Fall/Spring				
Average Number of Students Per Course Section	By course:	Number of Course Sections Affected by Implementation in Academic Year 2016	By course:	Total Number of Students Affected by Implementation in Academic Year 2016	By course:
	1. 31 2. 27 3. 28 4. 37		1. 29 2. 6 3. 4 4. 19		1. 899 2. 162 3. 112 4. 703
Award Category (pick one)	<input type="checkbox"/> No-Cost-to-Students Learning Materials <input type="checkbox"/> OpenStax Textbooks <input type="checkbox"/> Course Pack Pilots <input checked="" type="checkbox"/> Transformations-at-Scale				

<p>List the original course materials for students (including title, whether optional or required, & cost for each item)</p>	<p>By course:</p> <ol style="list-style-type: none"> 1. College Algebra: Graphs And Models 5e W/MML, Bittinger 2. Trigonometry 8e W/WebAssign, Larson 3. Precalculus 8e W/Webassign, Larson 4. Essentials of Statistics 4e W/MML, Mario Triola 	<p>Cost of Text + LMS by course:</p> <ol style="list-style-type: none"> 1. \$219.75/student 2. \$306.75/student 3. \$342.00/student 4. \$168.75/student <p>Projected total cost:</p> <p><i>\$404,184 annually</i></p>	
<p>Plan for Hosting Materials</p>	<p><input type="checkbox"/> OpenStax CNX</p> <p><input checked="" type="checkbox"/> D2L</p> <p><input type="checkbox"/> LibGuides</p> <p><input type="checkbox"/> Other _____</p>		
<p>Projected Per Student Cost</p>	<p>By course:</p> <ol style="list-style-type: none"> 1. \$32.95 2. \$0 (Cont. course) 3. \$32.95 4. \$32.95 	<p>Projected Per Student Savings (%)</p>	<p>By course:</p> <ol style="list-style-type: none"> 1. 85% 2. 100% 3. 90% 4. 80%

1. PROJECT GOALS

The goal of this project is to promote access and affordability of higher education by adopting low cost alternatives of the textbooks and other educational resources currently used in high enrollment courses without compromising the standards in these courses. In particular, we want to transform 4 of the Top 50-enrolled USG lower-division Core Curriculum courses to adopt OpenStax textbooks. This at-scale transformation will impact a large number of students at our institution as these are the main Area A and D courses for many of our programs and any effort to increase the retention and passing rates in these courses will hence be an effort to increase our general retention, progression and graduation rates.

1.1 STATEMENT OF TRANSFORMATION

Most of the students at College of Coastal Georgia take one Mathematics course in Area A (Essential Skills) and one Mathematics course in Area D (Science and Math). With the rapid increase in the price of textbooks, the required materials for these courses have become a barrier to access and completion, specially for institutions like CCGA that serve a large percentage of low income students, as evidenced by the percentage of Pell Grant recipients (53% based on fall 2013 total enrollment).

The target of this transformation is to adopt low cost textbook and materials for the following 4 courses: College Algebra (MATH 1111), Trigonometry (MATH 1112), Precalculus (MATH 1113), Probability and Statistics (MATH 2112). We expect to deliver a staged transformation starting with an at-scale transformation for MATH 2112 by fall 2015, followed by pilot stages for MATH 1111, 1112, 1113 during the fall of 2015 and the full implementation by spring of 2016.

The broad focus of this initiative will target almost every student at CCGA and we expect not only to make college more affordable for those that we already serve but also to help bridge that gap that maintains many potential students from considering college as an opportunity for upward mobility.

1.2 TRANSFORMATION ACTION PLAN

As the impact of this transformation affects multiple courses and multiple sections, the changes will require concerted efforts throughout the Department of Mathematics and many of our faculty will be participating in different roles to make this transformation successful.

Dr. Victor Vega and Dr. German Vargas will lead this project and will be the participants in the grant kick-off meeting. Dr. Vega will oversee the project internally; he will be in charge of generating the reports and maintaining the project on schedule by reaching the milestones set forth in the timeline. Dr. Vargas will lead the project externally; he will be the liaison with the USG's Academic Advisory Committee on Mathematical Subjects (ACMS) and will capitalize on the efforts by the Regent's Academic Committee on Libraries (RACL) and efforts by other disciplines at different schools of the USG, with

the intention of using this synergy to generate the momentum needed to propel these changes college and system-wide and across disciplines.

