

Student Learning Outcomes for Instruction – Phase II

Program Outcomes Assessment Report

“Assessment of Program-level Learning Outcomes”

In this section, please re-state each outcome and indicate the method(s) of assessment, provide a summary of the results, and tell how your program will use this information to improve student learning. Each Goal should have at least one Method of Assessment. To encourage collaboration and the sharing of ideas, you are encouraged to share your outcomes, assessment data, and findings with all available members of your department or program. Please list the names of all faculty, staff, and students who were involved in summarizing or evaluating the data. The names may differ from those on Section I.

Date: June 25, 2012

Contact Person/Others
Involved in Process:

Lead: SUSAN MOSS
Others: DANIEL GILISON, TOM MORRELL

Special thanks to Matthew Thale for compiling the data.

Outcome #1 (please repeat here): Students will demonstrate an understanding of fundamental biological concepts and knowledge of the structure and function of living organisms.

NOT ASSESSED

Outcome # 2 (please repeat here): Students will display competency with respect to the use of standard laboratory equipment and techniques commonly used in life science labs.

NOT ASSESSED

Outcome # 3 (please repeat here): Students will understand the process of scientific research and display critical thinking skills related to hypothesis development, experimentation and data interpretation.

NOT ASSESSED

Outcome # 4 (please repeat here): Students should develop a foundation in biology strong enough to allow the successful completion of any attempted 200-level biology course(s).

Method of Assessment:

a. How did you assess Outcome #4?

Students have three options as far as a biology prerequisite if they wish to take a higher-level (200-level) biology course. Option one is to take BIOL 100, a one-semester introductory survey of basic biological principles. Option two is to take the two-semester sequence of BIOL 180 & 182, courses which provide a much more in-depth look at the various areas of biology. Option three is to take *either* BIOL 180 *or* 182. Our hypothesis is that taking 180 and/or 182 better prepares students for the challenges of the 200-level courses and enables them to earn higher grades than if they just took BIOL 100.

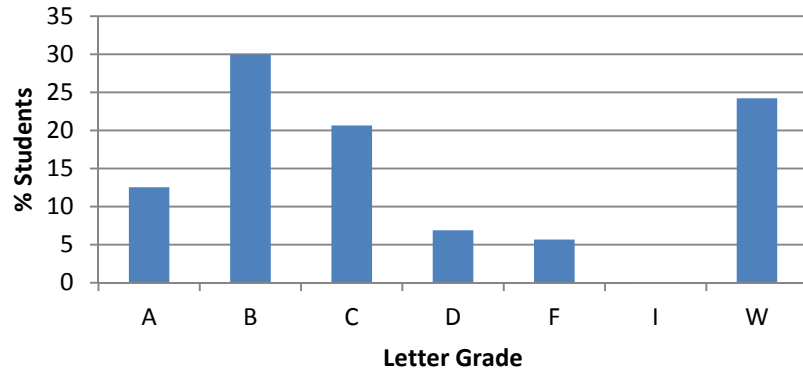
Data were collected from Fall semester 2008 through Spring semester 2012. Fall 2008 was used as the starting point because BIOL 180 & 182 were first offered at that time. We considered only those students who attended BIOL 100 or BIOL 180 and/or 182 and then went on to enroll in any of the upper level (200) biology courses such as BIOL 200, 202, 204, 206, and 220. We looked at how BIOL 100 students did in higher level BIOL courses compared to how BIOL 180/182 students did in higher-level BIOL courses. The data can help us determine if taking BIOL 180 and/or 182 improves student success at the higher-level courses.

b. Provide a summary of results:

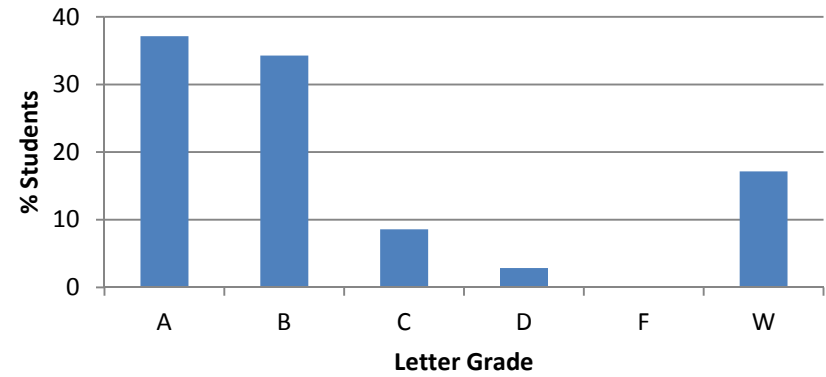
The total number of students who met our criteria was 490 (labeled “unique students”). Because some of those students attended more than one 200-level course, the total number of data points used came to 1183. Data are summarized in the graphs below. Sample sizes were very uneven because many more BIOL 100 sections are offered each semester than either 180 or 182.

The “BIOL 100” graph summarizes the grades earned in any 200-level course by students who took BIOL 100 as the prerequisite. The “BIOL 180/182” graph summarizes the grades earned in any 200-level course by students who took BIOL 180 or 182 as the prerequisite. The data show a strong trend towards earning better grades when BIOL 180 and/or 182 is used as the prerequisite. A much larger percentage of those students received A's, fewer of them withdrew, and none failed.

BIOL 100



BIOL 180/182



	Total	%
A	144	13
B	344	30
C	237	21
D	79	7
F	65	6
I	1	0
W	278	24

Total	1148
Unique students	471

	Total	%
A	13	37
B	12	34
C	3	9
D	1	3
F	0	0
W	6	17

Total	35
Unique students	19

- c. How will your program use this information to improve student learning? If curriculum changes will be made (i.e. course outline, course description, course activities), please explain.

No curriculum changes will be considered until a larger BIOL 180/182 data set can be acquired. To improve student learning and success, student advisors will be informed of our results so that they may better counsel their students on course-taking decisions. Those eventually wanting admission into the nursing program, a very competitive process, will be encouraged to begin with BIOL 180/182 instead of BIOL 100. The benefits of the more in-depth courses will likely improve their chances of excelling in 200-level courses and, thus, improve their chances of getting accepted as a nursing student.

- d. What is your Timeline for Program Modifications or Response to Data?

No modifications will be considered until a larger BIOL 180/182 data set can be acquired. Student counselors will be contacted this summer so that students registering for Fall 2012 classes will be made aware of the potential benefits of opting for BIOL 180/182 over BIOL 100 if they need a biology prerequisite. Adding more sections of BIOL 180 and 182 will also be considered.