Fall 2015

Human Anatomy and Physiology I

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Grants Collection
Albany State University

UNIVERSITY SYSTEM OF GEORGIA

Anthony Cooper, John Williams, Kendra Merchant, Anta'sha Jones

Human Anatomy and Physiology I

Affordable Learning Georgia

Georgia's Virtual Library GALILEO
An Initiative of the University System of Georgia

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.

Syllabus

Course Information

Course Number: Biol-2411

Course Title: Human Anatomy I

Semester: Fall 2015

Class meeting: Online Daily

Class Location: Course located in D2L at… **www.asurams.edu**

Credit Semester Hours: 3

Lab

Class Meeting: Online Dailey

Credit Semester Hours: 1

Class Location: Course located in D2L at...www.asurams.edu

Course Objectives: BIOL 2411 is designed as an introduction course in Human Anatomy and Physiology. It is geared to students in the health-oriented, medical and biological programs. However, it may also be useful to premedical and predental students as well as Liberal Arts students

Instructor Contact Information

Instructor: Anthony Cooper

Office Location: Wiley 229

Office Hours: Monday, Wednesday, Friday 9:00am-2:00pm, Tuesday/Thursday 1:00pm-5:00pm

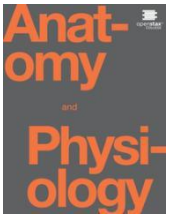
Office Phone: 229-430-0686

Email: anthony.cooper@asurams.edu

Required Text: Lecture

You are not required to purchase a textbook for this course. A free online textbook has been provided for you in your D2L course. The free text is provided by Open Stax which allows for free online access to learning material. In addition, Hole's Human Anatomy and Physiology PDF textbook is also available for you to access. Both items are free. See image of free textbook below.

Located in D2L is a pdf of this free Human Anatomy Textbook is the primary text for this course:



http://openstaxcollege.org/textbooks/anatomy-and-physiology/resources

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Free PDF of this textbook is also located in ASU D2LS.

TENTATIVE COURSE OUTLINE AND LEARNING OBJECTIVES

NOTE: This is a tentative outline of the material that will be covered.

Chapter Objectives:

Chapter objectives and Learning Outcome Questions are found at the beginning of each chapter. Students should read these objectives and complete the Leaning Outcome Assignments carefully before attempting quizzes and/or exams. Students are also encouraged to read the review activities at the end of each chapter.

Subject	Location in text
Introduction to the course	
Attendance, introduction, and physiology of instruction and the course	**Syllabus**
Introduction to Human Anatomy and Physiology	
Anatomy and Physiology Characteristic of Life	**Chapter 1**

Muscular Tissues
Nervous Tissues

Skin and the Integumentary System **Chapter 6**
Introduction
Type of membrane
Skin and its tissue
Accessory organs of the skin
Regulation of body temperature
Skin color
Common skin disorder

Skeletal System
Introduction **Chapter 7**
Bone structure
Bone development Function
of bones Organization of the
skeleton

Joints of the Skeletal System **Chapter 8**
Introduction
Classification of joints
General Structures of a synovial joint
Types of synovial joints
Types of joint movements
Examples of synovial joints

Muscular Systems **Chapter 9**
Introduction
Structure of a Skeletal Muscle
Skeletal Muscle contraction
Muscular response
Smooth Muscles
Cardiac Muscle
Skeletal Muscle Actions

Nervous System I : Basic Structure and Function **Chapter 10**
General Function of the Nervous System
Nervous Tissue
Cell membrane potential
The synapse
Processing impulses
Classification of Neurons and Nerve Fibers
Nerve Pathways

Nervous System II: Division of the N.S. **Chapter 11**
Introduction
Meninges
Spinal cord

Brian
Peripheral Nervous System
Autonomic Nervous System

Somatic and Special Senses **Chapter 12**
Introduction
Receptors and Sensations
Somatic sense
Special senses
Sense of smell
Sense of taste
Sense of hearing
Sense of equilibrium
Sense of sight

LABORATORY EXERCISES

Instructor will provide all learning material needed to complete the lab assignments. This may include online assignments as well as in class hand-outs.

Body Direction/Cell/Microscope:

-study organ location, body directional orientation, review parts of the cell, and review Microscope function

Human Tissue

-study the location and function of the different types of body tissues

Skull and Human Skeletal

-Identified the function and location Human Bones

Human Muscles

-Identify the location and function of Human Muscles

Cat Muscles

-Compare and contrast the function and location of Human Muscles to Cat Muscles

Nerves and Body Function

-Study the parts of the Brain and Spinal Cord, Cranial Nerves, CNS and PNS

COURSE CALENDAR:

The Tentative Course Calendar contains the due dates for all Quizzes, Assignments and Exams.

Quizzes, Exams, Assignments

Chapters	Source-Study Material	Quiz/Exam Dates
-Chapter 1: Introduction to the Human Body -Chapter 2: The Chemical Level of Organization	OpenStax Textbook: Pages 15-69 The Biology Corner: Chapter-1-Introduction to Anatomy YouTube Education: Introduction to Human Anatomy and Physiology-1-The Human Body: An Orientation-Flashcards, Anatomical Terminology-Abdominopelvic regions and quadrants Hole's Human Anatomy online text book Companion site: Learning Outcome Questions Chapter 1 and 2 Khan Academy Video: Introduction to Atoms, Electron Structure, Chemical Bonds	August 30-Lecture Exam Chapters 1 and 2 September 7-Lab Quiz-Body Organization
-Chapter 3: Cellular Level of Organization -Chapter 4: The Tissue Level of Organization	OpenStax Textbook: Pages 91-174 The Biology Corner: Chapter-3-Cells and Chapter-4-Tissues Khan Academy: Parts of the Cell, The Nucleus, Mitochondria, Diffusion and Osmosis, YouTube Education video: Introduction to Anatomy & Physiology: Levels of Organization (01:03) Hole's Human Anatomy online text book Companion site: Learning Outcome Questions Chapter 3 and Chapter 4 Khan Academy Video: Epithelial and Connective Tissues Merlot II: A/P-A web site for Human Anatomy and Physiology	November 14-Lecture Exam Chapters 3 and 4 September 21-Lab Quiz-Tissues
-Chapter 5 The Integumentary System -Chapter 6 Bone and Skeletal Tissue	OpenStax Textbook: Pages 175-242	October 4-Lecture Exam Chapters 5 and 6

