Course Outcomes Guide (COG)

Course Title: Bio 103 **Date:** May 21, 2014

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Expected Learning Outcomes:
Upon completion of Human Anatomy and Physiology I, students will:
1. Exhibit the ability to use core content of the Anatomy and Physiology curriculum
2. Apply physiological and anatomical principles to the diseased state.
3. Demonstrate transfer of information from diagrams, models and non-human models to the human organism.
4. General Education: Demonstrate the ability to access, process, analyze and synthesize scientific information.
    a. Relate a basic core of scientific principles to an open-ended framework.
    b. Demonstrate observational and analytic skills in a structured situation.
    c. Formulate conclusions based on observations and information.
    d. Use technology to access scientific information, generate and analyze empirical data, and solve problems.

Assessment (How do or will students demonstrate achievement of each outcome?)
- Common exam for Bio 103
- Common final exam
- Common general education questions – at end of data table

Validation (What methods have you used or will you use to validate your assessment?)
- The HAPS exam is nationally normed and our common exam for Bio 103 is correlated with the national cumulative exam.
- This is the first semester we have given the common final exam.
- The general education questions are given to other biology classes in our division.

Results (What do your assessment data show? If you have not yet assessed student achievement of your learning outcomes, when is assessment planned?)
- See attached data sheet.
- General education question – students have the lowest score on application question. They actually do better on the higher order thinking questions. We'll have to discuss this as a group.
- Weak areas: biochemistry, secondary active transport, enzymes, histology, endocrine – cell communication, sensory pathway, meninges, reflex, neuron physiology, senses, bone, muscle energy

Follow-up (How have you used or how will you use the data to improve student learning?)

- Individual instructors exam results for each item and then adjust their teaching based on areas where students under achieve. We are using McGraw Hill Connect on-line learning modules to reinforce areas where students are weak.
- We are working with Rebecca Kendrick to collect this data in a database. Hopefully, this will make it easier for everyone to collect, analyze and store their own data.

Budget Justification
- In spring 2013, the Science Learning Center moved from the STEM building to the LSC. Our spring 2013 students had lower cumulative scores. We would like to see more organized group studies and designated study space for science classes in the LSC.

BIO 103 SLOA Data

	SU 2009	FA 2009	SP 2010	SU 2010	FA 2010	SP 2011	SU 2011	FA 2011	SP 2012	SU 2012	FA 2012	SP 2013	SU 2013
# Active students	24	129	116	23	128	140	25	124	144				
%W	4.2%	6.2	6.9	52.2	5.5	4.3	4.0	8.9	4.9				
*% walk-away Fs No final exam/grade = F		2.9	**	ADJ?	1.8	**	ADJ	4.6	**	8%		10.7%	
% Success (A,B,C)	82.2%	80.9	79.1	28.6	83.8	82.5	92.0	82.4	83.0				
Mean Common Lab Practical Score												67.1 ± 21	
Common Comprehensive Final Exam Score							Missing data	72% Raw score: 55.77±9.90	63% Raw score: 49.38±10.27	64% Raw score: 50.21±11.27 78 questions possible n=33	66% Raw score: 51.51 ±13.43 78 questions possible	60% Raw score: 46.60 ± 10.40 n=96	
Gen Ed questions											73% 3.64/5.00*** n=103	69.4% 3.47/5 n=96	
Mean course grade	2.45	2.69	2.47	2.22	2.62	2.48	3.21	2.69	2.68				

General Education Assessment

Gen Ed Results

The item analysis is broken down below.

Question	% Correct FA12	% Correct SP13	Level of question
1	95.15	93.94	knowledge
2	56.31	54.55	application
3	74.76	74.75	analysis
4	63.11	63.64	evaluation
5	74.76	60.61	synthesis