

Sabbatical Leave Report

Online Anatomy Prep Course - Spring 2017

Ty J. Gardner.

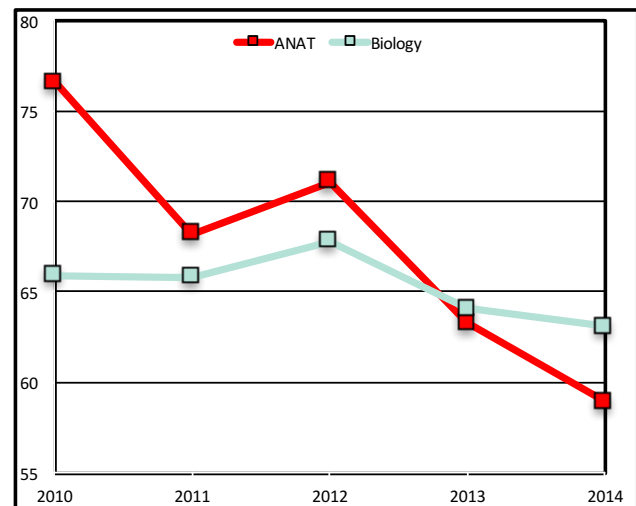
Biology Department

Ventura College

This report summarizes the sabbatical project I completed during the Fall 2014 semester. I thank the Board of Trustees for approving my sabbatical and making it possible for me to pursue my project.

Background of Sabbatical Project

General Human Anatomy (ANAT V01) is a high enrollment course (701 students in 2014) with high productivity (2014 = 615) but a declining success rate (See figure to right: 2010 = 76.6, 2011 = 68.2, 2012 = 71.1, 2013 = 63.3, 2014 = 58.9). ANAT V01 is a demanding course that covers a large amount of material in both lecture and lab, introducing hundreds of new terms in a mix of English, Latin, and Greek. While Human Anatomy is generally viewed as a difficult but manageable course, it produces a good deal of fear and/or anxiety in current and future students. Our recent decline in success



is a cause of concern for our department and the college. Some of this recent decline may be explained by high success rates during the economic downturn as a result of increased enrollment of students traditionally attending CSU and UC schools or other demographic changes in our student body. However, it is likely that our recent downturn is also related to the removal of the BIOL V01/L prerequisite for ANAT V01 in 2013. The removal of this prerequisite was made at the request of Nursing in order to help them meet the requirements of national accreditation. This action increased the number of unprepared students registering for ANAT V01, the first course in a series of three nursing prerequisite courses offered by the Biology department (ANAT V01, PHSO V01, and MICR V01). Failure in ANAT V01 is costly to nursing students.

¹*All entering students will be required to have a minimum overall college GPA of 2.50 and an overall biological science GPA of 2.50 (anatomy, physiology, microbiology) with no more than one withdrawal, D or F in ANY of these three (3) courses.*

Unfortunately, adding back the prerequisite course, or any other prerequisite, is not currently a viable option for addressing our declining success. However, the declining success rate is having negative impacts on students, instructors, and campus resources. We must find a different solution that allows us to maintain course rigor while adapting to a post-prerequisite reality.

¹ <http://www.venturacollege.edu/departments/academic/nursing-science/faqs>

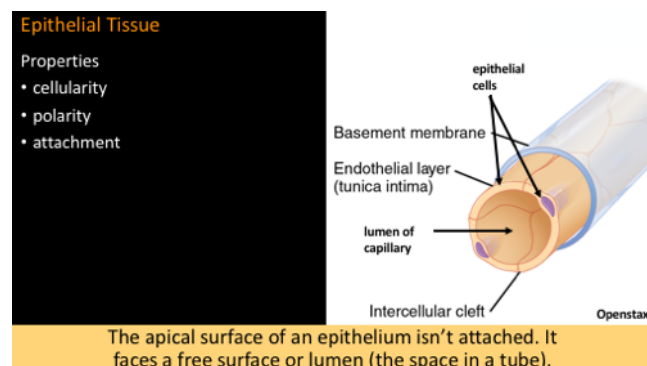
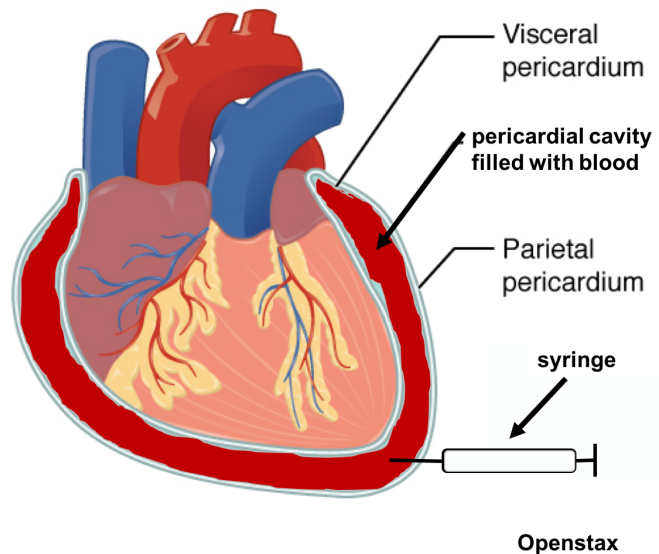
Purpose of Sabbatical Project