	The Biology Corner: Chapter 7-Skeletal YouTube Education video: The four types of Tissues, Anatomy and Physiology Help: Chapter 4 Tissues, What is skin? The layers of human skin Hole's Human Anatomy online text book Companion site: Learning Outcome Questions Chapter 6 and Chapter 7	October 5-Lab Quiz-Skeletal System
-Chapter 7 The Axial Skeleton -Chapter 8 The Appendicular Skeleton	OpenStax Textbook: Pages 243-325 Anatomy zone: Musculoskeletal The Biology Corner: Chapter-7-Skeletal YouTube Education: Skeletal and Bone anatomy physiology, Skeletal System structure and function Hole's Human Anatomy online text book Companion site: Learning Outcome Questions Chapter 7 and Chapter 8	October 25-Lecture Exam Chapters 7 and 8
-Chapter 9 Joints -Chapter 10 Muscle Tissue - Chapter 11 The Muscular System	OpenStax Textbook: Pages 337-456 The Biology Corner: Chapter 7-Skeletal and Chapter-8-Muscular Anatomy zone: Musculoskeletal Hole's Human Anatomy online text book Companion site: Learning Outcome Questions Chapter 8 and Chapter 9 YouTube Education: The Skeletal System: Skeletal Joints, The 6 Types of Joints-Human Anatomy for Artists, Anatomy And Physiology of Muscular System, Anatomy of the Human Body 1 Khan Academy: The types of Muscles, Heart Cells up Close, Myosin and Actin, Tropomyosin and Troponin and their role in regulating muscle contraction	November 15-Lecture Exam Chapters 9,10 and 11 November 9-Lab Quiz-Human Muscles
-Chapter 12 Introduction to the Nervous System -Chapter 13 The Anatomy of the Nervous System -Chapter 14 The Somatic Nervous System -Chapter 15 The Autonomic Nervous System	OpenStax Textbook: Pages 491-493,541-548,570-595, 622-645 The Biology Corner: Chapter -9-Nervous System and Chapter-10-Senses Hole's Human Anatomy online text book Companion site: Learning Outcome Questions Chapter 10, Chapter 11, and Chapter 12 YouTube Education: Nervous System: Anatomy and Physiology Lectures	November 29 Lecture Exam Chapters 12,13,14 and 15 November 22-Lab Quiz-Nerves System Final Exam-December 18

	Biol-2412	
-Chapter 17 Endocrine System -Chapter 18 Blood	OpenStax Textbook: Pages 696-836, Hole's Human Anatomy online text book Companion site: Learning Outcome Questions Chapter 13 and Chapter 14 and Quiz	August 30-Lecture Exam Chapters 17and 18 September 7-Lab Quiz Endocrine/Blood
-Chapter 19 The Heart -Chapter 20 Blood Vessel Circulation	OpenStax Textbook: Pages 787-850, Hole's Human Anatomy online text book Companion site: Learning Outcome Questions Chapter 14 and Chapter 15 and Quiz	November 14-Lecture Exam Chapters 19 and 20 September 21-Lab Quiz-Heart and Vessels
-Chapter 21 Lymphatic/Immune System -Chapter 22 Respiratory System	OpenStax Textbook: Pages 926-1022, Hole's Human Anatomy online text book Companion site: Learning Outcome Questions Chapter 16 and Chapter 19 and Quiz	October 4-Lecture Exam Chapters 21 and 22 October 5-Lab Quiz-Lymphatic/Respiratory
-Chapter 23 Digestive System -Chapter 24 Metabolism/Nutrition	OpenStax Textbook: Pages 1036-1082 Hole's Human Anatomy online text book Companion site: Learning Outcome Questions Chapter 17 and Chapter 18 and Quiz	October 25-Lecture Exam Chapters 23 and 24 October 26-Lab Quiz Digestion-Metabolism
-Chapter 25 Urinary System -Chapter 26 Reproduction/Pregnancy	OpenStax Textbook: Pages 1146-1182, Hole's Human Anatomy online text book Companion site: Learning Outcome Questions Chapter 17 and Chapter 18 and Quiz	November 15-Lecture Exam Chapters 25 and 26 November 9-Lab Quiz-Urinary-Reproduction

List of
Resources

Title	Author	Creative Commons	URL
Anatomy and Physiology	Open Stax College	*Anatomy and Physiology* by OpenStax College is licensed under a Creative	https://openstaxcollege.org/textbooks/anatomy-and-physiology
Human Anatomy	Khan Academy	Shared Publicly	https://www.khanacademy.org/
The Biology Corner	Shannan Muskopf	Work is licensed under a Creative Commons Attribution-Noncommercial 3.0 United States License	http://www.biologycorner.com/
Hole's Human Anatomy online text book Companion site	McGraw-Hill	All Rights Reserved	http://highered.mheducation.com/sites/0073378275/student_view0/index.html
Introduction to Anatomy	Youtube	Shared	https://www.youtube.com/results?search_query=Introduction+body+quadrants
Anatomy Zone	Peter de Souza and Jack Hurley.	Shared	http://bioweb.uwlax.edu/APlab/Index.htm
MERLOT II	UW-L	Creative common	http://www.merlot.org/merlot/index.htm
McGraw-Hill Virtual Lab	McGraw-Hill	All Rights Reserved	http://mhhe.com/biosci/genbio/virtual_labs/
Onlinelabs.in	Onlinelabs.in	All Rights Reserved	http://onlinelabs.in/anatomy
Anatomy & Physiology-Coloring Workbook Complete Study Guide	Eleaine N. Marieb	All Rights Reserved	www.pearsonhigher.com

Initial Proposal

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

Please complete per inline instructions; the completed document is not to exceed four pages. The italicized text is provided for your assistance; please do not keep the italicized text in your submitted proposal. Proposals that do not follow the instructions may be returned.

