

Fall 2020 Sabbatical Report

Jessica Padilla

“Make a plan and I’ll show you how easily it can be unraveled “ -2020

If the year 2020 had a name personality, it would be called “The Disruptor.”—at least that is what 2020 did to my sabbatical plans. The 2019 sabbatical project originally approved was to focus on three components, beginning with visiting different schools to explore the technology used for human anatomy laboratory instruction. The second component was to attend a Human Anatomy & Physiology (HAPS) conference out of state that I had never attended, as this conference always takes place at a very busy time in the semester. The third goal was to observe classes by an anatomy professor I admire, Mark Nielsen, who teaches at the University of Utah. However, the restrictions and changes in academia imposed during the 2020 pandemic forced me to redirect my project.

In the fall of 2020, my sabbatical focus changed to 1) advancing my skills in online instruction so I can create high-quality content; 2) network with El Camino College (ECC) Biology 10 instructors to identify topics of focus for laboratory modules; 3) create laboratory modules that any non-major's general biology instructor teaching online can use. In the future, the module content can be easily modified for in-class use.

Advancing Online Instruction Skills

I am grateful for the opportunity to learn new skills without the stress of juggling teaching responsibilities, committee duties, and deadlines. This sabbatical gave me the time and flexibility needed to freely explore as opportunities presented themselves. For example, learning about 508

compliance revealed that Universal Design principles share practices with equity focused teaching. Thus, I participated in both technology and anti-racism trainings provided within ECC or by outside organizations. I enjoyed taking the necessary time to dedicate myself to one task without the pressure from multiple items pending in the periphery. This aspect of learning was so pleasant that I look forward to the next sabbatical simply to have the opportunity to learn without being under pressure again.

The sabbatical proposal specified that I would design modules that addressed equity and met both copyright and 508 requirements. To learn the necessary skills for creating high-quality modules, I partook in the following:

1. Either trainings or webinars offered via ECC's Department of Online & Digital Education, Professional Development & Learning, and Scholarly Institute for Teacher Excellence (SITE)
2. Microsoft webinars for Office365 applications.
3. A webinar series offered by the California Community Colleges Chancellor's Office (CCCCO)
4. Webinar series California Community Colleges Accessibility Center (CCCAC)'s Accessibility Hours (such as *Let Us Demystify Video Captioning*). Some sessions were synchronous non-recorded sessions with hundreds of attendees, while other sessions were recorded or self-paced courses available at <https://cccaccessibility.org/>.

Although I am already certified to teach distance education and taught my first asynchronous Biology course during the winter 2020 Session, I decided to also enroll in two independent study Canvas courses: *Self-Paced Online Canvas Knowledge (SPOCK)* and *SITE: Equity & Culturally Responsive Teaching*. I hoped to be done with these by now but, I am still in the process of completing these courses. I have already attended all six required online seminar sessions for *SPOCK*, as well as the Zoom seminars for *SITE: Equity & Culturally Responsive Teaching*. I have applied what I learned from them in both the Biology 10 modules I created and the spring 2021 courses I am teaching.

Networking with ECC Biology 10 Instructors

I decided that one of the most pressing department priorities was determining which laboratory exercises needed to be newly developed or refreshed. With the help of Polly Parks, we held a series of Zoom meetings to collaborate on making these decisions with both full-time and part-time faculty who teach Biology 10.

The meetings served two important purposes. While reviewing each laboratory exercise's adaptability to online learning, we could also begin preparations for the upcoming course outline review. Once I decided I would develop lab modules for invertebrate and vertebrate animal studies, I found two professors who agreed to pilot the lab module: Professors Park and Mc Cleland.

As the meetings progressed and we needed a way to easily access content, it became evident that we required something that did not exist at the time. Thus, with the help of Gema Perez and Ryan Martinez, I created a department course shell. My sabbatical proposal focuses on the modules but how they would be edited, accessed for evaluation or use, and piloted had not been considered. A department course shell facilitates all of this and thus, it naturally became a component of my sabbatical work.

