GBC Class/Course Assessment Report

Course Prefix, Number, and Title: BIOL190 (Cell & Molecular Biology)
Section Number(s): 1005, 1006
Department: Science
Instructor: Daniel Bergey

Academic Year: 2020-2021
Semester: SPR2021
Is this a GenEd class? Yes___ No_X_

☐ **Complete and submit your assessment report electronically to the Dean of Arts & Sciences by May 31st. As needed, please attach supporting documents and/or a narrative description of the assessment activities. You may use as many or as few outcomes as necessary.**

Class/Course Outcomes	Assessment Measures	Assessment Results	Outcome Results Analysis
In the boxes below, summarize the outcomes assessed in your class or course during the last year. If this is a GenEd class, include the appropriate GenEd objectives.	In the boxes below, summarize the methods used to assess course outcomes during the last year. Include the criterion you'll use to judge whether or not students have achieved the expected outcome.	In the boxes below, summarize the results of your assessment activities during the last year. Include your judgment as to whether or not the criterion for student achievement has been met.	In the boxes below, summarize how you plan to use the results to improve student learning.
Outcome #1: • Define life scientifically, and describe the scientific process.	Assessment Measure: • Weekly quizzes • Exams • Written reports Criterion for achievement: • Passing lab and lecture quizzes with 70% minimum score.	Results: • 4/4 students Criterion Met: Yes/No • Yes	Action Plan: • Continue with same general emphasis and instructional strategy. Illustrate concepts with examples of practical, real-world applications. Stress relevant concepts during lab sessions.
Outcome #2: • Describe the chemistry of living things, and define the roles of each type of organic molecule.	Assessment Measure: • Weekly quizzes • Exams • Written reports Criterion for achievement: • Passing lab and lecture quizzes with 70% minimum score	Results: • 4/4 students Criterion Met: Yes/No • Yes	Action Plan: • Integrate more examples of applications of chemistry and biochemistry in health science and medicine.

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Outcome #3: • Discuss the major sources of energy used by living systems, and describe the chemistry of energy metabolism.	Assessment Measure: • Weekly quizzes • Exams • Written reports Criterion for achievement: • Passing lab and lecture quizzes with 70% minimum score	Results: • 4/4 students Criterion Met: Yes/No • Yes	Action Plan: • Include specific examples of applications for health, medicine, nutrition, diagnostic procedures, and treatments.
Outcome #4: • Compare and contrast the processes of mitosis and meiosis.	Assessment Measure: • Weekly quizzes • Exams • Written reports • Brief student presentations to class Criterion for achievement: • Passing lab and lecture quizzes with 70% minimum score	Results: • 4/4 students Criterion Met: Yes/No • Yes	Action Plan: • Worksheets completed during lab sessions as group activity, with additional problems discussed and practical applications. • Brief video presentations on cell cycle, mitosis/meiosis, and cancer, followed by discussion before and after topic section.
Outcome #5: • Diagram a typical prokaryotic cell and eukaryotic cell; identify and discuss key functions for the different eukaryotic organelles.	Assessment Measure: • Weekly quizzes • Exams • Written reports Criterion for achievement: • Passing lab and lecture quizzes with 70% minimum score	Results: • 4/4 students Criterion Met: Yes/No • Yes	Action Plan: • Continue following the same instructional strategy.
Outcome #6: • Outline the flow of biological information, including DNA replication, transcription, and translation (protein synthesis).	Assessment Measure: • Weekly quizzes • Exams • Written reports Criterion for achievement: • Passing lab and lecture quizzes with 70% minimum score	Results: • 4/4 students Criterion Met: Yes/No • Yes	Action Plan: • Additional worksheet(s) to be completed in class as a group, with additional supplementary examples. • Short video summary both before and after topic section.

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Outcome #7:	Assessment Measure:	Results:	Action Plan:
• Explain the theory of evolution, and relate the significance of this theory in biology.	• Weekly quizzes • Exams • Written reports Criterion for achievement: • Passing lab and lecture quizzes with 70% minimum score	• 4/4 students Criterion Met: Yes/No • Yes	• Very satisfied overall with student understanding of key concepts and principles. • Assign written report & critical analysis of information and video presentations discussing evidence for Evolution vs. Intelligent Design. This report is a key component of the "critical analysis" skills I integrate into the course.

NOTES:

(1) BIOL190 is a core biological science course. Because it is a comprehensive overview of fundamental biological principles and processes, it a challenging course for instructors and students alike. This semester I only had only four students in the course by the end of the semester. This is the lowest enrollment, by far, that I've ever had in BIOL190. I expect this low enrollment to continue in future BIOL190 courses due to the elimination of BIOL190 as a pre-req course for health-science majors. Although I was able to have live labs this semester, the lectures were all on-line. Overall, the students kept up with the class, and worked well together when meeting during live labs once a week. Since the COVID restrictions were instituted last Spring (2020), I have become increasingly comfortable and proficient using on-line lecture format, out of necessity. But on-line teaching is never as effective, or fulfilling, as live classes with direct student access and interaction. The course went smoothly overall all semester, and a routine was established quickly (before week 3). I will continue to use some of the on-line tools I've been using even after live classes resume, hopefully this Fall 2021 (e.g., lecture recording, Respondus monitor, brief video reinforcement tutorials).

(2) In BIOL190, by the end of week 3 the students that are still registered for the course will very likely make it to the end of the semester. I have seen this trend since coming to GBC almost 5 years ago. *Only students that finished the entire course are represented in the report.*

(3) Overall, I am happy with the level of interest, participation, and effort from the vast majority of students. I continue to experiment with various strategies and approaches to continually improve my teaching effectiveness.

(4) I will very likely not be teaching BIOL190 at the Winnemucca Center again due to the anticipated low enrollment due to the health science pre-req switch from BIOL190 to BIOL100. BIOL190 is a core general biology course that covers the fundamental principles and processes that define living organisms. I put immense time and effort into designing, developing, and fine-tuning this core biology course, and am greatly disappointed knowing that I will very likely not be able to teach this course again at the Winnemucca Center.

I have reviewed this report:

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Department Chair Dean

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Date_____ Date_____

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Vice President of Academic Affairs and Student Services

Date_____