Institution Name(s)	Albany State University				
Team Members **(**Name, Title, Department, Institutions if different, and email address for each)	Principal Investigator, Anthony Cooper, Assistant Professor Biology, Department of Natural and Forensic Sciences, anthony.cooper@asurams.edu John Williams, Assistant Professor Biology, Department of Natural and Forensic Sciences, John.Williams@asurams.edu Kendra Merchant, Assistant Professor Biology, Department of Natural and Forensic Sciences, Kendra.Merchant@asurams.edu AntaSha Jones, Assistant Professor Biology, Department of Natural and Forensic Sciences, AntaSha.jones@asurams.edu				
Sponsor, Title, Department, Institution	Dr. K.C. Chan, Chair Department of Natural and Forensic Sciences				
Course Names, Course Numbers and Semesters Offered (Summer 2015, Fall 2015, or Spring 2016)	Human Anatomy and Physiology Online, Biology 2411, Fall 2015				
Average Number of Students Per Course Section	30	**Number of Course Sections Affected by Implementation in Academic Year 2016**	**8**	**Total Number of Students Affected by Implementation in Academic Year 2016**	240

Award Category (pick one)	☐ No-Cost-to-Students Learning Materials ☐ OpenStax Textbooks ☐ Course Pack Pilots ☒ Transformations-at-Scale		
List the original course materials for students (including title, whether optional or required, & cost for each item)	*[Material Title, optional or required]* Textbook: Hole's Human Anatomy and Physiology 13th edition Lab Book: Hole's Human Anatomy and Physiology 13th edition Laboratory Manual	*[Cost]* Textbook Cost: 178.75 x 240= $42,900.00 Lab Manual Cost: 120.75 x 240=$28,980.00 ***Approximate Total Cost Saving: $71,880.00***	
Plan for Hosting Materials	☒ OpenStax CNX ☒ D2L ☐ LibGuides ☐ Other _____		
Projected Per Student Cost	**$0**	**Projected Per Student Savings (%)**	100%

1. PROJECT GOALS

List the goals you're trying to achieve in the proposal

The primary goal of this proposal is to reduce the cost of educational learning materials for students enrolled in eight sections of a biology course in anatomy for the Department of Natural and Forensic Sciences. It has been shown that the high cost of learning materials is a continuing challenge for students in higher education. Hilton et al (2013) concluded that a barrier to higher education has resulted from the high costs textbooks. Data presented by Perry (2012) revealed that the cost of textbooks rose 812% in the U.S. between 1978 and 2012. The U.S. Government Accountability Office developed estimates showing that students were facing an average of $900 in textbook costs annually (2005). A study done by the Student Public Interest Research Group presented that there was an increase in the rate of textbooks four times higher than inflation over the past twenty years (Allen, 2010).

Thus, additional goals for this proposal include the following:

- Reducing student expenses related to book purchases for to zero dollars at scale
- Providing access to course materials on the first day of class using Open Stax
- Allowing student access to free Open Education Resources (OER) and Galileo
- Lowering the cost of college and improve overall student retention for Traditional and None Traditional
- Increasing student retention and graduation rate

1.1 STATEMENT OF TRANSFORMATION

- **Describe the transformation:**
  Benefits resulting from transformation include advancing knowledge for all students, expanding access to all learners traditional and non-traditional, providing resources that promote student and faculty learning and allowing students to access material made available from other institutions (Williams, 2010). Therefore, the transformation for this team cohort will involve the adoption of free Open Stax textbooks for lecture and laboratory and several instructional lectures from several other Open Education Resources at no cost to the students.

- **Identify stakeholders affected by the transformation:**
  The stakeholders affected by the transformation will be traditional and non-traditional undergraduate first year, second year, junior and senior students enrolled in fall 2015 within eight sections of BIOL 2411: Human Anatomy and Physiology Online, Biology 2411 in the Department of Natural and Forensic Sciences at Albany State University.

- **Describe the impact of this transformation on stakeholders and course success:** The transformation process will help remove and eliminate the cost of increasing book prices for students, and provide students with access to course learning material on the first day of class. The impact will be a reduction in the students' cost of attendance, improved student retention and graduation, and student access to a variety of Open Education Resources (OER) such as free online Open Stax books and Galileo.

- **Category 4 only: Describe the transformative impact on the program, department, institutions, access institution, and/or multiple courses.**

The transformation impact of providing access to the student Open Education Resources and/or Openstax is the following—1) the cost savings for each student to be realized is approximately $300 and nearly $72,000 for the Department and University, 2) the educational experience for the students will be improved by students having access to the course materials on the first day of class, and 3) student retention and achievement will increase by students having access to the course materials.

1.2 TRANSFORMATION ACTION PLAN

The action plans will address t**he identification, review, selection, and adoption/ adaptation**/ creation of the new course materials.

Identification: The identification of quality course materials will focus on using sites known for providing open education resources (OER). The main source will be Affordable Learning Georgia (ALG) resources. Additional OER sources will be examined from sites such as Merlot, Khan Academy, Open Stax Human Anatomy and Physiology text book, Sapling Learning, Wiley, Learning Pod, Simbio, and Anatomy Zone. Any new materials made available in anatomy and physiology since the spring 2015 identification process of Round 1 will be identified for the review process.

Review: The review process for the resources will involve the team examining new and existing identified sources obtained from these sites to determine if new information needs to be added.

Selection: The team will add new materials to existing materials that correspond to the instructor developed course curriculum. If there is a new textbook, materials with lecture content videos, and online laboratory experiments that are deemed better than the current materials, they will be selected after the comparison.

Adoption: The materials will be adopted by the team. They may consist of the spring 2015 resources along with any new items and included in the syllabi. Students will not be required to print the online textbooks. Further, lecture content videos selected from ALG Open Education Resources, Merlot, and Khan Academy will be incorporated into the syllabi again. Lastly, laboratory assignments selected from ALG Open Education Resources, Merlot, McGraw-Hill free online laboratory experiments will be added to the syllabi.

Adaptation: The team of instructors will select and assign reading content from Open Stax Human Anatomy and Physiology online book. Additionally, the team of instructors will provide online lectures from Merlot, ALG, Khan Academy to reinforce the content for the lecture and lab materials.

Creation of New Course Material: The team will create additional study guide and chapter learning outcome questions to direct student in preparation for exams and quizzes.

Syllabus: The syllabi will be made available in D2L for each course by the team. It will contain the following—1) a brief introduction to Open Education Resources (OER), 2) the importance of Open Education Resources, 3) how to use Open Education in this class, 4) lecture and lab information link from all selected Open Education Resources (OER) sites, 5) assignment, quizzes and exam due dates, and 6) an explanation on how the lecture will be presented using OER.

Course Redesign: The course is redesigned by the team from using the regular hard copy text book/manual during the lecture and lab to using Open Education Resources (OER) sites where students will access the information. They will be required to read specific items in the Open Stax Human Anatomy and Physiology online textbook and/or complete online laboratory

experiments, view assigned videos related to reading assignments and/or laboratory experiments, complete learning objectives, and submit objectives before completing quizzes and exams.