Department Course Shell

This Biology 10 course shell is available to 12 department faculty, both full-time and part-time, who will share and collaborate to develop lecture and laboratory course content and share material. This is also how all faculty teaching Biology 10 labs can access the newly created lab modules. At a time when faculty are isolated from their peers and feel burdened with the

intensely time-consuming task of adapting to online instruction, a shell to share content provides support and a sense community.

Ryan Martinez, our newly hired Office of Distance Education (ODE) instructional design expert, guided me through the process of creating the Biology 10 department shell. The framework of the course shell needed to be designed in a way that both facilitates efficient content access allows easy identification of the original content author. It took approximately 15 hours to design a course shell that functions as a hub for instructors to share materials with others in the department, as well as a space for instructors to create modules for their courses. For reference, below is a basic walk-through of the shell layout:

This is the [front page](#), which contains links to the various modules. As faculty upload content, they can organize it by laboratory or by lecture category and subject.

Biology 10 DEV

This course shell has Biology 10 content for your Canvas course.

Welcome to our collaborate space! This is a true sandbox in which you can share tips in discussions, create content, and assemble modules to export to your course. Our goal is to build out what is needed while we are all teaching completely online. Eventually, once you return to the classroom, you can modify content for your face-to-face course.

The lab and lecture topics are organized in two tables below. The topics in the tables are linked to a "header module" that groups by related topic pages, files, assignments, and more. It is recommended that you create a module with your initials before the title under the "header module" and organize your content in that module. This will make it easier to export to your course and to locate or trace items to their source. See this [short video](#) on how to use this shell.

Please make contributions to this shell, in the Files tab there is a main folder and subfolders with everyone's names to keep uploaded materials organized. If after uploading something, you update that content at a later date, please replace with the updated material before the following semester.

Biology 10 Lab Modules

Week	Lab Topic	Week	Lab Topic
1	Lab Safety Scientific Method	9	Ecology
2	Microscope Cell Structure	10	Evolution
3	Biochemicals	11	Survey of Microorganisms: Bacteria, Fungi, Protista
4	Osmosis & Diffusion Enzymes	12	Plant Evolution
5	Photosynthesis & Carbon Cycle	13	Plant Adaptation (Angiosperms)
6	Respiration & Fermentation	14	Invertebrate Animals
7	DNA Extraction Mitosis & Meiosis	15	Vertebrate Animals
8	Genetics	16	Animal Physiology Alternative Lab Options

The order of topics below is loosely based on the course outline. Faculty academic freedom allows you flexibility of order and emphasis in your course. In this section you can share lecture presentations, assignments, pictures, assessments, and build out the lecture component module for your course.

This image shows a close-up of a portion the top of the front page focusing on lab manuals:

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When faculty select a [lab topic](#) from the front page, they see a module layout as shown below. The content includes initials in the title to identify the person who uploaded it.

- [People](#)
- [Chat](#)
- [Syllabus](#)
- [Outcomes](#)
- [Google Drive](#)
- [3C Media](#)
- [Office 365](#)
- [Piazza](#)
- [Library Resources](#)
- [Launch VHLCentral](#)
- [Grades](#)
- [Conferences](#)
- [Collaborations](#)
- [NexusEdge](#)
- [Settings](#)

