**Affordable Learning Georgia Affordable Materials Grants  
Continuous Improvement Grants Final Report**

*(or Mini-Grants, for R17 and earlier)*

# General Information

Date: **12/18/2023**

Grant Round: **23**

Grant Number: **M225**

Institution Name(s): **Abraham Baldwin Agricultural College**

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

**Jenny Harper, Professor,** [**jennifer.harper@abac.edu**](mailto:jennifer.harper@abac.edu)

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**Department of Science and Mathematics**

**2802 Moore Highway, Tifton, GA 31793**

Project Lead: **Heather Cathcart, Professor,** [**hcathcart@abac.edu**](mailto:hcathcart@abac.edu)

Course Name(s) and Course Numbers:

**Human Anatomy and Physiology 1 (BIOL 2251)**

**Human Anatomy and Physiology 2 (BIOL 2252)**

**Final Semester of Project: Fall 2023**

***If applicable to your project:***

Average Number of Students Per Course Section: **24**

Number of Course Sections Affected by Implementation of Revised Resources: **12**

Total Number of Students Affected by Implementation of Revised Resources: **288**

# Project Narrative

*Describe the course of your revision or ancillary creation project, including*

* *A summary of your project’s purpose, plan, and timeline.*

Purpose

* Streamline and revise introductory information and activity directives for all exercises
* Amend learning objectives and rework the content of each exercise to match stated objectives
* Update and enhance select drawings, models, and histology images
* Augment pre- and post-lab activities and update/edit existing activities
* Produce select online dissection and instruction video content in collaboration with colleagues from the Bainbridge campus
* Design and implement a uniform layout and format across exercises that is accessibility friendly

Plan

This proposal was aimed at preserving a reduction in lab manual costs, while improving content and using a format that complies with accessibility standards for our pre-professional and nursing majors enrolled in Anatomy and Physiology I and II at ABAC (Abraham Baldwin Agricultural College). Furthermore, with an increase in demand for online Anatomy and Physiology labs, we ensured that the content and learning objectives are amendable for all Anatomy and Physiology students and across all instructional formats at ABAC. We used several semesters of feedback from both students and faculty regarding areas of improvement in the lab manuals. We modified the language to be more concise and focused, in addition to proofreading and error correction across exercises. Pre- and post- lab activities were included in each chapter and existing activities were revised to match learning objectives. We incorporated select open-source drawings, model photographs, and histology images for guidance in completing activities or to reinforce learning via post-lab activities. Since our Bainbridge campus offers online Anatomy and Physiology labs, we partnered with our colleague Tony Matthews. Since inception, the original materials were used in all Anatomy and Physiology lab courses on the Tifton campus and will now be used in courses taught at the Bainbridge site as well. We improved the value and quality of the educational content, while maintaining low-cost to the students. The lab manuals are distributed in-house via a SharePoint site which all teaching faculty have unrestricted access. We provide PDF copies of the lab manual exercises to students via our learning management system or by requests through e-mail.

Timeline

|  |  |
| --- | --- |
| January-February 2023 | * Submit proposal, peer-review process, and receive award notification |
| Spring 2023 | * Begin revising introductory material and correct errors/typos already noted * Begin photography of models and histology images * Begin design and recording of video content for spinal cord and eye dissection * Recruit previous students to form focus groups (online and face to face) and give feedback on current lab manual content |
| March 3, 2023 | * Heather Cathcart and Tony Matthew will attend online kick-off meeting |
| Summer 2023 | * Begin and complete drawings for the immunology chapter * Add content to the digestion chapter * Expand spirometry activity in the respiratory chapter * Complete the revision and editing of language/instruction in exercises for both BIOL 2251 and 2252 * Record dissection content for blood testing, brain, heart, and kidney dissections * Continue image photography and begin editing images for lab activities |
| Fall 2023 | * Complete addition of activities and photography * Begin and complete proofreading * Begin and complete formatting * Edit and upload video content * Submit final report and upload content to OpenALG |

