

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

<b>Institution Name(s)</b>	Middle Georgia State College				
<b>Team Members</b> (Name, Title, Department, Institutions if different, and email address for each)	<p>Andrew Lauer, Assistant Professor of Organic Chemistry, <a href="mailto:Andrew.lauer@mga.edu">Andrew.lauer@mga.edu</a></p> <p>Jonathan G. Cannon, Assistant Professor of Biochemistry, <a href="mailto:jonathan.cannon@mga.edu">jonathan.cannon@mga.edu</a></p> <p>Estelle Nuckels, Assistant Professor of Physical Chemistry, <a href="mailto:Estelle.nuckels@mga.edu">Estelle.nuckels@mga.edu</a></p> <p>Department of Natural Sciences and Engineering</p>				
<b>Sponsor, Title, Department, Institution</b>	Dr. Martha Venn, Provost, Office of Academic Affairs				
<b>Course Names, Course Numbers and Semesters Offered</b> (Summer 2015, Fall 2015, or Spring 2016)	<p>Survey of Chemistry I and Survey of Chemistry II</p> <p>CHEM 1151, 1152</p> <p>Fall 2015, Spring 2016</p>				
<b>Average Number of Students Per Course Section</b>	20	<b>Number of Course Sections Affected by Implementation in Academic Year 2016</b>	15	<b>Total Number of Students Affected by Implementation in Academic Year 2016</b>	300
<b>Award Category (pick one)</b>	<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				

<b>List the original course materials for students (including title, whether optional or required, &amp; cost for each item)</b>	<p><i>[Material Title, optional or required]</i></p> <p><i>OWL with Introduction to General, Organic, and Biochemistry, req</i></p> <p><i>Hardcopy with OWL access code, opt</i></p>	<p><i>[Cost]</i></p> <p><i>\$126/student</i></p> <p><i>Or \$258/student</i></p> <p><b>Total Cost</b></p> <p><b>\$37800 - \$77400</b></p>	
<b>Plan for Hosting Materials</b>	<input type="checkbox"/> <a href="#">OpenStax CNX</a> <input checked="" type="checkbox"/> D2L <input type="checkbox"/> <a href="#">LibGuides</a> <input checked="" type="checkbox"/> Other <u>          Sapling Learning          </u>		
<b>Projected Per Student Cost</b>	<b>\$40</b>	<b>Projected Per Student Savings (%)</b>	68-84%

## 1. Project Goals

- Reduce the costs to students of textbooks and online homework software.
- Align course outcomes more closely with the goals and programs of the majority of the students, particularly the Nursing Program.
- Assemble independent, free, or low cost resources typically provided by textbook publishers to support professors in course preparation in conjunction with the selected, open textbook.

### 1.1 STATEMENT OF TRANSFORMATION

- *Describe the transformation*  
Students are required to purchase electronic access to a textbook with the purchase of their online homework system. Being required to purchase a specific publisher's textbook artificially inflates the cost of course materials.
- *Identify stakeholders affected by the transformation*  
Survey of Chemistry is a primary requirement for students desiring to enter the Nursing Program, and recommended or required for some other healthcare related professions. It also serves as a core curriculum lab science elective, with more than 200 students taking the first semester course each year, and approximately 130 taking the second semester.
- *Describe the impact of this transformation on stakeholders and course success.*

With the current digital textbook, students lose access to the text after 6 or 24 months, while a hardcopy of the book is more than twice as expensive. In addition, the current course has been designed with little input from the programs which provide the majority of the students. This makes the course primarily a dreaded, gateway course rather than a valued, core skill building course for many of our students. Direct feedback from the programs requiring this course will improve the applicability of the skills learned. Students would benefit from continued access to and knowledge of online resources. Textbook and homework system changes will save up to 84% per student and provide continued access to frequently updated materials without fees.

- *Describe the transformative impact on the program, department, institutions, access institution, and/or multiple courses.*

We propose to replace the current textbook with a free textbook or textbooks, and to replace the online homework system with a less expensive, textbook independent system. We will also align the topics emphasized in the course more closely with the needs of Nursing and other health care students. Thus students will save money, have continued access to course materials after their old subscriptions would have expired, and experience a course more in line with the core skills and knowledge the hope to use in their lives.