Dr. Vega and Dr. Vargas will also work on the creation of ancillary resources for instruction of MATH 2112 Probability and Statistics. In particular they will create the PowerPoint presentations that will be used for classroom instruction of this course. Dr. Jamil Mortada will create equivalent resources for MATH 1111 College Algebra, and Dr. Jose Lugo will create those for MATH 1112 Trigonometry. The created resources for these last two courses will satisfy the needs for MATH 1113 Precalculus as this course is comprised of the material of MATH 1111 and MATH 1112.

Dr. Laura Lynch will be in charge of the alignment of the course content to our master syllabi and any modifications needed as we adopt these new textbooks. She will be in charge of the assessment of the initiative by requesting qualitative feedback from students and faculty, and by comparing the quantitative results of our current General Education assessment with the results obtained after the transformation.

Mr. Treg Thompson will be in charge of the creation of a webpage that will link the topics presented in each of the courses to specific additional open resources like Khan Academy and The Annenberg Foundation's Learner.org.

The links to all the free educational resources will be delivered in each of the courses through D2L.

1.3 QUANTITATIVE AND QUALITATIVE MEASURES

To measure the quantitative impact of the newly adopted OpenStax text and ancillary resources (homework system, PowerPoints, and links) for each course, we will use the grade distribution in all the impacted courses (including DFW rates), and the students' performance in our General Education Assessment, to perform longitudinal comparisons with said data from current and previous years. We do not anticipate any decrease in performance at the student learning outcome level, and by increasing the accessibility of the resources we hope to decrease the DFW rates.

To measure the qualitative impact of the open resources on the students, we will compare the university faculty and course evaluation (FACE) survey for each of the impacted courses before and after implementation. In addition, we will ask students to complete a questionnaire about the resources. The questionnaire will include questions such as:

1. Are you satisfied with the quality of the textbook?
2. Are you satisfied with the quality of the online homework system?
3. Are you satisfied with the quality of the additional resources (e.g., links, PowerPoints) provided with your course?
4. Are you satisfied with the quantity of the additional resources (e.g., links, PowerPoints) provided with your course?

5. Do you wish the instructors in your other courses would adopt open-source texts and software?
6. Do you think that using no-cost, open source-educational resources has been detrimental to this course and to your learning in this course?

The questionnaire will also include the following short response question: “Do you have any further comments or recommendations in regard to the textbook, homework system, PowerPoints, or links to additional resources?”

Since the newly adopted open-source texts would be the first in the department and the college, it is of utmost importance to measure the qualitative impact on the faculty as well. We will also ask the faculty to complete a similar questionnaire to gauge their satisfaction with the text and determine if more edits need to be made to the text and resources.

1.4 TIMELINE

May 2015

- Finish the review the e-textbooks and map the concepts and learning objectives of the course to the sections of the texts.

June - August 2015

- Modification of master syllabi for MATH 1111, MATH 1112, MATH 1113, MATH 2112 to align with OpenStax textbooks.
- Creation of the PowerPoint presentations for MATH 1111, MATH 1112, and MATH 2112 to start the offerings on fall 2015. (At-scale for MATH 2112)
- Create assignments in WebAssign for each course.
- Design a reflective survey for students in Qualtrics

November 2015

- Administer reflective survey for MATH 2112 students in Qualtrics

December 2015

- Administer FACE survey to students

January 2016

- At-scale course offerings with OpenStax textbooks in College Algebra, Precalculus and Trigonometry start in the Spring Semester 2016.

February – March 2016

- Discussion and assessment of the courses offered
- Preliminary report on the implementation

April 2016

- Administer reflective survey for MATH 1111, MATH 1112, MATH 1113, MATH 2112 students in Qualtrics

May 2016

- Administer FACE survey to students
- Evaluation and analysis of results per course

June 2016

- Presentation of findings and assessment of each course

1.5 BUDGET

Each of the 6 team members will receive equal compensation (stipend plus benefits) for their participation in this project as explained in the action plan. An additional \$800 will be allocated for additional project expenses including the travel expenses for two members to the required in-person kick-off meeting. The distribution of the funds will be as follows:

Team Member	Stipend	FICA and FICA-Med (7.65%)	ORP (9.24%)	TRS (13.15%)	Allocation for travel expenses	Total
Victor Vega	\$4,163.45	\$318.50	\$384.70		\$400.00	\$5,266.65
German Vargas	\$4,163.45	\$318.50	\$384.70		\$400.00	\$5,266.65
Jamil Mortada	\$4,163.45	\$318.50	\$384.70			\$4,866.65
Jose Lugo	\$4,028.69	\$308.19		\$529.77		\$4,866.65
Laura Lynch	\$4,163.45	\$318.50	\$384.70			\$4,866.65
Treg Thompson	\$4,163.45	\$318.50	\$384.70			\$4,866.65
Total						\$29,999.90