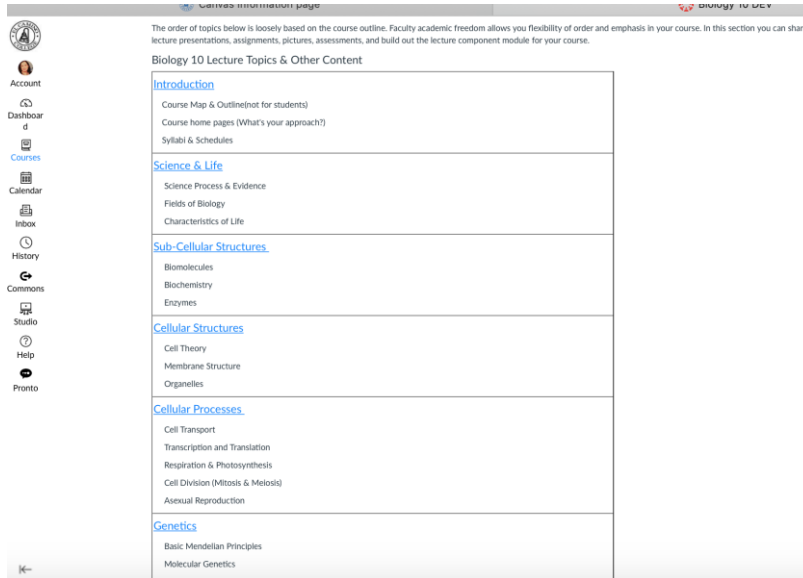
☰ **Cell Structure Lab**

- ☰ **JP- Identifying Cells Lab Exercise**
Mar 8 | 15 pts
- ☰ **NF Cells Lab: Classifying and Identifying Cells**
Sep 6, 2020 | 0 pts
- ☰ **Great Atlas of animal and plant tissues**

☰ **Biochemicals Lab**

- ☰ **NF 24 Hour Food Journal**
Sep 21, 2020 | 10 pts
- ☰ **Biomolecules Lab: 24 Hour Food Journal (modified by JP)**
Feb 27 | 10 pts

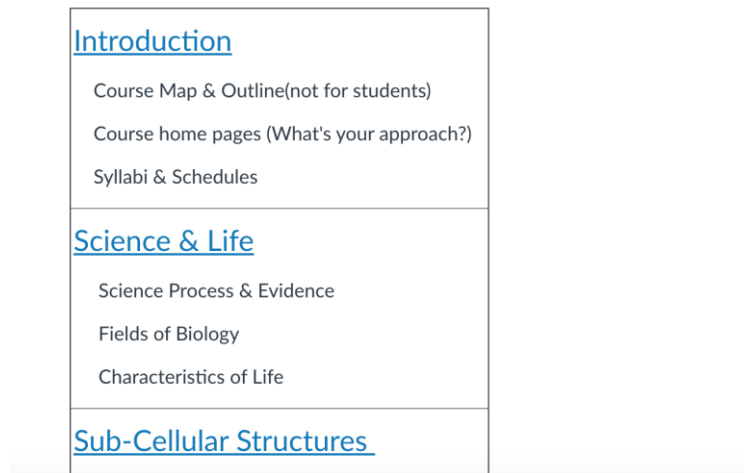
The following image provides the portion of the front page that outlines the lecture topics and related content.



The image below shows a close-up of the lecture portion in the front page of the Biology 10 department shell:

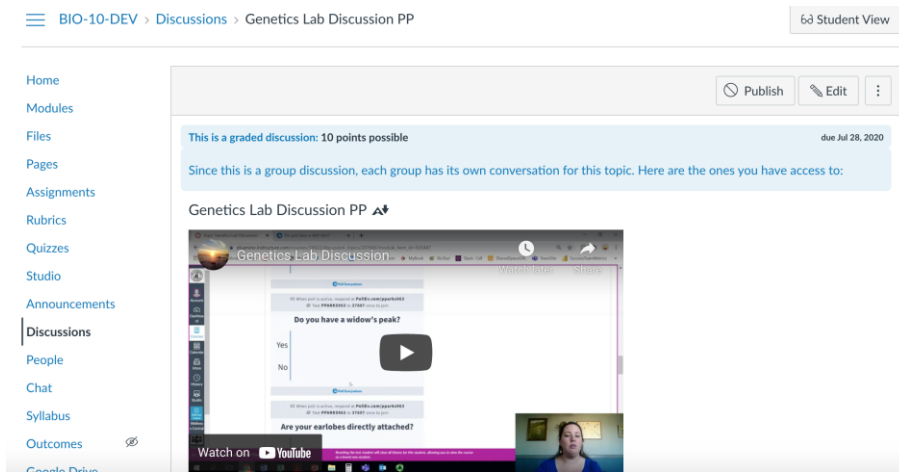
The order of topics below is loosely based on the course outline. Faculty academic freedom allows you flexibility of order and emphasis in your course. In this section you can share lecture presentations, assignments, pictures, assessments, and build out the lecture component module for your course.