## **1.2 TRANSFORMATION ACTION PLAN**

- Meet with Nursing Program (and other program) representatives
- Select any new emphases for course topics
- Select a book or books (at least 3 relevant, free, high quality books are available online, but will require correlation to our particular course)
- Collate video lectures with class topics, either for viewing to prepare for class or as review (selections from Khan Academy and other respected sources have already been correlated with the current course by Dr. Cannon)
- Select a homework system (Sapling Learning, WebAssign, and Quest are options)
- Redesign syllabus
- Find pre/post tests for content knowledge (Use current departmental exams based on learning objectives as an internal reference, but look for other, externally verified tests to compare to state or national averages)
- Find questionnaires for measuring student engagement from current scholarship of teaching and learning
- Collect DFW data from previous years and simultaneously in unmodified sections during Spring (Available for our school in Blackboard Analytics)

## **1.3 QUANTITATIVE AND QUALITATIVE MEASURES**

Every semester we give assessment quizzes, we will give these same quizzes to our students that take the new courses to make sure that the Student Learning

Objectives (SLOs) are still being met. We will utilize pre/post tests to also test content knowledge. We will use blackboard analytics to compare the drop, withdraw, and fail (DWF) rates. Finally, we will survey student opinions of the free materials and the current materials, including student preferences and frequency of use, to make sure that the no cost materials are at least as effective as current materials and materials used in comparable classes.

#### 1.4 TIMELINE

January / February	Consult with representative of the School of Health Sciences. Select textbooks from among candidate OER textbooks.
March	Plan calendar of modified curriculum for Fall. Correlate textbook and video lectures with curriculum. Develop student surveys for evaluating textbook effectiveness.
April	Select assessment tools for content outcomes and student engagement. Collect available data from previous courses.
May	Provide assessment tools to all professors teaching course in Fall. Assess student opinions of current materials. Create Desire2Learn course with access to all planned materials. Collect assessment data from students completing Chem 1151. Submit Progress Report.
August	Implement new course in approximately half of our sections.
December	Collect final assessment data and provide second progress report. Provide new course materials to all faculty to sustain and expand the reduced cost textbook changes into the upcoming year.

#### 1.5 BUDGET

\$5,000 each to Andrew Lauer, Jonathan Cannon and Estelle Nuckels. Our department does not have sufficient faculty to cover release time for essential courses, so overload is required.

\$200 for external tests for comparison to state or national averages.

\$600 for miscellaneous supplies, materials, and travel.

#### 1.6 SUSTAINABILITY PLAN

We will develop the course materials and curriculum changes using materials maintained by established organizations so that they will continue to be available for many years (e.g. Khan Academy, Sapling Learning, FlippedChemistry). We will provide course materials to other colleagues in Desire2Learn (Brightspace) and other readily accessible online formats to assist them in curriculum and course material changeover with a minimum of duplicated labor.

#### 1.7 REFERENCES & ATTACHMENTS

December 8, 2015

To Whom It May Concern:

From: Dr. Marti Venn, Provost  
Middle Georgia State College

RE: Letter of Support for Affordable Learning Georgia Award

I am pleased to provide this letter of support for Dr. Andrew Lauer, Assistant Professor of Chemistry, Dr. Jonathan Cannon, Assistant Professor of Biochemistry, and Dr. Estelle Nuckels, Assistant Professor of Physical Chemistry. Drs. Lauer, Cannon, and Nuckels are proposing to address the “Transformations-at-Scale”. They are targeting two science courses in AREA D- CHEM 1151 and CHEM 1152 and potentially impacting in one year **over 300 students** at a savings to students of approximately **\$77,400** in one year (for students taking both science courses)! This has not only the potential savings for the first survey course it may in fact encourage students to take the second CHEM sequence course and thus boost science progression rates. Over 70% of Middle Georgia State College students are on financial aid and could not afford to come to college without that support. This fall convocation, I challenged the faculty to “Imagine a new teaching scholar model” and to align with the institution’s values of service, adaptability, engagement and leadership. This RFP dovetails well with this new call to serve our students in new and transformative ways. My office is committed to sustainability of this project after this year. Through our Center for Teaching Innovation we can provide faculty professional development to assist them in this project. The college is open to providing faculty course release to sustain as well as transform additional courses based on the results of this project. If funded, my office stands ready to support, champion, and publically recognize the trail that Drs. Lauer, Cannon, and Nuckels are blazing for our students and the college!