BIOL A020: MAKING CONNECTIONS IN CELL AND MOLECULAR BIOLOGY

Item	Value
Curriculum Committee Approval Date	11/04/2020
Top Code	040100 - Biology, General
Units	1 Total Units
Hours	18 Total Hours (Lecture Hours 18)
Total Outside of Class Hours	0
Course Credit Status	Credit: Non-Degree Applicable (C)
Material Fee	No
Basic Skills	Not Basic Skills (N)
Repeatable	No
Open Entry/Open Exit	No
Grading Policy	Pass/No Pass (B)

Course Description

This course complements BIOL A180 lecture and laboratory and will provide essential additional opportunities for students to develop study skills in cell and molecular biology. The curriculum is designed to improve critical thinking, content application, and science writing. Opportunities to work in a collaborative environment will also be provided in order to reinforce this aspect of scientific inquiry. Speakers from and/or field trips to visit laboratories from transfer institutions may be provided to allow students to see direct application of the skill set promoted in BIOL A180. This course will be the equivalent to the one hour study skills/discussion section that most four-year universities offer. COREQUISITE: BIOL A180. NOT DEGREE APPLICABLE. Not Transferable.

Course Level Student Learning Outcome(s)

1. Employ critical thinking to application problems in cell and molecular biology and propose plausible potential outcome.
2. Present, evaluate, and accurately interpret laboratory data that is generated in the field of cell and molecular biology.

Course Objectives

- 1. Understand, utilize, and express verbally and in writing information deemed basic by practicing molecular and cell biologists.
- 2. Demonstrate strategies for solving common problems in cell and molecular biology.
- 3. Recognize that the biological sciences involves a collaborative and inclusive global effort.

Lecture Content

1. Learning skills a. Problem solving b. Textbook utilization c. Test preparation d. Utilizing Biology tutorial material 2. Practicing basic biology skills a. Data analysis i. Data presentation ii. Graphing b. Foundational biological processes i. Verbal practice ii. Written practice 3. Exposure to the collaborative nature of science a. Scientists from local universities and/or industry to speak of their educational and professional expe riences (dependent on speaker availability)

Method(s) of Instruction

- Lecture (02)

Instructional Techniques

Lecture, problem solving , interactive demonstration, discussion, question and answer

Reading Assignments

Textbook and scientific articles (0.5 hour/week for 16 weeks)

Writing Assignments

Problem sets (2 hr/week for 16 weeks)

Demonstration of Critical Thinking

Problem sets and group discussion of data and application qustions.

Required Writing, Problem Solving, Skills Demonstration

Assignments will include written and oral explainations to questions in cell and molecular biology that require the use of their knowledge to apply to "what if" sitiuations, researching scientists, and data analysis.

Eligible Disciplines

Biological sciences: Master's degree in any biological science OR bachelor's degree in any biological science AND master's degree in biochemistry, biophysics, or marine science OR the equivalent. Master's degree required.

Textbooks Resources

1. Required Urey, L.A., Cain, M.L., Wasserman, S. A., Minorsky, P.V., Reece, J.B.. Campbell Biology, 11th ed. New York, New York: Pearson, 2016