Instructor Design: The instructor team will design the course to ensure that the OER will be easily accessible through the primary online Learning Management System. The D2L courses will contain all the links and/or downloaded content from selected Open Education Resources (OER) sites.

- **The activities expected from each team member and their role(s): subject matter experts, instructional designer, librarian, instructor of record, et al.**

  Team member: Anthony Cooper, Principle Investigator
  Instructor of Record: Anthony Cooper
  Subject Matter Expertise: General Biology, Human Anatomy and Physiology
  Expected Activities: The expected activities are the following: Conduct the Affordable Learning Georgia course. Coordinate and manage the team development and implementation of Open Education Resource course content and syllabi development and implementation. Coordinate the development and administration of the ALG survey to collect student participation data related to course.

  Team members: John Williams, Kendra Merchant, and AntaSha Jones
  Instructors of Record: John Williams, Kendra Merchant, and AntaSha Jones
  Subject Matter Expertise: Biology-2411-Human Anatomy and Physiology
  Expected Activities: The expected activities are the following: Conduct the course by coordinating and managing Openstax course content, select and determine study material for all quizzes, exams and assignment, complete and submit all grade related data for the course to the Principle Investigator for analysis.

- **The plan for providing open access to the new materials.**
  - Open Stax Human Anatomy and Physiology online textbook reading assignments will be presented two chapters at a time, will be supplemented with subject topic video Lecture, and will be supplemented with a study guide and learning outcome question in preparation for quizzes and exams.
  - Online Laboratory activities will be selected from Simbio, and /or McGraw-Hill. Students will be required to submit the online lab report before accessing quizzes.
  - Lecture and Laboratory activities will take place in assigned computer- ready rooms.
  - Students can access OER content using D2L and/or Open Stax CNX, which allows students to access using IPads, Laptops and phones since wireless access is available on campus.

1.3 QUANTITATIVE AND QUALITATIVE MEASURES

Quantitative Measures: The cost savings from not purchasing books, retention in course, classification, major area of study, and other demographic data, passing and failing rate, drop and withdraw rate, and overall academic success of students completing course will be the major quantitative measures. Descriptive statistics will be used to analyze this data. More specifically, counts, percentages, frequencies, and means will be used. Cross-Tabulations will also be used. Table and graphs will be employed to present the data. Survey monkey will be used to collect the survey data that will be calculated using Excel. Additionally, the Independent Group T-Test will be used to compare the students by section.

Qualitative Measures: Several open-ended questions will be asked to collect qualitative data from the student participants to capture their experience. The qualitative data will be analyzed by review the responses to identify themes. The themes will be presented with tables. Such questions include:

- What does the term Open Education Resources mean to you?
- How has having Open Education Resources available helped your academic learning experience in this course?
- What were the best aspects of using the Open Education Resources?
- What were the challenges of using the Open Education Resources?

1.4 TIMELINE (TENTATIVE)

June-July 2015: The team completes transformation action plan tasks

August: Classes begin and the team introduces to OpenStax textbooks and syllabi

September: The team collects data on student cost saving from not purchasing books by students, retention in course, classification, major area of study

October: Mid-Term grade reports

December: The team collects remaining data on student passing and failing rate, drop and withdraw rate, and overall academic success of students completing course and final grade reports

January 2016 – Data analysis and final report submitted

1.5 BUDGET

Personnel (Salary and Fringe Benefits)	
Anthony Cooper, Principal Investigator	$ 5,000
John Williams, Team Member	$ 3,000
Kendra Merchant, Team Member	$ 3,000
AntaSha Jones, Team Member	$ 3,000
Consultants	
Data Analyst (ASU Faculty TBA)	$ 1,500
Equipment/Supplies:	$ 2,500
Travel/Conference:	$ 800
Total:	**$18,800**

1.6 SUSTAINABILITY PLAN

This Round 2 transformation to scale proposal for Biology-2411-Human Anatomy and Physiology is to build on the Round 1 grant to expand the number of instructors for this course using OER. The selected course is a major class that is taken by students majoring in Nursing, Education and Physical Education. Therefore, the course is scheduled to be offered each semester to address the needs of the student demand. The Department will have the capacity to continue providing this ALG course and ability to increase the number of faculty who offer other courses through OER by building on the $71,880.00 cost savings on textbooks for the 240 students for the fall 2015.

1.7 REFERENCES & ATTACHMENTS

Allen, N. (2010). *A cover to cover solution: How open textbooks are the path to textbook affordability.* The Student Public Interest Research Group. Retrieved from http://www.studentpirgs.or/sites/student/files/reports/A-Cover-To-Cover-Solution 4.pdf

Hilton, L. J., Robinson, J., Wiley, D., & Ackerman, J. D., (2014). Cost-saving achieved in two semesters through the adoption of open education. *The International Review of Research in Open and Distance Learning, 1,68-69.* Retrieved from http://www.irrodl.org/index.php/irrodl/article/view/1700/2833

Perry, M. (2012). *The college textbook bubble and the "open educational resources" movement is going up against the textbook cartel.* Retrieved from American Enterprise Institute http://www.aei.org/publication.

United States Government Accountability Office. (July 2005). College textbooks: Enhanced offerings appear to drive recent price increases. Retrieved from http://www.gao.gov/new.items/d05806.pdf

Williams, C. H., (2010). *Benefits and challenges of OER for higher education institutions*. Centre for Educational Technology, University of Cape Town, Retrieved from http://www.cet.uct.ac.za/files/file/2010/Hodgkinson-Williams%202010%20Final-1.pdf

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

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

Albany State University
POTENTIAL. REALIZED.

December 8, 2014

Anthony Cooper, Assistant Professor
Department of Natural and Forensic Sciences
Albany State University
504 College Drive
Albany, GA 31705

Dear Mr. Cooper:

I am pleased to write in support of your latest effort to further expand the Department's ability to lower the rising cost of textbooks for students enrolled in our biology courses. In that this Affordable Learning Georgia (ALG) Round 2 – Category Transformation at Scale proposal will include additional instructors also adopting the OpenStax Textbooks sources, even more students will benefit from the reduced costs of textbooks.

Moreover, the Department will continue to support resources needed by instructors participating with this proposal to enhance the success of the endeavor. The opportunity to increase our students' achievement and retention rates through the ALG Textbook Transformation Grant is very important.

I congratulate you on submitting your third proposal for the ALG Program and hope that you are successful with this scaled proposal as well.

