

Application Details

Manage Application: ALG Textbook Transformation Grant

Award Cycle: Round 4

Internal Submission Deadline: Monday, September 7, 2015

Application Title: 145

Submitter First Name: Stephanie

Submitter Last Name: Harvey

Submitter Title: Professor and Chair of Biology

Submitter Email Address: stephanie.harvey@gsw.edu

Submitter Phone Number: 229-931-5034

Submitter Campus Role: Proposal Investigator (Primary or additional)

Applicant First Name: Stephanie

Applicant Last Name: Harvey

Co-Applicant Name(s): Dr. Otto Lorenz

Applicant Email Address: stephanie.harvey@gsw.edu

Applicant Phone Number: 229-931-5034

Primary Appointment Title: Professor and Chair of Biology

Institution Name(s): Georgia Southwestern State University

Team Members (Name, Title, Department, Institutions if different, and email address for each):

Stephanie Harvey, Ph.D., Chair & Professor of Biology, Georgia Southwestern State University, stephanie.harvey@gsw.edu

Tom Lorenz, Ph.D., Assistant Professor of Biology, Georgia Southwestern State University, otto.lorenz@gsw.edu

Ian Brown, Ph.D., Professor of Biology, Georgia Southwestern State University, ibrown@gsw.edu

Tommy Wright, Ph.D., Professor of Biology, Georgia Southwestern State University, thomas.wright@gsw.edu

Anh-Hue Thi Tu, Ph.D., Professor of Biology, Georgia Southwestern State University, anh-hue.tu@gsw.edu

Sponsor, (Name, Title, Department, Institution):

Dr. Brian Adler, Vice President of Academic Affairs, Academic Affairs Office, Georgia Southwestern State University.

Proposal Title: 145

Course Names, Course Numbers and Semesters Offered:

BIOL 1107 – Essential of Biology I: Fall 2015 Pilot single section, Summer 2016 (compressed term), Fall 2016 – all sections

BIOL 1108 – Essential of Biology II: Summer 2016 (compressed term), Fall 2016 Pilot single section, Spring 2017 – all sections

(This will also change the textbooks for the associated lab sections BIOL 1107L and BIOL 1108L.)

Final Semester of Instruction: Spring 2017

Average Number of Students per Course Section: BIOL 1107 – 50; BIOL 1108 – 50; BIOL 1107L - 24; BIOL 1108L - 24

Number of Course Sections Affected by Implementation in Academic Year: At full Implementation: BIOL 1107 – 5; BIOL 1108 – 4; BIOL 1107L - 9; BIOL 1108L - 5

Total Number of Students Affected by Implementation in Academic Year: BIOL 1107 – 250; BIOL 1108 – 200; BIOL 1107L - 216; BIOL 1108L – 120; Total: 786

List the original course materials for students (including title, whether optional or required, & cost for each item): Campbell Biology: Concepts and Connections, 8th ed. Required \$220
Note: To reduce cost to students taking both classes and the labs, the same textbook is used. Unfortunately, a significant number of students sell their books after the first course even after repeated announcements that the same textbook will be used for the next course in the sequence. When asked "Why?" the standard reply is "I needed the money for . . ." and they assume they will have financial aid to re-purchase it for the second course or lab.
(Students are also required to purchase a student response device or "clicker" \$65 including one year license)

Proposal Categories: OpenStax Textbooks

Requested Amount of Funding: \$30,000

Original per Student Cost: \$220 (plus \$65 for clicker)

Post-Proposal Projected Student Cost: Cost\$0-\$25 (depends on what format the student selects for the textbook). (plus \$65 for clicker)

Projected Per Student Savings: \$220- \$195 (depends on what format the student selects for the textbook)

Plan for Hosting Materials: OpenStax CNX

Project Goals:

Our goals for this project are to lower the cost for students taking our non-major introductory biology sequence and associated lab courses and to insure they have access to their textbook starting the first day of class, regardless of their financial situation. Sumter County, where GSW is located, and 12 out of the 14 surrounding counties represent an economically depressed region in which 24-40% of the population lives below the poverty level (2014 data, Carl Vinson Institute of Government and the Cooperative Extension Service, UGA). At full implementation, all Georgia Southwestern State University students taking the non-majors biology sequence will be using the OpenStax *Concepts of Biology* textbook and will continue to do so for the foreseeable future.