Biology 10 Lecture Topics & Other Content

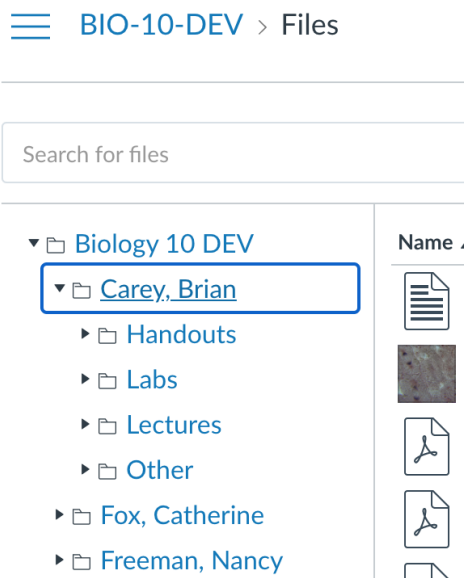


Each time someone creates a new topics assignment or page, the author's initials are included in the title. Thus, other instructors can easily contact the author if they have a question or need more information. Faculty can copy the author's content into their own live courses, and then modify

the content to suit their students' particular needs. Below is a discussion on genetics created by Polly Parks showing the title formatting.



The image below shows nested file organization, which allows instructors to easily locate the content they have uploaded.



The department shell concept can be utilized by multiple disciplines that have many sections of the same course with multiple professors teaching it.

Creating Lab Modules

Quality online instruction must be designed to meet the requirements listed by the California Virtual Campus – Online Education Initiative ([CVC-OED rubric](#)). Thus, ensuring that all necessary components are incorporated into a lesson is a laborious process.

I found that finding resources that were both copyright-free and 508-compliant was by far the most challenging and time-consuming part of creating the modules. Often, I had to spend hours looking through images and re-designing Canvas pages so that the assisted reader program could properly display the lesson and corresponding images. By the time I considered the modules complete, I had easily spent over 24 hours editing and designing the module pages. In the end, I am satisfied with the modules created which the whole department can use and modify as desired.

Below is an image of one of the [lab modules](#) I created. As you can see, creating a learning experience equivalent to an in-class lab requires various components for proper educational scaffolding. This lab activity has 5 activities and a pre-lab. Each activity has a page with instructional content and a quiz assignment acting as a formative assessment tool. This set allows students to engage in interactive learning that provides feedback through auto-graded work.

Invertebrate Animals Lab		
Activities may have a quiz symbol because that is the only way to autograde in canvas	✓	⋮
Invertebrate Lab Activity 0: Pre-Lab Study by JP	✓	⋮
Invertebrate Lab Activity 0: Pre-lab Quiz Jan 22 5 pts	✓	⋮
Dichotomous Key- Invertebrates by JP	✓	⋮
Invertebrate Lab Activity 1: Symmetry by JP	✓	⋮
Invertebrate Lab Activity 1- Symmetry 2 pts	✓	⋮
Invertebrate Lab Activity 2: Identify members of 3 different phylums by JP	✓	⋮
Invertebrate Lab Activity 2 - Porifera Cnidaria Mollusca 3 pts	✓	⋮
Invertebrate Lab Activity 3: Identify worms in 3 different phylums by JP	✓	⋮
Invertebrate Lab Activity 3 - flat round segmented worms	✓	⋮

This is an example of a [lab activity](#) that utilizes images licensed as creative commons. The format of the activity is 508 compliant.