Sincerely,

Sincerely yours,

K. C. Chan, PhD
Interim Chair
Professor of Physics
Depart of Natural and Forensic Science

HSHT Project Director
RIMI Project Coordinator
(229) 430 -1728; kcchan@asuram.edu

Final Report

Affordable Learning Georgia Textbook Transformation Grants

Final Report

Date: December 16, 2015

Grant Number: 120

Institution Name(s): Albany State University

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

Name	Title	Department	Email
Professor Anthony Cooper	Assistant Professor of Biology	Natural and Forensic Science	anthony.cooper@asurams.edu
Dr. Zephyrinus Okonkwo	Professor of Math	Mathematics and Computer Science	zephyrinus.okonkwo@asurams.edu
Professor Anta'Sha Jones	Assistant Professor of Biology	Natural and Forensic Science	antasha.jones@asurams.edu
Dr. John Williams	Assistant Professor of Biology	Natural and Forensic Science	john.williams@asurams.edu
Dr. Nathan Woods	Biology Instructor	Natural and Forensic Science	nathan.woods@asurams.edu

Project Lead: Professor Anthony Cooper

Course Name(s) and Course Numbers: BIOL 2411-Human Anatomy and Physiology I &

BIOL 2412- Human Anatomy and Physiology I

Semester Project Began: August 17, 2015

Semester(s) of Implementation: Fall 2015

Average Number of Students Per Course Section: 25

Number of Course Sections Affected by Implementation: 10

Total Number of Students Affected by Implementation: 248

1. Narrative

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

The overall transformation experience of this project was very good. In order to determine whether there was a significant difference between the performance of students in course sections with no-cost e-book (the treatment group) and sections requiring the use of textbooks

and other hardcopy learning materials (the control group), faculty members teaching the courses were split into two groups. Three faculty members taught five no-cost textbook sections encompassing five lecture sections and five lab sections. One faculty member taught two sections requiring textbooks and the two associated lab sections as well. BIOL 2411-Human Anatomy and Physiology I Lecture is 3-hour course, while BIOL 2411-Human Anatomy and Physiology I Lab is a 1-hour lab course. Similarly, BIOL 2412-Human Anatomy and Physiology I Lecture is 3-hour course, while BIOL 2412-Human Anatomy and Physiology I Lab is a 1-hour lab course. BIOL 2411 and BIOL 2412 are sequence courses in which the same textbook and other learning materials were used.

While there could be some confounding variables involved, our data shows that the control group did not outperform the treatment group. A total of 248 students were enrolled in the no-cost textbook sections while a total of 127 students enrolled in the sections requiring textbook. Of the 248 students who registered in the no-cost textbook sections, one student withdrew from the course, giving a base of 247. Out of this number 213 students passed with a C grade or better, making the passing rate of the total no-cost textbook sections 85.83%. On the other hand, 26 students failed (D and F), making the failing rate of the no-cost textbook sections 14.57%. Out of 127 students who enrolled in the textbook required sections, two students withdrew, giving us a base of 125. A total of 98 students passed the course with C or better, making the passing rate 78.40%. Conversely, 27 students failed (with D or F), making the failing rate of the textbook required sections 21.60%.

The total savings by students enrolled in the no-cost textbook sections (the treatment group) fall 2015 was $32,905.00. It is important to note that prior to this project, every student was supposed to purchase the textbook and lab guide. The average cost of the textbook and other materials for each student was $300.00

The following goals were the primary focus of this project based on the Transformation Action Plan shown below:

(a) Lower the cost of college and improve overall student retention though the use of quality low cost or no-cost learning materials,
(b) Reduce the burden of cost of textbooks on the students,
(c) Provide access to course materials on the first day of class
(d) Allow student access to free Open Education Resources (OER) and Galileo.

No.	Transformation Action Plan
1	**Identification:** The faculty team review Affordable Learning Georgia and other Open Education Resources (OER) sites, identify the best adoptable textbook the for lecture sections, lab materials, and other learning materials related to the courses.
2	**Adoption:** Select three to five lecture and laboratory topics that correspond to each

	from Affordable Learning Georgia and/or other Open Education Resources (OER).
3	**Adaptation:** Select class assignments and assessments for students to complete using Open Education Resources (OER) sites.
4	**Syllabus:** The syllabus is redesigned to align with the no-cost resources for course lectures and labs from all selected Open Education Resources (OER) sites. Also, the Instructional Schedule with assessment due dates, quizzes and exams are appended in the syllabus. Syllabus would describe how the lectures would be presented using OER. Students would be required to have one printed copy of syllabus. The syllabus is uploaded on D2L as well.
5	**Course Redesign**: Students would complete assignments using Open Education Resources (OER) site. Students would be required to print minimal hard copies of selected course information from Open Education Resources (OER) sites for which quizzes and exams would be based.
6	**Instructor Design:** D2L would be the primary online Learning Management System for downloading content from selected Open Education Resources (OER).
7	**Adoption:** Select three to five lecture and laboratory topics that correspond to **each** from Affordable Learning Georgia and/or other Open Education Resources (OER).

In this study, we shall delineate why this transformation action plan was successfully implemented and how this course has been redesigned to achieve the predetermined goals.

- **Transformation Experience**

Faculty team members met in August and completed a planning session prior to the start of classes for the fall 2015 semester. Minimum requirements for this grant activity were delineated and every faculty member was expected to determine any challenges encountered and seek ways of overcoming them from other team members. Like most universities in the University System of Georgia, all instructors at Albany State University are required to use the online instructional and learning platform, D2L, for each course. Thus, there was little or no technology challenge as every faculty participant was familiar with the D2L instructional delivery platform. All faculty members teaching these courses were to develop D2L websites where they would make the e-book available (treatment sections) and placed a variety of learning materials. Guided by the team's experience from the earlier awarded Affordable Learning Georgia Textbook Transformation Grant, learning materials such as the e-book, support materials, lecture notes, and course syllabus were placed on D2L course sites before classes began. Moreover, faculty members could also place assessments in D2L as well.

Students would have the ability to access and download these resources and materials on their own computers or mobile devices.

For fall 2015, three BIOL 2411-Human Anatomy and Physiology I Lecture sections and two BIOL 2412-Human Anatomy and Physiology II Lecture sections with their appended lab sections comprised the treatment group, that is, the no-cost textbook sections. It is important to clarify here that the lecture sections and the lab sections are distinct. A student can pass the lecture section of the course and fail the lab section of the course; the grade of the lab section does not really affect the grade of the lecture section. While the lecture sections are 3-credit hour courses, the lab sections are one-credit hour courses. Three instructors, Professor Anthony Cooper, Professor Anti'Sha Jones and Dr. John Williams were the instructors for the treatment cohort of 248 students enrolled in the no-cost textbook sections (in both lecture sections and lab sections). Dr. Nathan Woods was the instructor for the control cohort of 127 students enrolled in sections that required the textbook to be purchased and used.

