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│                     Course Outcomes Guide                         │
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Course Title: Bio 104   **Date:** May 22, 2014

Course Team: Rebecca Beecroft, Terri Bidle, Cindy Dove, David Karstaedt, Bernie Murphy

Expected Learning Outcomes:
    Upon completion of Human Anatomy and Physiology II, 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?)
- Cumulative HAPS exam for Bio104
- Comprehensive lab final
- General education assessment

Validation (What methods have you used or will you use to validate your assessment?)
- The HAPS exam is nationally normed.
- The comprehensive lab final was developed by the full-time faculty that teach A & P. It will be reviewed

Results (What do your assessment data show? If you have not yet assessed student achievement of your learning outcomes, when is assessment planned?)
- Please see data sheet at the end of COG.
- Our students score as high as 13 points above the national HAPS exam average.
- Areas of weakness: blood pressure, endocrine, integumentary, central nervous system, neuron physiology.
- The comprehensive lab final was developed by the full-time faculty that teach A & P. It will be reviewed in Fall 2013.
- General education questions: this is the first time they have been used. Question number 2 was not used because it was too confusing. The students had the lowest score on question 5. It involves interpreting data from the graph and doing a calculation.

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 will require more student engagement by requiring Connect activities.

Budget Justification
(What resources are necessary to improve student learning?)
HAPS exam will be administered on-line in the near future. It is possible that we will need to pay a fee per exam.

Bio 104 General Education Questions

Question	% correct	Level of question (?)
1	87	knowledge
2	-	-
3	76	comprehension
4	94	knowledge
5	57	analysis

Course: BIO 104 **SLOA Data** **Faculty Team:**
D. Karstaedt, C. Dove, B. Murphy, T. Bidle, R. Beecroft, M. Jozik

	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	27	80	108	33	89	110	23	94	111				
%W	0	5	13	9.1	7.9	8.2	17.4	8.5	15.3				
*% walk-away Fs No final exam/grade = F	0		4.8	0		3.9			6	8.1		8	
% Success (A,B,C)	88.9	93.8	80.2	84.8	87.6	89.7	82.6	85.7	81.8				
Mean Common Lab Practical Score												81	
Common Comprehensive Final HAPS Exam Score					53.30 ±10.08 n=83	58.9 ±12.06 n=97	48.85 ±11.14 n=20	53.54 ±11.10 n=83	58.9 ±13.53 n=92	52.94 ±9.30 N=9.30	54.11 ± 12.11 n=93	58.94 ± 14.54 N=84	
General education score												75%**	
Mean course grade	2.67	2.76	2.62	2.50	2.68	2.62	2.32	2.70	2.72				
Item Analysis **Weakest Content Areas**												**See COG**	

*% Walk-away Fs = Did not take the final exam and received a grade of F.

**see above for general education questions