Invertebrate Lab Activity 1- Symmetry ⚡

Started: Mar 25 at 9:02pm

Quiz Instructions

In this activity (NOT A QUIZ) you will practice using a dichotomous key while learning to identify different types of symmetry. For each question look at the image of the animal and use the dichotomous key to determine the type of symmetry for the animal. Follow the path created as you select the choices that best correspond to your observations. Type your answer in the fill-in blank. Make sure spelling is correct.


Questions

- [Question 1](#)
- [Question 2](#)
- [Question 3](#)
- [Question 4](#)

Time Elapsed: Hrs
0 Minutes, 29 Seconds

Question 1
0.5 pts

Identify the symmetry of the animal in the image below using the key.



Animal has a defined shape

Yes
No

Asymmetrical
Bilateral

Can be divided in half when sectioned in various directions

Radial Symmetry

Can only be divided in half when sectioned along the center to make equal left and right sides

Bilateral Symmetry

Type your answer in the fill-in window.

Next >

This lab module about invertebrate animals has five activities. Each activity includes a page that provides instructional information followed by an interactive assignment presented as a quiz. This format allows for automatic grading of a formative assessment and provides the student with immediate feedback. It also creates statistical data that the instructor can use to determine pre-exam interventions.

I also authored a lab module about vertebrate animals. This module follows a similar pedagogical design to the previous module; it contains five activities that together bridge the concept of mammal classification to evolutionary relationships between human systems and other animals.

There are many aspects of effective instruction a professor instinctively applies in a face-to-face course that are difficult to translate onto a screen. In my case, the most challenging aspect has been maintaining student engagement and sparking student interest. Fortunately, I got confirmation that my modules did achieve these goals; imagine the satisfaction I felt after reading the following feedback from one of Dr. McClelland's students. Below is a copy of the email Dr. McClelland sent me:

Hi Jessica,

I had one student send me an email about the module with positive feedback that I wanted to share. She said:

I really enjoyed those modules. They were very informative and the videos definitely helped with clarification. I can honestly say that after those activities I am completely more knowledgeable about the different phylum groups. I never knew about them before. Great activities overall!

This student is one of the best students in my class and in the Guardian Scholars program which means she Pell eligible and a former foster youth. I also happen to know that she is using the school issued loaner laptops and WIFI device to access the internet, so this tells me that the activities should be accessible to most/all of our students. I'm glad to hear that the activities are working well for the exact students we are trying to help most. Thank you so much for all the time you put into developing this and for being willing to share it with the rest of us.

Thank you,

Darcie

Conclusion

The product of this sabbatical is something that will benefit both faculty and students. Through this project I practiced techniques in designing educational content with Canvas. I found new open education resources, met faculty I had not met before, and found ways to incorporate topics that awareness. Working on this sabbatical project helped me acquire skills and develop content that will enhance my students' learning for years to come. In my 18 years of teaching at ECC, this is the first sabbatical I have taken; now I wish that I had taken it sooner so I could have another opportunity to participate in such a valuable educational experience.

With Gratitude

Thank you to the committee members who reviewed and approved both proposals. I would also like to deeply thank all my El Camino College colleagues who helped me complete my sabbatical project, in particular: Professor Polly Parks, who played a key role in facilitating meetings with Dr. Darcie McClelland and Professor Nancy Freeman to identify what topics needed development; Dr. McClelland and Dr. Parks, who piloted the labs I created with their 80 students and provided valuable feedback; Mr. Ryan Martinez, Ms. Gema Perez, and Dr. Moses Wolfenstein, who each provided technical support, advice, and instruction in developing the various components essential to this project; and Dr. Teresa Palos, who agreed to serve as my sabbatical advisor and helped with editing this report.