The team leader, Professor Anthony Cooper, taught BIOL 2411-Human Anatomy and Physiology I section, which was 100% online. A total of 13 students enrolled in the lecture section of the course, while 11 students enrolled in the lab section of the course. A variety of instructional methods including the use of emails, discussion groups, and drop boxes were used to facilitate learning. The course outcomes were very good. The courses progressed well.

Professor Anta'Sha Jones's classes were taught as a hybrid class. The classes were held using traditional methods and the e-book and other learning materials were available for the students on D2L. She also posted additional materials, including assessment guides on D2L. She taught 4 sections, two lecture sections of BIOL 2411-Human Anatomy and Physiology I and two associated lab sections. A total of 109 students were enrolled in her courses, 96 female and 13 male. Two of her sections were Learning Community sections which required enrollment of 25 students or less. All her students were pre-nursing majors. The courses were very successful.

Dr. John Williams instructed four sections of the treatment cohort. He taught lecture and lab for two sections of BIOL 2412-Human Anatomy and Physiology II. A total of 56 students were enrolled in the two lecture sections, while 51 students were enrolled in the two lab sections, totaling 107. All of Dr. Williams' courses were placed on D2L with the syllabus, the e-book, and other OER learning materials to support the course. The course was had high success.

Dr. Nathan Woods taught the control cohort consisting of two BIOL 2411-Human Anatomy and Physiology I and two associated lab sections. There were 127 students enrolled in his class sections, 95 female and 32 male. There were 94 majors (Biology or Nursing) and 33 students from other majors who have to take this course as part of their program core requirement. All of Dr. Woods' courses were placed on D2L with the syllabus and other learning materials to support the course. The course was very successful.

All course sections completed the administered surveys. The essential parts of the survey will be discussed in the sequel.

In order to put in place a well-designed data collection instrument that would lend itself to effective analysis, Dr. Zephyrinus Okonkwo, Professor of Math, was invited to lead the project's assessment study. A participant survey, which would capture demographical data, student class distributions, gender, participant age, major, and grade was crafted. The participant survey also had a Likert-type series of questions to gather a significant amount of information that would be used to improve future use of affordable learning materials. A total of 206 students in the treatment group completed the Likert-type survey. The results of the survey will be discussed in the sequel.

Of the 248 students who registered in the no-cost textbook section, one student withdrew from the course, resulting in a base of 247. Out of this number 213 students passed with C or better, making the passing rate of the total no-cost textbook sections 85.83%. On the other hand 26 students failed (D and F), making the failing rate of the no-cost textbook sections 14.57%. Out of 127 students who enrolled in the textbook required sections, two students withdrew, giving us a base of 125. There were 98 students who passed the course with C or better, making the passing rate 78.40%. Alternatively, 27 students failed (with D or F), making the failing rate of the textbook required sections 21.60%.

The passing rate of the treatment was 85.83% and that of the control group was 78.40%, leading to the conclusion that the control group did not outperform the treatment group.

- **Challenges**

There were several challenges related to the transformation experience. First, the instructional team had to convince the students that indeed the OER materials were adequate for the course and also meet the minimum benchmark in terms of quality. Another challenge emanates from the fact that several students were not used to learning online. Several of them complained that they would rather buy their own books. Even though it was announced that no textbooks were needed in the treatment sections, some students decided to borrow or purchase used copies of the *Hole's Human Anatomy and Physiology* textbook that had been used for this course during the last several years. Some students were not eager to use technology and were intimidated by the technology. Another set stated that they did not have WiFi or adequate computers to learn outside the classroom or outside the campus. Further, there was the challenge of students equating cost to quality; some students struggled with accepting the fact that the free Open Stax textbook could be good enough for learning since it was free.

- **Accomplishments (Outcomes)**

The four goals of the project listed previously were accomplished. The success of the transformation experience provides a very good baseline for future use of OER materials for this course. Essentially, the implementation of this project this semester enabled us to examine more intensely what we are doing, how we are doing it, and how best to optimize and maximize outcomes.

Goal 1. Lower the cost of college and improve overall student retention though the use of quality low cost or no-cost learning materials.

The college cost for the students in the treatment group was lowered through the transformation experience. For this course, each of the students saved approximately 300. The total savings by students enrolled in the no-cost textbook sections (the treatment group) for fall 2015 was $32,905.00. In regards to retention, out of 248 students who enrolled in treatment group, only one student withdrew from the course. The course completion rate of the treatment group was 99.6%, and the passing rate was 85.83%.

Goal 2. Reduce the burden of cost of textbooks on the students.

Students spend approximately $1000 per semester on books and other learning materials. Therefore, the provision of OpenStax textbooks enables students to save a lot of money, money that could be directed to some other expenditure. As stated above, the total savings by students enrolled in the no-cost textbook sections (the treatment group) in fall 2015 was $32,905.00. Of the 202 participants (treatment group) who responded to this question number 10 in the Likert-type survey (see the appendix), 164 or 81.19% strongly agree or agree with the statement and essentially state that they will recommend a no-cost textbook course to other students. In contrast, 16 or 7.92% disagree or strongly disagree, that is, that they will not recommend such a course to other students, and 22 or 10.89% had no opinion. The weighted mean response to this question is 4.262376. This statistic implies that most students will recommend a no-cost textbook course to other students. This response will have broader impact on students who will take this course in the future as well as those who will be convinced to take courses involving no-cost textbooks or e-books.

Goal 3 - Provide access to course materials on the first day of class

First day access to course materials is one of the greatest strengths of the no-cost e-book utilization through the D2L learning delivery platform. This process enables faculty and students to have an instant and seamless opportunity to have learning materials, assessment instruments, syllabus, and other items required by the course placed on a single site. The Open Stax textbook for lectures as well as course guides were available before the first day of class. The availability and accessibility of the materials for students on the first day of class was very essential as it builds confidence between the instructor and the students.

Goal 4 - Allow student access to free Open Education Resources (OER) and Galileo.

