

# **GALILEO, University System of Georgia**

## **GALILEO Open Learning Materials**

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Business Administration, Management, and  
Economics Grants Collections

Business Administration, Management, and  
Economics

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Spring 2016

## Principles of Microeconomics

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Jesse Zinn, Lari Arjomand, Nikki Finlay, Reza Kheirandish,  
Gay Solomon

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# Principles of Microeconomics

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## Grants Collection

Affordable Learning Georgia Grants Collections are intended to provide faculty with the frameworks to quickly implement or revise the same materials as a Textbook Transformation Grants team, along with the aims and lessons learned from project teams during the implementation process.

Each collection contains the following materials:

- Linked Syllabus
  - The syllabus should provide the framework for both direct implementation of the grant team's selected and created materials and the adaptation/transformation of these materials.
- Initial Proposal
  - The initial proposal describes the grant project's aims in detail.
- Final Report
  - The final report describes the outcomes of the project and any lessons learned.



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# Syllabus

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Syllabus for ECON 2106, Principles of Microeconomics

Textbook: *Principles of Economics*

Author: Timothy Taylor

URL: <https://openstaxcollege.org/textbooks/principles-of-economics>

Schedule:

Week	Subject
1	<a href="#">Chapter 1: Welcome to Economics!</a>
2	<a href="#">Chapter 2: Choice in a World of Scarcity</a>
3	<a href="#">Chapter 3: Demand and Supply</a>
4	<a href="#">Chapter 4: Labor and Financial Markets</a>
5	<a href="#">Chapter 34: Globalization and Protectionism</a>
6	<a href="#">Chapter 5: Elasticity</a>
7	<a href="#">Chapter 6: Consumer Choices</a>
8	Fall Break, Midterm
9	<a href="#">Chapter 7: Cost and Industry Structure</a>
10	<a href="#">Chapter 8: Perfect Competition</a>
11	<a href="#">Chapter 9: Monopoly</a>
12	<a href="#">Chapter 10: Monopolistic Competition and Oligopoly</a>
13	<a href="#">Chapter 12: Environmental Protection and Negative Externalities</a>
14	<a href="#">Chapter 13: Positive Externalities and Public Goods</a>
15	<a href="#">Chapter 14: Poverty and Economic Inequality</a>
16	<a href="#">Chapter 16: Information, Risk, and Insurance</a>

# Initial Proposal

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

<b>Institution Name(s)</b>	College of Business, Clayton State University				
<b>Team Members</b> (Name, Title, Department, Institutions if different, and email address for each)	Lari Arjomand, Emeritus Professor, lariatjomand@clayton.edu Nikki Finlay, Associate Professor, nikkifinlay@clayton.edu Reza Kheirandish, Associate Professor, rezakheirandish@clayton.edu Gay Solomon, Lecturer, gaysolomon@clayton.edu Jesse Zinn, Assistant Professor, jessezinn@clayton.edu				
<b>Sponsor, Title, Department, Institution</b>	College of Business, Clayton State University				
<b>Course Names, Course Numbers and Semesters Offered</b> (Summer 2015, Fall 2015, or Spring 2016)	Principles of Macroeconomics, ECON 2105, Fall 2015, Spring 2016 Principles of Microeconomics, ECON 2106, Fall 2015, Spring 2016				
<b>Average Number of Students Per Course Section</b>	30	<b>Number of Course Sections Affected by Implementation in Academic Year 2016</b>	22+	<b>Total Number of Students Affected by Implementation in Academic Year 2016</b>	660+
<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>	Krugman & Wells, "Macroeconomics" (3rd edition) w/ LaunchPad, required  Krugman & Wells, "Microeconomics" (3rd edition) w/ LaunchPad, required		\$132.99  \$132.99  <b>Total Cost:</b> <b>\$132.99 x 660+ = \$87,734+</b>
<b>Plan for Hosting Materials</b>	<input checked="" type="checkbox"/> <a href="#">OpenStax CNX</a> <input type="checkbox"/> D2L <input type="checkbox"/> <a href="#">LibGuides</a> <input type="checkbox"/> Other _____		
<b>Projected Per Student Cost</b>	\$0	<b>Projected Per Student Savings (%)</b>	100%



