

Abilene Christian University

Goals and Faculty Evaluation

August 1, 2015 - July 31, 2016

Name: Huddleston, Jennifer Rogers

Department(s): Biology

2015-2016

	Fall	Spring	Summer
Teaching	45%	45%	0%
Research/Scholarship	40%	40%	95%
Service	15%	15%	0%
Administrative	0%	0%	0%

Teaching

Teaching Goals for the Year (completed by June 1 by faculty member)

1. Increase student learning in Biology 101. I plan to do this by incorporating more hands-on activities, adding weekly quizzes, and utilizing a teaching assistant to assist me in small-group discussions. I would like to increase critical thinking about biology in this class instead of memorization of facts.

2. Restructure the Microbiology Lab. As it is, most of the assignments (275 out of 500 points) are due the last two days of class. Even though the students should be working on these projects and assignments throughout the semester, I feel that they wait until this last week to do the majority of the work and the quality decreases. I plan to replace the lab manual assignment with a weekly quiz. Every semester as I am grading the lab manuals, I ask myself, "Why do I assign this? I don't think this is accomplishing what I want it to." I have used weekly quizzes before in lab at Texas Tech and I believe they would increase student learning and preparedness for lab.

3. Incorporate more critical thinking and primary literature in Human Anatomy. I always struggle with how to move past rote memorization of anatomical structures to being able to think critically about the material. There are many case studies that have been published but often these have strong physiological components and are designed for courses entitled "Anatomy & Physiology". While I can argue that the two should be taught together even for the biology majors, they are not at most universities and my job is to focus on anatomy. I attended the HAPS (Human Anatomy & Physiology Society) meeting in May 2014 where an anatomist (R. Shane Tubbs) gave a talk entitled, "Is Anatomy a Dead Science?" Many people think that it is, but he shared some of his work with cadavers where he had made discoveries that led to improvements in surgical procedures. I plan to incorporate a few of his 800+ peer-reviewed publications in my human anatomy class. This will take some thinking and creativity on my part about how to successfully incorporate this into my course.

Reflections on Goals (completed by March 1 by faculty Member)

1. Increase student learning in Biology 101. I am pleased with how I met these goals in the fall section of this course. First, I utilized an excellent teaching assistant, Rachel Hurst, in my class. She took roll, graded homework assignments, sat in on lectures, tutored students, assisted in small in-class group discussions, and helped me to think about how to best approach this population of students. Because she was present in the classroom, I was able to incorporate more hands-on activities, like lab experiments. One of the small experiments was a DNA extraction. I divided the group of 50 students into 12 groups of about 4. They worked together and did a very simple DNA extraction from strawberries using a salt and

dish soap protocol. At the end, they had white, slimy DNA. Many of them had never seen DNA before. They then filled out an assignment about the experiment. It required critical thinking about the extraction. Another experiment that I added was a human cell visualization experiment where they scraped off their own inner cheek cells and bacteria and looked at them under the microbiology lab's new phase contrast microscopes. They then were asked to complete an assignment over that experiment. Many of them had never seen their own cells before this activity.

I also enhanced the small-group discussions. Discussions were numerous and over topics like cancer causes, antibiotic usage, and real biological zombies. The feedback from the students at the end of the semester was positive. Here are a few of their comments taken from the IDEA evaluations:

"This course challenged me to use what I learned in Biology and apply it to my everyday life. Dr. Huddleston sufficiently taught the material presented. I could tell she loves the field of study she is teaching which made me interested in what we were learning."

"I think Huddleston did a good job teaching this course. I really liked receiving study guides for the tests; they helped me prepare and learn before taking the exams. The homeworks were interesting and I learned more real world knowledge from them."

"Professor Huddleston made this course very understandable. This was the second time I took this course, unfortunately, but the way she taught this course was laid out better and increased my knowledge of the content. Professor Huddleston kept the class fully engaged in the coursework and the on-the-spot group assignments maintained the students full attention. These were exceptional. This was a huge improvement from the last Biology course I took. Thank you. I thoroughly enjoyed the class."

Another goal that I had for this class was to increase critical thinking about biology in this class instead of memorization of facts. This is difficult to do since biology has a lot of important facts. I think the added assignments over the in class experiments accomplished this as well as the discussions.