The purpose of this sabbatical project will be to produce tools that will prepare students for successful completion of ANAT V01 and therefore increase their chances of success in applying to nursing school. I will develop a free, online lecture series introducing students to the study of Human Anatomy that students will take prior to ANAT V01. A study guide and assessment tools will be provided along with the lectures. The main goals of this course will be to introduce students to basics of each system addressed in ANAT V01 and to prepare the students with study tips and vocabulary that will assist them in all of their biological/health courses. Additionally, I intend to produce materials that will help link anatomical features learned in the hands-on ANAT V01 lab to the more conceptual lecture topics to continue to support these students after they enter our ANAT V01 course. All materials produced will be made available for download at no cost.

Results of Sabbatical Leave

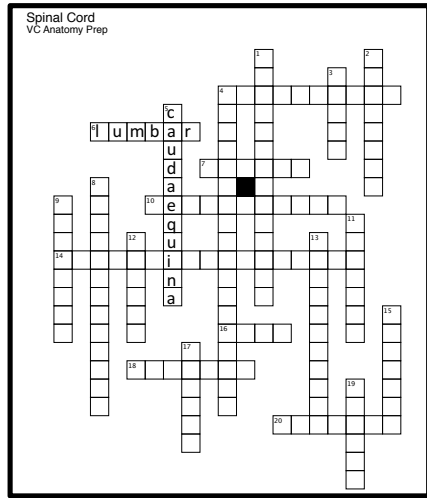
In preparation for my sabbatical leave I purchased a MacBook Pro and software including Camtasia and SimpleMind. My office computer has proven insufficient for video recording and the college discontinued its contract with Tegrity, our former video capture service. The first part of my leave was spent learning Camtasia, finding open source materials, and determining the format I would use for my presentations. I practiced Camtasia while recording lectures for an online Human Biology course, and continued to explore techniques in video and sound editing in Spring 2017. I found an Anatomy and Physiology text from Openstax (this will be adopted by 3 instructors in ANAT and PHSO in Spring 2018 with no cost to students using it online) and additional resources from the public domain version of Gray's Anatomy and Wiki commons. Because I could not find all of the diagrams and animations I wanted I created some (see picture above) in PowerPoint. I settled on a widescreen slide format, for viewing on phone screens, and decided to include captions as script on the slide itself (see picture at left) so that all students, including those who do not usually use captions, could benefit from seeing the correct spelling of all terms I used in the lecture. Once the format was settled, I created lectures to introduce students to the study of human anatomy and that covered basics or confusing material on

I modified this Openstax heart diagram, placing blood in the pericardial sac and creating and animating a syringe to withdraw the blood, illustrating a pericardiocentesis.



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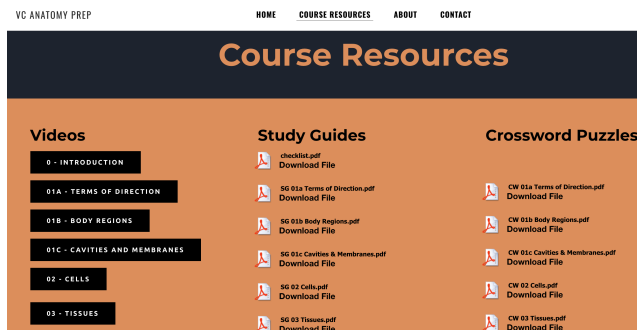
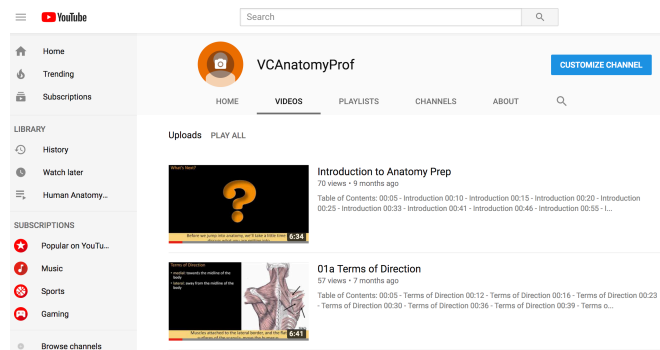
topics including tissues and many organ systems, that students will cover in their regular human anatomy course.