## **1. PROJECT GOALS**

- Lower cost of materials for students in ECON 2105 and ECON 2106
- Maintain quality of content in the course materials.
- Improve overall student satisfaction with the courses.
- Improve retention, progression, and graduation rates.
- Inspire colleagues to emulate this project and lower material costs in other courses.

### **1.1 STATEMENT OF TRANSFORMATION**

The transformation will involve using the free, online, peer-reviewed textbooks (*Principles of Macroeconomics* for ECON 2105 and *Principles of Microeconomics* for ECON 2106) offered through OpenStax College. Faculty teaching these courses may also use the other resources provided through OpenStax, including LearningPod, which offers a large library of free practice questions that students can access online. These materials will replace the textbooks (by Krugman and Wells) and LaunchPad (the online homework system bundled with those texts), which for each course cost \$132.99 as a bundle at the Clayton State University bookstore.

Key stakeholders in the transformation will be the students who take ECON 2105 and 2106 at Clayton State University.

The use of free materials will make it easier for our student to finance their education. Many of our students often consider going without a textbook in some of their courses in order to save money. We expect student performance to improve slightly as those students who would otherwise go without a book will be better able to keep up with the material.

Students will appreciate saving through this program. Moreover, the economics faculty members are hopeful that this program will signal to students that we are mindful of the financial hardships and sacrifices they make in order to attend university. As such, we anticipate that this program will attract students to take more economics courses at Clayton State University. This should help us to successfully offer additional courses in economics in the future.

### **1.2 TRANSFORMATION ACTION PLAN**

The economics faculty at Clayton State have identified, reviewed, and selected the free course materials from OpenStax for adoption in all sections of ECON 2105 and 2106 starting in the Fall semester of 2015.

As the materials offered by OpenStax are similar to what is currently used in ECON 2105 and 2106, the course and syllabus instructional redesign will be minimal. Professors will at a minimum need to revise their lecture notes in order to reflect differences between the new and the old texts.

Each team member will contribute to the completion of both the mid-implementation project status report and the final project report. Gay Solomon, Nikki

Finlay, and Jesse Zinn will attend the kick-off training/implementation meeting. Jesse Zinn will participate as needed in ALG-related communications.

Clayton State is officially a “laptop campus” and students sign an agreement upon enrollment stating that they have access to a PC and the internet, so each of them should be able to access and use the materials without having to pay any additional costs.

### **1.3 QUANTITATIVE AND QUALITATIVE MEASURES**

- The College of Business requires regular assessment reports to measure student success. To these we can add D, F, W rates and compare with prior assessment data.
- We will also survey students on qualitative factors, such as how the availability of the materials affected their performance in the course, and whether they would recommend the course(s) to another student.

### **1.4 TIMELINE**

- February 2, 2015: Required kick-off training/implementation meeting
- August 2015: Implementation of the new material in ECON 2105 and 2106 courses.
- December 2015: Interim status report
- May 2016: Final report

### **1.5 BUDGET**

- Lari Arjomand: \$5000
- Nikki Finlay: \$5000
- Reza Kheirandish: \$5000
- Gay Solomon: \$5000
- Jesse Zinn: \$5000
- Travel: \$800 (For Finlay, Solomon, and Zinn to attend kick-off meeting Feb. 2nd, 2015)

Total: \$25,800

### **1.6 SUSTAINABILITY PLAN**

Our plan is to continue using these materials into the indefinite future. Economics faculty may contribute to the continued development of the materials (by suggesting revisions or contributing to the pool of homework problems, for example) in order to enhance their utility and sustainability.