1.6 SUSTAINABILITY PLAN

- As in the past, the courses will be offered each fall, spring and summer (as needed). All courses will now use the free open educational resources.
- Each course resource will be reviewed by the associated faculty member(s) as listed above prior to the beginning of the semester in which the course is taught.
- Based on student survey results (see timeline), changes in the content and organization of the course will be implemented as needed.
- Alignment within the OER materials and the associated course objectives and activities in the course syllabus will be reviewed by the program faculty annually and adjustments will be made as appropriate.
- We do not expect any additional expenses to be added as all materials will be available and we just need to fine-tune the resources as we progress in the adoption and implementation.

1.7 REFERENCES & ATTACHMENTS

Butcher, N. (2011). *A basic guide to open educational resources (oer)*. A. Kanwar, & S. Uvalic-Trumbic (Eds.). Retrieved from <http://www.col.org/PublicationDocuments/Basic-Guide-To-OER.pdf>.

Trombitas, K. (2012, July). *Financial stress: An everyday reality for college students*. Retrieved from <https://www.cgsnet.org/ckfinder/userfiles/files/1nceptiaFinancialStresswhitepaper.pdf>

ATTACHMENTS

*Letter of Support: Dr. Lance Carluccio, Vice President of Academic Affairs
Dr. Keith Belcher, Dean School of Arts and Sciences*

**PROPOSAL SUBMISSION: ALL PROPOSAL DOCUMENTS, REFERENCES, AND ATTACHMENTS
MUST BE SUBMITTED IN A SINGLE EMAIL TO ALG@GATECH.EDU.**

DEADLINE FOR CATEGORIES 1-3: 5:00 PM, NOVEMBER 30, 2014

DEADLINE FOR CATEGORY 4: 5:00 PM, DECEMBER 8, 2014



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VICE PRESIDENT FOR ACADEMIC AFFAIRS

MEMORANDUM

TO: Dr. German Vargas
Department Chair, Mathematics

FROM: Dr. Lance Carluccio *Lance Carluccio*
Interim Vice President for Academic Affairs

RE: Affordable Learning Georgia Textbook Transformation Grant Application

DATE: December 4, 2014

This memo is to commend you and the other faculty of the mathematics department for the coordinated plans and the proposal to significantly reduce the cost of textbooks for students across four mathematics courses with multiple sections. The courses affected by this proposal include: College Algebra; Trigonometry; Precalculus; and Probability and Statistics. Close to 2000 students in almost 60 sections of courses each academic year will benefit from this major transformation to more affordable material for learning. This will have significant impact on retention and progression goals in that it will make textbook type material more accessible to those who have limited financial resources.

In addition to the above, the faculty of the mathematics department are demonstrating the type of impact that faculty can have in significantly making college more affordable and reducing student debt.

I strongly support this grant application and the efforts of the faculty involved in this project.



December 4, 2014

Affordable Learning Georgia
Textbook Transformation Grants

To whom it may concern:

It is my pleasure to express my support for the Department of Mathematics at the College of Coastal Georgia's proposal related to access and affordability of lower cost alternatives of textbooks. As an open access institution many of our students take more than one mathematics course in their chosen program of study. This coupled with the fact that textbook costs are consistently increasing often presents financial stress to students with limited means. This proposal will have a broad impact on multiple courses and sections offered within the institution. The department working together focused on four courses offered by the mathematics department that impact the majority of our students. Each faculty member involved in the development of the grant will also play very different but significant roles ensuring that the textbook transformation will be successful. Resources will be provided that will link to the college's D2L learning platform and mathematics webpage. Qualitative and quantitative assessment measures will be developed and used to evaluate general education outcomes. The proposal has been well designed and discussed throughout the mathematics department. The plan is sustainable with no extra costs associated other than those detailed in the budget for the grant implementation. The successful implementation of this project will ultimately increase retention, pass rates and progression to graduation.

Sincerely,

A handwritten signature in black ink that reads 'Keith E. Belcher'. The signature is written in a cursive style with a large, prominent 'K' and 'B'.

Keith E. Belcher, PhD., MLS^{CM} (ASCP) SM
Professor of Biology and Clinical Laboratory Science
Dean, School of Arts and Sciences
College of Coastal Georgia