UNIVERSITY OF ARKANSAS
PULASKI TECH

Assessment Report:
2019-2020
Human Anatomy & Physiology I Laboratory

BIOL 1104
ACTS 2404

Course-Level Learning Outcomes

1. What are the Course-Level Outcomes (CLOs)?

Course Learning Outcomes: BIOL 1104 Human Anatomy & Physiology I Lab Course

1. **Body Organization** The student will explain, describe, discuss, recognize, and/or apply knowledge and understanding of the body organization (includes terms, basic biochemistry, cellular structure & function, metabolism, histology, & integumentary system)
2. **Musculoskeletal System** The student will explain, describe, discuss, recognize, and/or apply knowledge and understanding of the musculoskeletal system (includes muscular system, skeletal system, & joints)
3. **Nervous System** The student will explain, describe, discuss, recognize, and/or apply knowledge and understanding of the nervous system (includes nervous system & general senses)
4. **Lab** The student will explain, describe, discuss, recognize, and/or apply knowledge and understanding of proper use of microscope, other lab equipment, and lab techniques

2. Which CLOs were addressed for this academic year? (2019-2020)

CLO # 1 (Body organization)

CLO # 2 (Musculoskeletal system)

CLO # 4 (Lab Equipment & techniques)

3. Which CLOs are being addressed in your assessment plan next academic year? (2020-2021)

CLO # 2 (Musculoskeletal system)

4. Explain the assessment cycle.

Standardized assessments for CLOs 1, 2, 3, & 4 are conducted each semester.

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5. What are the assessment methods? Are they direct or indirect?

CLO 1 (Body Organization): Direct

1) Standardized Histology Quiz. Identify and label tissues and tissue structures. Administered as an online quiz. 10 items are randomly selected for each student
2) Standardized online quizzes for each lab unit covering CLO # 1. Administered through Pearson's Mastering A&P

CLO 2 (Musculoskeletal system): Direct

1) Standardized Skeleton Quiz. Identify and label selected bones and bone markings. Administered as a written quiz. Quiz is timed and has no word bank.
2) Standardized Muscle Quiz. Identify and label selected muscles. Quiz is administered as a written quiz. Quiz is timed and has no word bank.
3) Standardized Dissection Sheet. Students are divided into teams for dissection. Each team is to dissect and identify each muscle listed on the dissection sheet.
4) Standardized online quizzes for each lab unit covering CLO # 2. Administered through Pearson's Mastering A&P.

CLO 3 (Nervous system): Direct

1) Standardized online quizzes for each lab unit covering CLO # 3. Administered through Pearson's Mastering A&P

CLO 4 (Lab equipment use & techniques): Direct

1) Assessment method of microscopy skills. The Human Anatomy & Physiology 1 students will demonstrate microscopy skills in order to locate and identify designated tissues/cell structures within 3 minutes. Common grading rubric (checklist) will be used to assess proficiency.

6. What are the assessment goal(s)?

Success for CLO # 1 (Body organization), CLO # 2 (Musculoskeletal system), and CLO # 3 (Nervous system) will be measured with 70% of all sections combined passing at 70+% for each CLO.
Success for CLO # 4 (Lab Equipment & techniques) will be measured with 80% of all combined sections passing at 70+%.

7. What were the findings for this academic year? (2019-2020)

CLO # 1 (Body Organization)

CLO # 2 (Musculoskeletal system)

CLO # 3 (Nervous system)

CLO # 4 (Lab/Microscopy)

Assessment Method: Online quizzes through Pearson's Mastering A&P.

In the spring of 2020 this assessment method had to be withdrawn due to an announcement by the Dean that assessment was not required to be administer online through Pearson's Mastering A&P; therefore, faculty were not required to participate in any assessment administered online through Pearson's Mastering A&P. Since the assessment method was withdrawn there is no report for CLO #1 and CLO # 3.

CLO # 2 (Musculoskeletal system)

Assessment Method: Dissection Scoring Sheet.

No data collected. See Analysis of Results for details.