### **1.7 REFERENCES & ATTACHMENTS**

A Letter of Support by Avinandan Mukherjee, Dean, College of Business, Clayton State University is included.

**Letter of Support for the Affordable Learning Georgia Grant proposal**

As the head of the sponsoring school, I would like to express my enthusiastic support for the application of the Economics faculty of the College of Business at Clayton State University for the Affordable Learning Georgia Textbook Transformation Grant. The proposal is to utilize this grant to replace the \$130 textbooks we currently use in our Principles of Macroeconomics (ECON 2105) and Principles of Microeconomics (ECON 2106) courses with free online texts available through OpenStax College. ECON 2015 and ECON 2106 are required courses for all students in the College of Business and more than 20 course sections of these two courses combined are offered in any academic year through Summer, Fall and Spring. As we move our ECON 2105 and ECON 2106 to Area E and we introduce a new Minor in Applied Economics, we are expecting even higher enrollment for these courses from students across the university that could surpass the projected number of course sections.

I am confident that this change will be sustainable once it is implemented through the grant. As we transition to using free, online peer-reviewed textbooks for these Economics courses, we will be conducting regular assessment to measure student feedback and success that would help us to fine-tune and improve the online support materials to accompany the online textbook. The College of Business at Clayton State University, through its responsibility for receipt and distribution of the grant funding, will ensure the sustainability plan.

I believe that the proposed transformation project will make our introductory Economics courses and, by extension, the College of Business at Clayton State University much more attractive to our students by making college much more affordable to them. I am confident that the proposal will ensure significant cost savings for our students, while ensuring high quality of the courses leading to higher student satisfaction, retention, progression and successful graduation. The team of faculty members working on this project are both capable and motivated to pursue the goals of Affordable Learning Georgia.

I sincerely hope that our College of Business is awarded this very important grant to help us execute on our long-term commitment to a successful transformation to online texts. And there can hardly be a better opportunity to make a greater impact for this Transformation-at-Scale than the proposed Economics project with the high projected number of students impacted (at least 660/year) and the significant projected cost saving (at least \$87,734). Please feel free to contact me if you have any questions or would like to discuss this proposal in greater depth.

Sincerely,



Avinandan Mukherjee, Dean

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# Final Report

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# **Affordable Learning Georgia Textbook Transformation Grants**

## **Final Report**

**Date:** 12/18/2015

**Grant Number:** 103

**Institution Name(s):** Clayton State University

**Team Members (Name, Title, Department, Institutions if different, and email address for each):** Lari Arjomand, Nikki Finlay, Reza Kheirandish, Gay Solomon

**Project Lead:** Jesse Zinn

**Course Name(s) and Course Numbers:** Principles of Macroeconomics ECON 2105, Principles of Microeconomics ECON2016

**Semester Project Began:** Spring 2015

**Semester(s) of Implementation:** Fall 2015

**Average Number of Students Per Course Section:** 34

**Number of Course Sections Affected by Implementation:** 11

**Total Number of Students Affected by Implementation:** 380

### **1. Narrative**

A. Describe the key outcomes, whether positive, negative, or interesting, of your project. Include:

- Summary of your transformation experience, including challenges and accomplishments

The goals of this project were to lower cost of materials for students in ECON 2105 and ECON 2106; maintain quality of content in the course materials; improve overall student satisfaction with the courses; improve retention, progression, and graduation rates; and inspire colleagues to emulate this project and lower material costs in other courses at Clayton State University. We believe that we have been successful with the short-term aspects of these goals and we are optimistic that the project will achieve its long-term goals as well.

The project began when the economics faculty met in Fall 2014 to discuss some issues with the previous textbooks we were using in ECON 2105 and ECON 2106. In that meeting we discussed some competing textbooks. Our main concerns were the quality of the text, the quality of the associated online homework submission program, and the

cost to students. The price students were paying for the book were using at the time ranged from about \$85 for the online version to around \$135 for physical copies of the text. We had not made any decisions at that point, but we were strongly considering a different textbook with a price tag of around \$60.