* *The original works which were revised or added to, with links. For example, if you revised an open textbook, give the title, author, and link.* 
  + **Anatomy and Physiology I and II (ABAC)**
  + **Leslie Pryor McIntosh, DeLoris Hesse, Andrew McIntosh, Heather Cathcart,**

**Ariel Hunt and Kingsley Dunkley**

* + **https://oer.galileo.usg.edu/biology-collections/25/**
* *A narrative description of how the project’s plan was carried out.*

**The project’s plan was carried out via strategic outlining and discussions at the beginning and end of each semester during the project period. We used the divide and** **conquer approach, with each team member assigned to focus on anatomy I or anatomy II lab manual content for proofing, updating language, improving images and formatting. For continuity Dr. Howard focused on accessibility across the board and Dr. Profetto worked on recording and editing supplemental videos. All faculty were involved in drawing/replacing/sourcing images. We were all involved in editing wording/instructions as we taught the labs over the summer and during the fall semester. We recorded video footage for supplemental videos at the end of spring semester and over the summer. Different team members performed the dissections while Dr. Profetto recorded and edited the footage. We all enjoyed watching the final product. During the summer, we performed an inventory of the figures and tagged anything that was not open source to be replaced. We included links or attribution to all diagrams and figures in each exercise. We finished with improving accessibility by providing alternative text for figures and formatting all the exercises in the fall semester. It was a team effort.**

* *Lessons learned, including anything you would do differently next time.*

**Next time we would refrain from tackling updates to both the AP1 and AP2 lab manuals at the same time. It took longer than originally estimated to put forward a quality product and to brainstorm engaging ideas for 20 different lab activities during the grant period. Furthermore, we would more carefully consider expanding the time and effort dedicated to accessibility. It was enlightening playing around with the accessibility functions in Word and learning about the hurdles that specific formatting presents for read aloud technology. Additionally, learning the process of making short video demonstrations and dissections was fun and brought the whole team together. We learned a lot from the project and from each other.**

# Materials Description

*Describe all the materials you have created or revised as part of this project. These descriptions may be used in the* [OpenALG](https://alg.manifoldapp.org/) *repository description field. Include the* [*open license your materials will be shared under*](https://creativecommons.org/share-your-work/)*—for most materials, this will be an Attribution 4.0 License (CC BY) as required in the Grants Request for Proposals.*

**This is the 2nd edition of the ABAC Anatomy and Physiology I and II lab manual. The API lab manual includes updates to the following exercises: introduction to the human body,** **microscopy and cells, tissues, axial skeleton, appendicular skeleton, axial muscles, appendicular muscles, nervous tissue, brain anatomy and senses. Supplemental videos are also included on proper lab attire, brain dissection, eye dissection and dissection clean up. The APII lab manual includes updates to the following exercises: endocrine system, blood, heart anatomy, cardiovascular physiology, blood vessels: superior and inferior, lymphatic system and immune response, respiratory system, digestive system, urinary system, and reproductive system. Supplemental videos are also included on proper lab attire, blood typing, heart dissection, lung demonstration, kidney dissection, measuring specific gravity and dissection clean up.**

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# Materials Links

*If you are hosting your materials in places other than OpenALG, please provide these links in this section. Otherwise,* *leave blank. Note: we cannot access D2L or Canvas links.*

N/A

# Future Plans

* *Describe any planned or actual papers, presentations, publications, or other professional activities that you expect to produce that reflect your work on this project.*
* *Describe any plans to revise or add to these materials in the future.*

**We plan to edit and augment this lab manual every semester as needed. The focus will be on accessibility, formatting, and updating activities and/or examples. This project has inspired new engagement activities and the development of student project presentations. We received a nursing workforce grant and were able to purchase more anatomy models, and technology available to our anatomy and physiology students. We will regularly implement open lab hours (outside of normal lab time) allowing students more hands-on time with models and equipment in which they record themselves explaining an anatomy lab concept. Lastly, we endeavor to expand the supplemental videos and online content to better serve our students in multiple formats**