The goal of providing student access to OER and other resources through Galileo was met. Through participating in an earlier transformation project, the team leader, Professor Anthony Cooper, had identified seven quality resources for use in the lecture and lab sections of Biology-2411-Human Anatomy and Physiology I and of Biology-2412-Human Anatomy and Physiology II. These resources were available for students to access free. In sum, students did download the Free Open Stax Human Anatomy and Physiology textbook and completed an assignment using the Free Open Stax Human Anatomy and Physiology textbook. The data for these measures is discussed in more detail in Part 5. Of the 7 OER resources, instructors for the ten courses for both the lecture and lab used the Hole's Human Anatomy Companion site. Additionally, the Anatomy and Physiology-Open Stax College resource was used by all. The Biology Corner resource was used for the ten sections as well.

- **Transformative impacts on your instruction**

There are many positive transformation impacts on instruction and learning. Instructors continued to see this project as an opportunity to transform their instruction, supply additional instructional and assessment materials, as well as help students who wish to use technology to improve their success. Professor Cooper stated that this project availed him the opportunity to focus on the use of available Open Stax and OER learning resources to improve student learning. He also indicated that the transformative process has enabled him to him to locate, introduce, develop, and understand the value of (OER) content for improving student learning and student achievement. Professor Jones expressed a similar impact by observing that she was able to have resources available to them to follow before formal instructional activities began in class. She also stated that instructions, course plan, and course schedule directives were clear to students. Further, she also used the readily available course resources to make seamless references as instruction was going on.

Another positive impact is the following, unlike the traditional class textbook requirement and where the title of the book and author are announced in the syllabus first day of class, Professor Joens noted that she was able to provide such information before the first day of class through D2L. Students visited the D2L site of the course and begin to access essential materials prior to the start of class. Additionally, with the Open Stax textbook aligning with the Hole's Anatomy book, she was able to start instruction on the first day of class. Professor Jones said that many students were able to leave that first day and go to the required site to download the textbook. She also opined that students came the first day and were eager to discuss information from the Open Stax textbook because they were proactive and utilized the resources.

Dr. Williams discussed some positive impacts of the transformation experience. He said he found out that some students needed to be prompted to download resources and utilize them. Even with informing students on a regular basis in the beginning of the semester, it was

important to continue to prompt students to download and use the OER materials. A further impact of the transformation process for Williams' instruction was seeing how the OER resources were in tune with this student population's technology savvy. Thus using the OER materials helped.

- **Transformative impacts on your students and their performance**

First, most students expressed that they liked the Open Stax textbook and the associated materials. Of the 206 participants (treatment group) who responded to a participant survey qustion related to access to free online e-book, 188 or 91.26% strongly agree or agree that they have access to a free online textbook, 9 or 4.37% disagree or strongly disagree, and 9 or 4.37% had on opinion. The weighted mean response to this question is 4.567161. This statistic implies that most students agree that they have access to free online textbooks.

Of the 205 participants (treatment group) who responded to the statement, "**I have access to free instructional materials"**, 182 or 88.78% strongly agree or agree that they have access to free online instructional materials, 14 or 6.83% disagree or strongly disagree, and 9 or 4.39% had on opinion. The weighted mean response to this question is 4.419512. This result implies that most students agree with the statement. Mainly positive transformative impacts on student performance also occurred through this project. It was felt overall by the three faculty members that students were able to improve overall quiz and exam scores by having access to the OER resources. It was especially helpful for students who did not have the $300 in funding needed to purchase the materials for the course. Having the Open Stax textbook relieved a burden of not being prepared for those that were unable to purchase the textbook and manual.

Some of the instructors noted that due to the free textbook availability to all students enrolled in the treatment group, every student was given equal opportunity to have access, thereby eliminating the period students would have to wait to receive their financial aid to purchase books. However, in the survey conducted, some students expressed the fact that they would have preferred to purchase their own textbooks. While 71.07% stated that they liked the Open Stax textbook, 20.7% had negative opinion, and 8.26% had no opinion. In the control group where purchasing a textbook was required, only 78.13% of the students purchased textbooks. The rest of others relied on the library and other resources available on D2L.

A third positive impact is the following, out of 248 students who enrolled in treatment group, only one student withdrew from the course. The course completion rate of the treatment group was 99.6%, and the passing rate was 85.83%. Please see the appendix for the ***Grade Distribution Form.***

B. Describe lessons learned, including any things you would do differently next time.

There were several lessons learned by the team members. First, the management of the project rested on the project team leader, Professor Anthony Cooper. He followed the timeline as delineated in the project, and worked with every member of the team. He documented project activities, and brought on board Dr. Zephyrinus Okonkwo for project assessment. Dr. Okonkwo was also to design and distribute the data collection instruments. This instrument was helpful in collecting participant data. More detailed data result is delineated in the appendix. Faculty participants collected all requested data and presented them to the evaluator. Also, learning more about grant management on campus was essential.

For the most part, the lessons learned by the faculty correspond to some of the insights that Cooper identified. Professor Jones related that she would provide OER materials to the students at the beginning of class as a reference. Further, she said that should would also print out the first chapter and assign assignments leading up to the first exam utilizing the Open Stax textbook.

Dr. Williams suggested that in order to promote the use of more online resources, he assigned more problems/questions and assignments from the Open Stax textbook. He also recognized that students preferred a blend of PowerPoint notes with traditional "chalk talk" discussions, rather than PowerPoint only.

2. Quotes

- Provide three quotes from students evaluating their experience with the no-cost learning materials.

I LIKE THE ONLINE TEXTBOOK. IT FORCES ME TO READ IT BEFORE CLASS. I AM BETTER PREPARED WHEN I GET TO CLASS.

EASIER WAY TO STUDY AND MORE UNDERSTABLE WAY TO DO IT. THE EXACT INFORMATION FROM THE BOOK MY INSTRUCTOR SPEAKS ON DAILY.

I LOVE THE EBOOK. EASY TO ACCESS THE TEXTBOOK AND IT IS FREE. DON'T HAVE TO WORRY ABOUT CARRYING BOOKS.

3. Quantitative and Qualitative Measures

3a. Overall Measurements

Student Opinion of Materials

Textbook Survey

In order to garner insight as well as participant satisfaction, a ten-question textbook survey was conducted. The data analysis was completed using Excel. Of the 121 students who completed the textbook survey, 86 or 71.07% made positive comments, 25 or 20.7% made negative comments, and 10 or 8.26% gave no opinion.

