

**Affordable Learning Georgia Textbook Transformation Grants
Proposal Form**

Please complete per inline instructions; completed form not to exceed four pages.

Institution Name	Georgia Perimeter College		
Team Members (Name, Title, Department and email address for each)	William Johnson, Instructor, Computer Science, William.Johnson@gpc.edu Julia Benson-Slaughter, Associate Professor, Computer Science, Julia.Benson-Slaughter@gpc.edu		
Sponsor, Title, Department	Dr. Margaret Ehrlich, Academic Dean, Mathematics/Computer Science/Engineering		
Course Name, Course Number and Semester Offered (Spring 2015 Required)	Introduction to Computing CSCI 1100 Offered every semester		
Average Number of Students in the Course	350 per semester	Number Course sessions per Academic year	37 for 2013-2014 academic year
Award Category (pick one)	<input checked="" type="checkbox"/> No-Cost-to-Students Learning Materials <input type="checkbox"/> OpenStax Textbooks <input type="checkbox"/> Course Pack Pilots		
List the original course materials for students (including title, whether optional or required, & cost for each item)	<i>New Perspectives in Computer Concepts, Comprehensive, 2014 edition (required)</i>	\$195.50 print \$99.50 ebook Total Cost	
Projected Per Student Cost	\$0.00	Projected Per Student Savings (%)	100%

1. PROJECT GOALS

1. Provide no cost learning materials to students in electronic and printable format. Ensure the format can be printed where appropriate and accessed from a variety of electronic devices.
2. Measure the performance and compare to past semesters for all data points of success and failure.
3. Ensure pedagogy matches the related common course outline and current technology content rather than outdated content found in available textbooks.
4. Emphasize the subject content that is static in nature with contextualized media, online resources and essay events.
5. Synchronize the dynamic content with the current and relative state of computing and present to students via collaborative class activities, contextualized events, and problem solving events.
6. Emphasize hands-on experiences to give students the knowledge and skills to understand and work with current computing technology as well as adapt to the rapid changes in computing, preparing students for real-world experiences.

1.1 STATEMENT OF PROBLEM

The current course offering for the *Introduction to Computing* is geared to convey the basics of computing to non-science college level students from a computer science orientation. Textbooks available for this approach are limited in appropriate content for the student population and are in the price range of \$28.00 (used) to over \$190.00 (new). According to the U.S. Public Interest Research Group [1], the cost of textbooks compare to over 25% of the tuition costs in a state four-year college and compare to over 70% of the tuition costs for two-year community colleges. These facts are one of the largest driving factors for development of this course content and make it available at no cost to students in both types of colleges. A recent textbook search realized concerning data where the pool of near matching textbooks was organized into three general categories. Using these areas of Matching, High Technical, and Non-Matching, revealed approximately 5%, 80%, and 15%, respectively of appropriately matched textbook sources. With the subject of “*Computing*” being composed of approximately 20% static content and 80% dynamic content, the dynamic content is lagging behind when utilizing traditional printed textbooks. Studies have found that a serious problem centers on the traditional computing subject content. Student surveys find “*Computing*” in these courses to be complex, abstract and lacking relevance [3, 4]. To date, contextual materials for computing education focus on middle class American students [2]. Georgia Perimeter College provides a unique opportunity to expand this audience with a diverse student population represented by over 50 different ethnicities and cultural backgrounds.

1.2 TRANSFORMATION ACTION PLAN

As an initial draft of the course materials is already in limited use in an ad-hoc fashion, most of the work of the project will involve expanding the current materials and developing additional components. Those components may include, but are not limited to, multimedia resources, hands-on activities, and instructor supplements such as a test bank and a teaching manual. Only

limited modifications to the current course specifications should be required, primarily ensuring that the course description and common course outline are current. Course materials must be designed to work seamlessly for both online and face-to-face classes. The current course template for online sections of the course in iCollege will be redone to replace the existing materials with the newly developed ones.

Qualitative Metrics: A survey will be developed and administered to students using the project learning materials. Qualitative success will be indicated by student indication of a high level of satisfaction with the quality and timeliness of the materials, as well as positive engagement with the class activities and events.

Quantitative Metrics: Two quantitative measurements will be performed between course sections using the created materials versus course sections using a traditional textbook:

- A comparison of Drop/Fail/Withdraw (DFW) rates.
- A comparison of final grades.

Quantitative success will be measured by a lower DFW rate and higher final grades in the sections using the created materials.