2. Restructure the Microbiology Lab. I have restructured the microbiology lab to flow more smoothly. Previously, assignments comprising 275 of 500 points were due on the last two days of class. Now only 145 of 500 points are earned in the last two days. I moved a major report over a bacterial species isolated from the environment to be due one month earlier and added bi-weekly quizzes. Coincidentally, the sequence of the environmental isolation assignment works better earlier in the semester. I dropped the lab manual homework questions. I now ask those same types of questions on the quizzes. The students now come to lab prepared. I do not have to spend as much time explaining material that is in their lab manual. The restructuring of due dates and the incorporation of quizzes has taken a lot of unnecessary pressure off of the students.

3. Incorporate more critical thinking and primary literature in Human Anatomy. In the fall semester of Human Anatomy, I showed a few videos of athletes being injured, and asked the students to diagnose what part of the human anatomy was most likely torn. This was interesting to most people and a constructive learning experience. A few almost passed out. That was not my intention at all. I learned that I need to be more sensitive to these people and find a better way to approach critical thinking in this course.

For the spring semester, the students are assigned to find a journal article of interest to them from either "Clinical Anatomy" or "Journal of Anatomy". They are working in eight groups of three to four students to read the paper and describe the new findings to the class in a presentation. Their presentations will occur March 3, several days after the deadline for submission of this document. The titles of the papers are:

- Anatomy of the proximal tibiofibular joint and interosseous membrane, and their contributions to joint kinematics in below-knee amputations
- Inhomogeneity of collagen organization within the fibrotic scar after myocardial infarction: results in a swine model and in human samples
- A Newly Discovered Muscle: The Tensor of the Vastus Intermedius
- High doses of caffeine reduce in vivo osteogenic activity in prepubertal rats
- Innervation of Biceps Brachii and Brachialis: Anatomical and Surgical Approach
- Factors that Influence Soft Tissue Thickness Over the Greater Trochanter: Application to Understanding Hip Fractures
- Genetically induced abnormal cranial development in human trisomy 18 with holoprosencephaly: comparisons with the normal tempo of osteogenic–neural development
- Influence of ferutinin on bone metabolism in ovariectomized rats. II: Role in recovering osteoporosis

The titles of the papers are intriguing and I anticipate that these presentations will elicit much discussion among the students.

Additional Teaching Activities Not Included in Goals:

None

Chair's Evaluation of Goal Completion (completed by April 1)

Not met	Met	Met with Distinction
		X

I saw only positive results from Dr. Huddleston's teaching.

Areas of Competence: Faculty are expected to develop competence in each of these areas (completed by April 1 by chair)

	Unsatisfactory	Needs Improvement	Effective	Excellent
Student Satisfaction				X
Classroom Effectiveness				X
Syllabi				X
Integration of Faith/Learning				X
Class/Course Enhancement				X
Student Advising/Mentoring				X
Teaching (Overall rating by chair)				X

Scholarship

Scholarship/Creativity Goals for the Year (completed by June 1 by faculty member)

1. Work with undergraduate students on my Pursuit and Math-Science funded research over microbial diversity in Sorcerer's Cave.
2. Finish the experiments needed over Aeromonas genes and natural transformation so that a manuscript can be started in the summer of 2016.
3. Write up a small manuscript for an undergraduate research journal over microbes in rainwater with Katie Preston.

Reflections on Goals (completed by March 1 by faculty Member)

1. I worked with Jeffrey Wooliscroft all summer and during the fall and spring semesters on the Sorcerer's Cave project. Grace McNair and Maureen Tuyizere also worked on the project some. Jeffrey presented this research at an ACU Biology Research Lunch in the fall, and he

is presenting at the ACU Undergraduate Research Festival as well as the Alpha Chi Honor Society National Convention in April.

2. The experiments to finish up the Aeromonas natural transformation project are still in progress. Kristen Clemons is working with me on this. She has also started writing parts of the manuscript.

3. Katie Preston and I wrote up a manuscript for Fine Focus, an undergraduate microbiology journal. This was submitted in October and rejected in December. This was disappointing. However, the reviewers gave us good feedback on how to improve the manuscript. We are currently revising the manuscript. The next deadline for the resubmission is March 1. However, we knew early on that we would not be able to have a good manuscript ready for this deadline, so we decided to resubmit after that, in time for the next deadline. Two weeks ago the editor contacted me, encouraged me to resubmit for the next issue, and volunteered to extend the deadline for us by one month. We will be able to meet this deadline. Katie and I are optimistic about this next submission.