1. This section of the course does not cost me money.

Of the 206 participants (treatment group) who responded to this question, 140 or 67.96% strongly agree or agree that there is no cost for the textbook, 46 or 22.33% disagree or strongly disagree, and 20 or 9.71% had on opinion. The weighted mean response to this question is 3.873786. Hence most students agree that the text does not cost them money.

2. I have access to an online textbook.

Of the 206 participants (treatment group) who responded to this question, 188 or 91.26% strongly agree or agree that they have access to a free online textbook, 9 or 4.37% disagree or strongly disagree, and 9 or 4.37% had on opinion. The weighted mean response to this question is 4.567161. This result implies that most students agree that they have access to free online textbooks.

3. I have access to free instructional materials.

Of the 205 participants (treatment group) who responded to this question, 182 or 88.78% strongly agree or agree that they have access to free online instructional materials, 14 or 6.83% disagree or strongly disagree, and 9 or 4.39% had on opinion. The weighted mean response to this question is 4.419512. This finding implies that most students agree with the statement.

4. The content of the free online textbook is very helpful.

Of the 203 participants (treatment group) who responded to this question, 154 or 75.86% strongly agree or agree that the free online textbook is very helpful, 21 or 10.34% disagree or strongly disagree, and 28 or 13.79% have on opinion. The weighted mean response to this question is 4.034483. This statistic implies that most students agree with the statement.

5. The no-cost textbook has enhanced my performance in this course.

Of the 194 participants (treatment group) who responded to this question, 107 or 55.15% strongly agree or agree that the free textbook helps them improve their performance while, 30 or 15.46% disagree or strongly disagree, and 57 or 29.38% have on opinion. The weighted mean response to this question is 3.659794. This outcome implies that more students agree with this statement or disagree, but a significant number believe that the free textbook has no impact on their performance.

6. I find most of the materials placed on the course website (D2L) helpful.

Of the 200 participants (treatment group) who responded to this question, 178 or 89% strongly agree or agree that they find most materials placed on the course website (D2L) helpful, 9 or 4.5% disagree or strongly disagree, and 13 or 6.5% have no opoinion. The weighted mean response to this question is 4.365. We conclude that the majority of the students find most free online materials on D2L helpful.

7. I am able to study everywhere due to the availability of free the free ebook.

Of the 204 participants (treatment group) who responded to this question, 153 or 75% strongly agree or agree that they are able to study everywhere due to the availability of the free e-book on their course website, 20 or 9.8% disagree or strongly disagree, and 31 or 15.2% have no opinion. The weighted mean response to this question is 4.083333. This finding implies that most students agree that their learning is facilitated due to the free online e-book.

8. The design of this course helps me improve my grade.

Of the 201 participants (treatment group) who responded to this question, 131 or 65.17% strongly agree or agree that the design of this course helps them improve their grade, 27 or 13.43% disagree or strongly disagree, and 43 or 21.39% have no opinion. The weighted mean response to this question is 3.845771. This implies that most students agree that their grades will improve due to the design of the course.

9. I would like to take another no-cost textbook course.

Of the 205 participants (treatment group) who responded to this question, 150 or 73.17% strongly agree or agree that they would like to take another no-cost textbook course, 25 or 12.2% disagree or strongly disagree, and 30 or 14.63% have no opinion. The weighted mean response to this question is 4.097561. This result implies that most students would like to take another no-cost textbook course.

10. I will recommend this course to other students since it offers free online textbook and other learning materials.

Of the 202 participants (treatment group) who responded to this question, 164 or 81.19% strongly agree or agree with the statement and essentially state that they will recommend a no-cost textbook course to other students, 16 or 7.92% disagree or strongly disagree, that is, they will not recommend such a course to other students, and 22 or 10.89% have no opinion. The weighted mean response to this question is 4.262376. This outcome implies that most students will recommend a no-cost textbook course to other students.

Remark: The overall weighted mean for this survey is 4.123396.

(i) Textbook Survey

Total number of students affected in this project: **248**

- Positive: **71.07%** of **121** number of respondents
- Neutral: **8.26**% of **121** number of respondents
- Negative: **20.7%** of **121** number of respondents

(ii) Participant Likert-Type Survey Question # 10

I will recommend this course to other students since it offers free online textbook and other learning materials

Total number of students affected in this project: **202**

- Positive: **81.19%** of **202** number of respondents
- Neutral: **10.89%** of **202** number of respondents
- Negative: **7.92%** of **121** 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?

Student outcomes should be described in detail in Section 3b.

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:

Base = **247**

Failing: **36/247=14.57%**

14.57% of students, out of a total **247** 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

Out of 248 students who enrolled in treatment group, only one student withdrew from the course. The course completion rate of the treatment group was 99.6%, and the passing rate was 85.83%. The retention rate was 99.6%. The average GPA was 2.54.

4. Sustainability Plan

The Department of Natural Sciences offers several section of the course, Biol-2411-Human Anatomy and Physiology I and II each semester. In fall 2015, about 420 students took these courses. These selected courses are major courses taken by students majoring in Nursing, Education and Physical Education. Therefore, the student demand makes it a viable course for inclusion in an ongoing OER program. Now that the course has been developed adequately, this no-cost textbook project can be institutionalized and reviewed from time to time.

The results of semester grant activities are being documented and analyzed. Further analysis will be made. The results will be shared with colleagues within the department, university, and the region. In order to have wider dissemination, presentations of the results will be made available at scholarly meetings. Available materials developed through this grant will be available in D2L and individuals can “copy” course when permitted to do so.

Furthermore, the project lead will work with Department administrators and program coordinators to facilitate the inclusion of the OER instructional materials at the Department level for this course. Moreover, all faculty participants will be available to assist other faculty teaching different sections of this course. Lastly, the project lead and team members will encourage the faculty senate and administrators to include recognition for OER participation on annual evaluations and promotion and tenure evaluation.

5. Future Plans

This project has given us an opportunity to learn to develop quality learning materials from Open Stax textbooks. Subsequently, when teaching other course, the need for quality online learning materials will arise, and we can always use the resources identified her to enhance our teaching and learning. We will also share our experiences with others online.

Some scholarly papers will be written on the result of this project. They will be presented in local meetings and national meetings. Some of the papers will be published as well. We plan to develop and institutionalize another high demand course using Open Stax resources as well.

6. Description of Photograph

- Professor Anthony Cooper, team lead and instructor of record
- Dr. Zephyrinus C. Okonkwo, data analyst
- Professor AntaSha Jones, instructor of record
- Dr. John Williams, instructor of record
- Dr. Nathan Woods, instructor of record