Statement of Transformation:

- Lower cost and increase accessibility of course material to students with the adoption of the OpenStax Textbook.
- Improve retention/progression of students at risk due to economic concerns or at minimum at neutral impact on student success.

- This will impact the Biology department across the board. All faculty teach at least one of the non-majors introductory courses. Changing textbooks for our largest student group (non-majors) will require a significant redevelopment of the courses and recreation of ancillary materials for these courses.

Transformation Action Plan:

- 1) The OpenStax textbook- Concepts of Biology will be adopted starting with a pilot section then for all subsequent section in the foreseeable future.
- 2) Redevelopment of courses as needed to match layout and content of new textbook
- 3) Identification or production of additional supportive OER
- 3) Development of syllabi to address issues that will arise with the use of this new textbook and its digital format: a) Instruction on how student access the material will have to be developed. b) Since students will be using computers, tablets, e-readers or their cell phones to access the textbook during class, how is misuse going to be handled.
- 4) Ancillary materials will need developing. A basic PowerPoint outline will be created that other instructors will be able to modify to fit their own lecture style. The department faculty as a whole will contribute ancillary material as needed from their areas of study. (The PowerPoint provide by OpenStax consist only of images from the textbook and many of the images are of poor quality.)
- 5) Development of protocols to inform students of their text and its available formats prior to the start of the term since GeorgiaView is unavailable to the student until the first day of class. Once class starts, Information on accessing the textbook website will be provided to the student via GeorgiaView. Additional supportive OER will be provided to the students through GeorgiaView.

Quantitative & Qualitative Measures: Project's success will be evaluated based on several criteria.

Comparative analysis of student scores on the first exam while using the Concepts of Biology (OER) versus the traditional textbook will be conducted. Justification: Prior to this project, a significant number of student struggled because they did not have the textbook due to financial limitations. If providing a more affordable alternative minimizes this effect, an increase in students' scores should be evident.

The frequency of withdraws at midterm will be compared to the control groups (groups prior to transformation)

Analytical comparison of W/WD/F at the end of each term using the new textbook and at the end of terms prior to new adoption.

Students' opinions of the OpenStax textbook will be collected by a required survey within the last 2 weeks of each term.

Assessments of Student Learning Outcomes. To be successful, the assessment should demonstrate no decrease in student achievement at minimum (new textbook is equivalent to old one, but saves the students money) or should demonstrate improvement due to better access of the textbook.

Timeline:

- August 2015 – Begin pilot section of BIOL 1107 – Essentials of Biology using the OpenStax textbook Concepts of Biology.
- October 12, 2015 – Attend required “Kick-Off” Meeting
- November 2015 – Formalize language for syllabi for both BIOL 1107 & 1108.
- December 2015 – Complete pilot section of BIOL 1107
- January 2016 -- Complete analysis of pilot section and make recommendations to team of any require changes that need to be address based on student outcomes and surveys.
- May 2016 – Completion of primary ancillary material for BIOL 1107 and BIOL 1108.
- June 2016 – Full implementation for BIOL 1107 compressed term
- July 2016 – Pilot implementation for BIOL 1108 compressed term. Analysis of Summer I data
- August – Full implementation for BIOL 1107 all sections. Analysis of Summer II data.
- January 2017 – Full implementation for BIOL 1107 & 1108 all sections. Analysis of normal term data for BIOL 1107.
- May 2017 – completion of analysis of Spring 2017 term. Submission of Final Report

Budget:

Department Wide – Multiple Courses with Multiple sections. Total Request: \$30,000.