Additional Scholarly/Creative Activities Not Included in Goals:

None

Chair's Evaluation of Goal Completion (completed by April 1)

Not met	Met	Met with Distinction
		X

Scholarship/Creativity (Overall rating by chair)

Unsatisfactory	Needs Improvement	Effective	Excellent
			X

Dr. Huddleston has mentored many students this past year in her labs and taken those students to national meetings

Service

Scholarship/Creativity Goals for the Year (completed by June 1 by faculty member)

1. Serve on the Undergraduate Research Festival Committee (University/College)
2. Work with Wendy Moreland, 4th Grade teacher at Taylor Elementary, to develop an engaging science activity for her students. (Community)
3. Participate in STEM for Girls (Profession)

Reflections on Goals (completed by March 1 by faculty Member)

1. I am currently serving on the Undergraduate Research Festival Committee. The festival is on April 5 this year. I work with Lauren Lemley on the day of the festival to organize judges, tabulate results, fill in for absent judges, and call out names during the awards dinner. (University/College)
2. I was unable to work with Wendy Moreland at Taylor Elementary. The principal thought the cow eyeball dissection we had planned was too intense and gross for the 4th graders. We have not rescheduled a different activity.
3. I participated in the ACU STEM for Girls event in January. Rebecca Hunter and I designed an activity using GloGerm. This is a sticky powder that fluoresces under UV light. We used it

to demonstrate how a disease spreads through a population and becomes an epidemic. The middle school girls responded well to this activity. (Profession)

Additional Service Activities Not Included in Goals:

1. Evolution and Faith. This was the title of the four-week class I taught at University Church of Christ on Wednesday nights in January. For several years, ministers had suggested that I teach this class. I was always hesitant, not wanting to cause controversy or division. James Thompson, retired Graduate School of Theology professor, convinced me to do it. There were about 30 attendees each week. The first week was an introduction to science—what it is and what it is not—, and a familiarization with the different ways that Christians approach origins and evolution. For the second week, I recruited Glenn Pemberton, of ACU College of Biblical Studies, to teach about Genesis 1-2. Coincidentally, Glenn was to teach on the same topic at Pepperdine Bible Lectures, so he appreciated the chance to give his talk and receive feedback. Glenn did a phenomenal job talking about the creative power of God and the closeness of God. The third week was entitled, “What is Evolution?” with a joke in the subtitle “The presentation that forced the Huddlestons to leave UCC.” This lecture focused on the science of evolution and what it is. I brought it replicas of human skulls and their possible ancestors. The fourth week was how to think about evolution in regard to faith. I received very positive feedback over this series. Not everyone agreed with me, but I believe every person in the class appreciated the conversation.

There were many jokes about I was going to be kicked out of the church, etc. It was all in fun. James Thompson remarked with a smile, “We used to get the biologists to come disprove evolution. This is quite a change.” It did not go unnoticed that a woman was teaching about and supporting evolution in a Church of Christ. Of all of my service activities this year, this one is my greatest accomplishment. (Community/Church)

2. Alpha Chi National College Honor Society sponsorship. This is my second year as a co-sponsor of the ACU chapter of Alpha Chi. In the fall, I assisted with inducting over 200 new students into the organization. In December Mikee Delony told me she wanted me to take over the primary sponsor position of the chapter. After much thought, I decided to do it. In April, we will take 12 incredible ACU students to the national convention in Washington, D.C. where they will present their research. Many members wanted to attend this convention, so I had to organize the sponsors so that we could select the students through a competitive process. After the students were selected, I made travel arrangements and secured funds. (University/College)

3. Journal Reviewer. I served as a reviewer for the prestigious journal PLoS ONE. (Profession)

Chair's Evaluation of Goal Completion (completed by April 1)

Not met	Met	Met with Distinction
	X	

Service (Overall rating by chair)

Unsatisfactory	Needs Improvement	Effective	Excellent
		X	

She was on undergraduate research festival committee. Jennifer is a cosponsor of Alpha Chi National Honor Society.

Dr. Huddleston was going to teach a lab at Taylor Elementary. However, the principle thought the dissection of the eye was not age appropriate. She said that we will see what the new principle says.

Summary Assessment by Department Chair

Written Comments

1. Collegiality
Jennifer is always there for her fellow faculty members. She is a great friend and hosts faculty and students at her house
2. Progress toward tenure
Jennifer is applying next year for tenure and I see no problems with her application.
3. Progress toward promotion
She is making excellent progress to promotion
4. Constraints on performance
None
5. Comment on church membership
She is a Sunday school teacher at University Church of Christ.
6. Other

Faculty

Date

Department Chair

Date