1.3 TIMELINE

1. Fall 2012, Curriculum committee started a textbook search for the course: CSCI-1100.
 - 1.1. Committee results were dismal for appropriately matching content to the course.
 - 1.2. Decision was made to stay with current textbook from same publisher.
2. Faculty Development Day in Spring 2013, the president asked if it were possible to write a “course text” for little to no cost for students.
3. The course text was worked on during Summer 2013 and Fall 2013.
4. A pilot with two sections of the course was conducted in Spring 2014.
5. A pilot with an online section of the course is currently underway.
6. Spring 2015 – rewrite materials using some type of e-book software for a better cohesiveness in the content and use an USG central storage for version control of the e-book.
7. Spring 2015, Summer 2015 – refine and update dynamic content portions of the e-book, build iCollege templates for online and classroom delivery of course.
8. Fall 2015, offer the e-book as a formal substitute to the textbook at no cost to students.

1.4 BUDGET

The budget for the project, based on the proposal specification of \$10,800, will be allocated as follows:

\$5000 each for the two principals, covering salary/course release.

\$800 for travel expenses relating to project and for general expenses related to creation of multimedia materials and for obtaining copyright release for materials deemed essential and not otherwise available via open source or Creative Commons licensing.

The current textbook in use for this course sells for \$195.50 (print format, new) or \$99.50 (eBook on CD). Course enrollment for the 2012-2013 academic year was 614 students; for the 2013-2014 academic year enrollment was 834 students. Based upon the print format figures, the student population would have saved \$120,037 in 2012-2013, and \$163,047 in 2013-2014, for a two-year total of \$283,084.

1.5 SUSTAINABILITY PLAN

This course is offered every term, with no change of schedule expected. Both faculty on the project teach the course regularly, and expect to review materials every semester for additions, updates, and changes to material as needed.

1.6 REFERENCES & ATTACHMENTS

1. <http://www.studentpirgs.org/news/ap/high-prices-prevent-college-students-buying-assigned-textbooks>
2. <http://coweb.cc.gatech.edu/mediaComp-plan/uploads/1/Contextualized-Computing-Education.pdf>
3. Margolis, J. and A. Fisher, *Unlocking the Clubhouse: Women in Computing*. 2002: MIT Press.
4. AAAS, *Preparing Women and Minorities for the IT Workforce*. 2005, Washington DC: American Association for the Advancement of Science.

PROPOSAL SUBMISSION: ALL PROPOSAL DOCUMENTS, REFERENCES, AND ATTACHMENTS SHOULD BE SUBMITTED IN A SINGLE EMAIL TO ALG@GATECH.EDU BY 5:00 PM, EST, SEPTEMBER 8, 2014.



Dean of Academic Services

2101 Womack Road
Dunwoody, GA 30338
p: 770-274-5125
f: 770-274-5262

Alpharetta Center

3705 Brookside Parkway
Alpharetta, GA 30022
678-240-6000

Clarkston Campus

555 N. Indian Creek Drive
Clarkston, GA 30021
678-891-3200

Decatur Campus

3251 Panthersville Road
Decatur, GA 30034
678-891-2300

Dunwoody Campus

2101 Womack Road
Dunwoody, GA 30338
770-274-5000

Newton Campus

239 Cedar Lane
Covington, GA 30014
770-278-1200

GPC Online

555 N. Indian Creek Drive
Clarkston, GA 30021
678-891-2805
www.gpc.edu/online

Margaret Ehrlich, Ph.D.

Dean of Mathematics, Computer Science, and Engineering
Georgia Perimeter College
2101 Womack Road
Dunwoody, GA 30338-4435

September 4, 2014

University System of Georgia
Textbook Transformation Grant

Dear University System of Georgia:

I am writing in support of a grant proposal for the USG Textbook Transformation Grant. The grant is being submitted to develop course content for the course: Introduction to Computing. The principle investigator and key personnel have been working on a no-cost textbook for the course and wish to further their work with refined content and conversion to the iCollege system for online instruction. The grant amount of \$10,800 will be utilized for course release time requested by each person and expenses related to the content development, usage licenses, and potential purchase of media content.

Thank you for reviewing the enclosed grant and I look forward to hearing from you.

Sincerely,

A handwritten signature in blue ink that reads "Margaret Ehrlich".

Margaret Ehrlich, Ph.D.
Dean of Mathematics, Computer Science, and Engineering
Georgia Perimeter College

Enclosure