- Overload Compensation/Summer Pay for team members: \$24,400.
- Touch Drafting Station for creation of needed illustrations: \$2,800.
- Pay for Student Worker(s): \$2000
- Require Travel for two members: \$800.

The team members has the expertise necessary to implement and complete this proposal.

Dr. Stephanie Harvey - Expertise: Botany, Ecology, Agriculture, Statistical Analysis, GeorgiaView, other computer software.

Dr. Ian Brown - Expertise: Ecology, Entomology, Genetics

Dr. Tom Lorenz - Expertise: Animal Behavior, Ichthyology, Vertebrate Zoology

Dr. Tommy Wright - Expertise: Cellular Biology, Developmental, Animal Physiology

Dr. Anh-Hue Thi Tu - Expertise: Molecular Biology, Microbiology

Yonnie Williams - Expertise: Laboratory practices and integration

Sustainability Plan:

At the completion of this project, all sections of BIOL 1107, BIOL 1108, BIOL 1107 L and BIOL 1108L will be using the Openstax Textbook "Concepts of Biology" at no, or minimal, cost to students.

Faculty will continue to update addition supportive material and make changes to content coverage as assessments and new discoveries dictate.



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July 20, 2015

Dr. Michael S. Rogers
Assistant Vice-Chancellor
Academic Affairs
Board of Regents
270 Washington St. SW
Atlanta, GA 30334

Dear Dr. Rogers and the ALG Textbook Transformation Grant Committee:

I am writing in support of the ALG Textbook Transformation Grant, Round Four, being proposed by Dr. Stephanie Harvey, Professor and Department Chair of Biology; and Dr. Otto Lorenz, Assistant Professor of Biology, and supported by additional Biology Department faculty members: Professors Dr. Tommy Wright, Dr. Ian Brown, and Dr. Anh-Hue Tu. Their proposal, "Reducing the Cost of the Non-major's Core Biology Sequence in an Economically Depressed Area of Georgia," involves the adoption of an **OpenStax Textbook** as the required textbook for Biology 1107 and Biology 1108 (Essentials of Biology, I and II); and Biology 1107 and 1108 Labs. These courses are classified as Area D science sequence courses (with or without labs) and additionally are required for other programs, including admission to our Nursing Program. Following the staggered piloting of a single section of each course using the OpenStax textbook, the new textbook will be used in all subsequent terms.

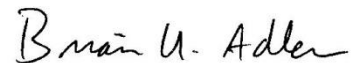
The cost of the current textbook is \$220.00 and thus with the movement toward the OpenStax Textbook would result in a significant saving to our students. This savings is particularly important in a county where 29% of the population is below the poverty level within our service region, up to 36% of the population is below the poverty level (2014 data – Carl Vinson Institute of Government and the Cooperative Extension Service, UGA). Financial considerations often prevent our students from purchasing their textbooks in a timely manner, or worse, not purchasing them at all, putting already at-risk students at a further disadvantage in the classroom. The Biology Faculty have seen the negative impact associated with students not being prepared for lectures and labs because the student "can't get the textbook until next week, or until my loan comes in." With the elimination of this financial barrier, student success should increase.

The faculty of the Biology Department, led by Dr. Harvey, are dedicated educators. Each faculty member has different specializations that will contribute to the development of critical supplemental material (made available to the students through GeorgiaView), as well as strong analytical skills to assess this project. The pilot sections will allow for identification of issues associated with the new textbooks' formats and to developed course material and ancillaries needed for these courses. A strength of this particular proposal is the assessment methodology which will be used to gauge the effectiveness of the open source materials as well as to extend the theory behind the open source movement. The team mentioned above are highly

trained researchers with good scholarly records, so they stand a very strong likelihood of achieving success with their project.

Georgia Southwestern State University and the Office of Academic Affairs endorse and support this project, which we see being easily scalable to the entire University System of Georgia. Thank you for your consideration.

Sincerely,

A handwritten signature in black ink that reads "Brian U. Adler". The signature is written in a cursive style with a large initial "B".

Vice President for Academic Affairs