CLO # 2 (Musculoskeletal system) Assessment Method: Bone labeling quiz	Fall 2019	Spring 2020
% of Traditional students who passed with a score of 70+%	44%	57%
# of Traditional students assessed	124	156
# of Traditional students who successfully completed assessment with a score of 70+%	55	89
Online students assessed	N/A	N/A
Hybrid students assessed	N/A	N/A
Concurrent students assessed	0	0

CLO # 2 (Musculoskeletal system) Assessment Method: Muscle labeling quiz	Fall 2019	Spring 2020
% of Traditional students who passed with a score of 70+%	51%	82%
# of Traditional students assessed	128	105
# of Traditional students who successfully completed assessment with a score of 70+%	65	86
Online students assessed	N/A	N/A
Hybrid students assessed	N/A	N/A
Concurrent students assessed	0	0

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CLO # 4 (Lab equipment use & techniques) Assessment Method: Microscopy practical demonstration	Fall 2019	Spring 2020
% of Traditional students who passed with a score of 70+%	92%	80%
# of Traditional students assessed	84	89
# of Traditional students who successfully completed assessment with a score of 70+%	77	71
Online students assessed	N/A	N/A
Hybrid students assessed	N/A	N/A
Concurrent students assessed	0	0

8. What is your analysis of the findings?

CLO 2 (Musculoskeletal system)

Assessment Method: Dissection Sheet.

Analysis of Results for Spring 2020 – No data was collected. Fall 2019 was the first semester to switch from cat to fetal pig dissecting specimens. It was discovered that the pigs were not skinned as were the cats so most of the laboratory period was spent removing the skin so that the muscles could be dissected. Many muscles were not dissected so the scoring sheet along with this method of assessment was abandoned.

Analysis of Results for Spring 2020 – Assessment method discontinued in Fall 2019

CLO 2 (Musculoskeletal system)

Assessment Method: Bone labeling quiz

Analysis of Results for Fall 2019 – It is an enigma as to why the failure rate is so high on a simple memorization quiz. It is suspected that students to not take the time, make the time, or do not have the time to learn, but only "cram" for the test in hopes of passing.

Analysis of Results for Spring 2020 – Due to COVID-19 courses were pivoted to emergency remote teaching (ERT). It was noted that instructors who administered the quiz face-to-face before the start of ERT had a significantly lower pass rate as compared to the instructors who had to administer the assessment online through Blackboard after the conversion to ERT. Since this campus has no online proctoring service it is suspected that students were less than honest when completing the online labeling test. Comments from instructors included students not reading the question and labeled a bone rather than a bone marking. Also mentioned was that students complained of the location of the "dot" identifying the bone or bone marking to be labeled was "confusing".

CLO 2 (Musculoskeletal system)

Assessment Method: Muscle labeling quiz

Analysis of Results for Fall 2019 – It is an enigma as to why the failure rate is so high on a simple memorization quiz. It is suspected that students to not take the time, make the time, or do not have the time to learn, but only "cram" for the test in hopes of passing.

Analysis of Results for Spring 2020 – COVID-19 note: Lab muscle quiz was cancelled as a required assessment. Data reported by faculty was voluntary. Data was used to analysis online administration of a quiz WITHOUT proctoring services. The written quiz was posted in Blackboard. As noticed with the bone quiz a high percentage passed as compared to the fall 2019 semester. Since this campus has no online proctoring service it is suspected that students were less than honest when completing the online labeling test.

CLO 4 (Lab equipment & techniques)

Assessment Method: Microscopy practical demonstration

Analysis of Results for Fall 2019 – Demonstration – Although the pass rate is above the minimal goal students still struggle with the actual steps of focusing the microscope. This may be due to students not attending lab and/or arriving to the scheduled lab period on time for microscopy practice. Also, since attendance in the laboratory sciences is no longer allowed to be required many students skip lab then only attend when a test is given. The probability of passing a practical demonstration when the student has not been in attendance to practice is diminished greatly. Attempts have been made to encourage attendance such as participation points. Based on point distribution the student is able to fail this assessment and still pass the course which may contribute to student motivation to perform well on this assessment.

There were several points missed on the last steps of returning the microscope to storage position. This may have been due to students running out of the time.

There were several points missed on adjusting the light and adjusting the binoculars. This may have been due to the student doing the steps in the wrong category which resulted in a deduction of points. The binocular lenses were not adjusted by several students often resulting in incorrect focus and lose of points.

Prompts – With only a single prompt reported this did not give a clear picture of the usage of prompts. (A prompts chart had been added for this semester as a result of an AP meeting when two of the three faculty in attendance stressed that they would prompt students during the assessment. It was determined that "prompts" needed to be tracked to discover where they were needed and to identify steps in which the students are weak.)