While working on the videos I wrote study guides to encourage students to begin the process of writing terms, hoping that they would associate this with learning, a point I sought to make in the introductory video. To further encourage study, and to promote retention, I created a set of crossword puzzles using Crossword Forge (see example at left).

In order to house the videos, study guides, and crosswords, I created a YouTube channel (VCAnatomyProf – see picture at below). The videos are open to the public as all images used are public domain. Students can watch the videos on their computers but they have been sized to make them convenient to watch on their phones. I checked the fonts I used on my phone before settling on a final format.

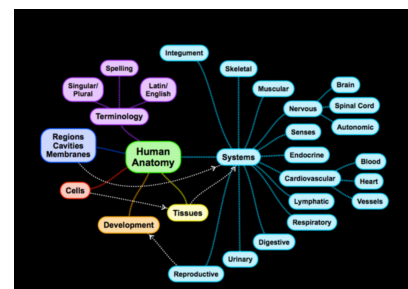
Because I wanted to do more than direct students to a set of videos I established a website (VC Anatomy Prep at anatomyprep.weebly.com), learning as I added content. I was able to come up with a format that was simple but allowed access to the video links, study guide, and crossword in an organized manner (see picture at below). The "About" page notes,



"This site began as part of a Ventura College sabbatical leave project". The home page incorporates a mindmap (created in SimpleMind), a key component of each lecture in the Anatomy Prep course (see picture at below). Mind maps were incorporated to help students visualize the structure of, and relationships between, the content in the course and because members of the Ventura College Nursing Program had mentioned that they are heavily used in

their teaching.

The Anatomy Prep course was first made available to students prior to Fall 2017. A number of students went through the course, or parts of it, and indicated that they found it helpful. I will be using sending a link to the course out to student registered for my Spring 2018 sections of ANAT (6 sections, totaling 160 students) at the end of the Fall 2017 semester.



Upon receiving feedback I will make changes and then make the Anatomy Prep course links available to all instructors and counselors.

Future Work

In the process of working on the Anatomy Prep course I have recognized changes that will enhance the project including changes to course delivery and collaboration with fellow faculty. One major change will be the use of Canvas. I discovered, during the end of the project, that it is possible to create an independent Canvas shell (not associated with an institution) that offers open/self-enrollment. I have created a Canvas shell for Anatomy Prep. The primary value of this is that it will allow me to add assessments to the current slate of lectures, study guides, and crossword puzzles. These assessments can include assessment of the existing lectures, but I feel that the real power of Canvas will be to allow me to add a preparatory component for the anatomy lab. I already have pictures of our laboratory models, used to create quizzes for our existing students. A subset of these can be used in the Anatomy Prep course to familiarize students with general features of each organ system. In addition to implementing a lab component to the Anatomy Prep course, I will utilize student feedback to continually revise and add to the existing lectures and study tools. It is also my hope to create a smaller version of a preparatory course to serve our non-majors biology students (BIOL V01), building on the introductory video I have already produced for my students.

Our new Anatomy hire (Preston Pipil) has expressed an interest in creating a Ventura College anatomy atlas, using our existing bones and models. The purpose of this would be to support our students, something the two of us are already doing using such images online, and also to provide resources for new faculty teaching human anatomy. One problem with my existing images is that they have been taken on black backgrounds, great for online quizzing but poor for printing. We will take new images on white backgrounds for incorporation into a common anatomy atlas. This will serve as the additional tool I was hoping to create for my labs but serve a broader community, conserve ink, and better allow the students to mark up the images as part of their study. I look forward to working with Preston on this project as it will serve our students well and complement the work done in this sabbatical project.

Acknowledgements

I would like to thank Ventura College and the Ventura County Community College District for the opportunity to work on this Anatomy Prep course. Specifically, I would like to thank the Sabbatical Leave Committee and VCCCD Board for approving this and other projects, so that faculty can find the time to make improvements to their courses and programs that help increase student success and engagement. Together we can create a brighter future for our students and this opportunity has initiated an ongoing service focused on that goal.