Soon after that meeting, a colleague in the College of Business mentioned to us that there are principles-level economics textbooks available at no cost through OpenStax College. We agreed to divvy the chapters and review “Principles of Economics,” by Timothy Taylor, which is the combined macroeconomics and microeconomics textbook offered by OpenStax.

Upon review, we found the textbook to our liking. It covers the standard material, is peer review by economics professors from across the country, and has a solid support system at OpenStax. So, we decided to switch to this book and apply for the ALG grant to help offset the costs for our time and energy of this transition.

Four of us used Sapling, a homework management system that partners with OpenStax. The results were about the same as we experienced with Launchpad. There were some flash issues for some students, but we found Sapling to be reliable and relatively easy to use, once we got the hang of it.

The main challenge of our transformation experience has been developing new lecture materials to go along with the OpenStax text. We may have underestimated the time it would take to revise our materials. It did not help that the supplemental materials OpenStax provides are minimal. In particular, their Powerpoint slides contain only the images (primarily graphs and pictures) that appear in the book. They did not contain any definitions or examples, as is usual for slides provided by a publisher. Nor did the slides contain any of the numerous tables that appear in the text. One of us contacted OpenStax to request the files containing the tables and a representative of the publisher refused, suggesting instead that we copy-paste the tables from the electronic versions of the book ourselves – which we were already doing.

Another challenge with the transformation has been dealing with student confusion over typos in the text. We sincerely hope that the next edition of the book addresses these typos.

In terms of accomplishments, we saved our students up to \$45,540 in the Summer and Fall semesters of 2015, without compromising the quality of their education.

We were the first at Clayton State University to be awarded a textbook transformation grant from Affordable Learning Georgia. We do not think it is a stretch to say that we have been instrumental in catalyzing a campus-wide movement to lower textbook costs. When news of the grant was announced, word spread quickly and the provost reached out to the college deans to form a Learning Materials Committee. Two of our team-

members, Nikki Finlay and Jesse Zinn, were asked to join this committee. The objective of the Learning Materials Committee is to foster the use of low-cost learning materials across the curriculum at Clayton State. A highlight of this committee's efforts was expo held in April 2015 that was attended by faculty and several publishers and distributors of low-cost materials. This expo helped other faculty to become familiar with low-cost resources and opportunities.

It seems that these efforts have brought success, as the faculty at Clayton State have since been awarded six more grants from Affordable Learning Georgia across round 3 and 4 of the program. These grants range across the curriculum, from the social sciences and humanities to the hard sciences, so it is safe to say that the vast majority of Clayton State Students will benefit from these efforts.

- Transformative impacts on your instruction

Lari Arjomand: The transformation in principles of microeconomics (ECON 2106) during summer semester 2015 in my class was very easy and smooth.

Nikki Finlay: The transformation in ECON 2106 was very smooth, with no big changes necessary. ECON 2105, however, was another story. I will have to rethink my teaching approach in macroeconomics a bit in order to adjust to the new book.

Jesse Zinn: I knew that all of my students would have access to the text immediately, without having to wait for a time when they would have the required funds to buy an expensive book. I took advantage of this by requiring reading assignments that were due before the first class meetings each week, starting with the second overall class meetings, in all of my Fall 2015 courses in ECON 2105 and ECON 2106. These assignments consisted of questions designed to guide the students through the chapters before my lectures and familiarize themselves with the vocabulary and essential concepts.