Rubric Evaluation: Three faculty participated in the rubric evaluation. These faculty were paired with another faculty member and the two of them graded 5 to 6 students simultaneously to evaluate the overall effectiveness of the microscopy rubric. The scoring different was minimal. Accurate deviation was not determined due to faculty not submitting grading sheets. The assessment rubric has a 3-minute time limit. What was noted was that some faculty did not use a timer but guessed at the time each student took to complete the evaluation.

Analysis of Results for Spring 2020 – Although several sections had not completed the assessment before to the pivot to ERT due to the COVID-19 pandemic the number assessed was greater than those assessed in the fall. The overall results were lower than fall. Comments were made on student running out of time, pointing the wrong cells, and once comment was that the lab with fewer number of students (15) did better than the lab with more students (20). The difference in results of the two sections may have been due to the smaller lab size where the instructor was able to give more individual instruction.

9. What is the action plan for the next academic year? (2020-2021) Explain.

CLO 1 (Body organization)

Action Plan for Spring 2020 – Had been to continue administering standardized quizzes through Pearson's Mastering A&P, but assessment method was disallowed.

Action Plan for Fall 2020 – Assessment quizzes covering CLO 1 concepts will be created in Pearson's Mastering A&P. These quizzes will be administered by faculty on a voluntary basis.

Action Plan for Spring 2021 – Will be determined based on the analysis of the fall 2020 assessment.

CLO 2 (Musculoskeletal system)

Assessment Method: Fetal Pig dissection scoring sheet

Action Plan for Spring 2020 – Discontinue use of dissection scoring sheet.

Action Plan for Fall 2020 – Discontinued use of dissection scoring sheet in Fall 2019.

Action Plan for Spring 2021 – None. This assessment method has been discontinued.

CLO 2 (Musculoskeletal system)

Assessment Method: Bone labeling quiz

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Action Plan for Spring 2020 – Continue same assessment for Fall 2020.

Action Plan for Fall 2020 – Continue same assessment for Fall 2020 but offer the quiz on Blackboard in anticipation of pivoting to online again due to COVID-19. Plans were to create and administer an exam wrapper survey for feedback from students to gain insight on why a simple memorization test is failed by most of the students. The results of the survey were going to be evaluated so that a plan could be devised to cover the gaps indicated by the students. With the test being administered through Blackboard the pass rates improved. Now that this is an un-proctored test the survey would possibly be invalid. Once the test can administer in person or proctoring services are available the wrapper survey will be temporarily post phoned.

Assessment quizzes covering CLO 2 will be created in Pearson's Mastering A&P. These quizzes will be administered on a voluntary basis.

Action Plan for Spring 2021 – Will be determined based on the analysis of the fall 2020 assessment.

CLO 2 (Musculoskeletal system)

Assessment Method: Muscle labeling quiz

Action Plan for Spring 2020 – Continue same assessment for Spring 2020. Continue same assessment for Fall 2020 but offer the quiz on Blackboard in anticipation of pivoting to online again due to COVID-19. Plans were to create and administer an exam wrapper survey for feedback from students to gain insight on why a simple memorization test is failed by most of the students. The results of the survey were going to be evaluated so that a plan could be devised to cover the gaps indicated by the students. Now that this is an un-proctored test the survey would possibly be invalid. Once the test can administer in person or proctoring services are available the wrapper survey will be temporarily post phoned.

Action Plan for Fall 2020 – same as for bone labeling quiz above.

CLO 4 (Lab equipment & techniques)

Assessment Method: Microscopy practical demonstration

Action Plan for Spring 2020– Demonstration – Continue same assessment for Spring 2020. **Prompts –** Data on prompts will continue to be collected since it is allowed during the assessment process. Rubric Evaluation: Remind faculty to pair and check the accuracy of the grading rubric. Also, remind faculty to use a timer when grading the practical demonstration.

Action Plan for Fall 2020 – Due to social distancing requirements microscopy practical demonstration will be suspended for this semester. The concepts will be covered by instructors through individual teaching methods.

Assessment quizzes covering CLO 4 concepts will be created in Pearson's Mastering A&P. These quizzes will be administered on a voluntary basis.

Action Plan for Spring 2021 – Will be determined based on the analysis of the fall 2020 assessment.

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