## 2. Quotes

- Provide three quotes from students evaluating their experience with the no-cost learning materials.
  1. "The text is much easier to understand and to follow. It is less confusing in explaining the topics, and has good number of examples to help you to follow the subjects."
  2. "The textbook was very helpful, especially when I completed my homework. I look forward to using it in Microeconomics, so keep it around for a while."
  3. "Greatly appreciated OpenStax as a learning resource. College is already expensive enough and each year it stresses me out when I have to see my student loans skyrocket and then have to pay out an extra \$600, out of pocket, on textbooks. OpenStax is also an awesome way for student to minimize how much they have to carry with them on campus. I liked only needing my laptop and my notebook for class. It is "on-the-go" for my busy schedule as well."

### 3. Quantitative and Qualitative Measures

#### 3a. Overall Measurements

##### Student Opinion of Materials

**Was the overall student opinion about the materials used in the course positive, neutral, or negative?**

Total number of students affected in this project: 380

- Positive: 50 % of 18 number of respondents
- Neutral: 28 % of 18 number of respondents
- Negative: 22 % of 18 number of respondents

##### Student Learning Outcomes and Grades

**Was the overall comparative impact on student performance in terms of learning outcomes and grades in the semester(s) of implementation over previous semesters positive, neutral, or negative?**

Choose One:

- X Positive: Higher performance outcomes measured over previous semester(s)
- Neutral: Same performance outcomes over previous semester(s)
- Negative: Lower performance outcomes over previous semester(s)

##### Student Drop/Fail/Withdraw (DFW) Rates

**Was the overall comparative impact on Drop/Fail/Withdraw (DFW) rates in the semester(s) of implementation over previous semesters positive, neutral, or negative?**

##### Drop/Fail/Withdraw Rate:

30 % of students, out of a total 374 students affected, dropped/failed/withdrew from the course in the final semester of implementation.

Choose One:

- X Positive: This is a lower percentage of students with D/F/W than previous semester(s)
- Neutral: This is the same percentage of students with D/F/W than previous semester(s)



- \_\_\_\_ Negative: This is a higher percentage of students with D/F/W than previous semester(s)

### **3b. Narrative**

We gather data on the numbers of D's, W's, and F's in ECON 2105 and ECON 2106 courses over three semesters: Spring, Summer, and Fall of 2015.

The dropped/failed/withdrew in these courses rate decreased from 33.3% in Spring 2015 to 30.2% in Fall 2015.

Not only did these rates fall, but there was also a somewhat positive trade-off between the D's and F's in our courses. Specifically, the percentage of D's went from 9.7% of students in Spring to 12.6% in Fall, while F's went from 14.9% in the Spring to 8.2% in the Fall. If students are not going to do well, then it's better for them to get D's than F's, so this is another indicator of improvement, though we will take it with a grain of salt.

Interestingly, as we exclude our analysis to the face-to-face only courses (i.e. neither online only hybrid courses) there was an even more dramatic decrease in the dropped/failed/withdrew rates, as this measure went from 35.2% of students in these courses in the Spring to only 16.5% in the Fall.

There are a number of cofactors, besides the implementation of a low-cost textbook, that may be influencing these findings. A major factor is the increase in teaching experience from one academic year to the next, particularly for Professor Zinn who was still in his first year of full-time teaching in Spring 2015. Another cofactor is that some of us began teaching fully online and hybrid courses in Fall 2015, which may partly explain the dramatic differences between the outcomes for these courses and the traditional, face-to-face courses.

Finally, the survey data also suggests that this transformation was a success, as 50% of respondents felt positively about the change, to 28% who felt neutral, and 22% who felt negatively.

## **4. Sustainability Plan**

We plan to continue using the book from OpenStax for the foreseeable future. We will update our courses to new editions of the text as they are published.

## **5. Future Plans**

We will always consider the cost of learning materials for students in all the classes that we teach. This program has shown us that lowering costs for students is a worthwhile endeavor. We are currently awaiting approval of a minor in economics program, along with the courses that will support this program. The cost to students will factor into our decisions

#### **6. Description of Photograph**

(left-right) Dr. Nikki Finlay, instructor of record; Dr. Jesse Zinn, team leader and instructor of record.