Honolulu Community College
General Education – DIVERSIFICATION DESIGNATION
Certification and Recertification
Application Form
Spring 2012

APPLICANT: G. Witterman

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COURSE ALPHA and NUMBER: BIO 171

COURSE TITLE: Introductory Biology 1

ESTIMATED NUMBER OF SECTIONS:
Fall: 1
Spring: 1

APPLICATION IS FOR:
☐ New Course ☐ Modified Course ☒ X Existing Course ☐ Re-designation
☐ Certification ☒ X Re-Certification. Date of last certification:

DIVERSIFICATION AREA DESIGNATION SOUGHT:
☐ DA (Arts) ☐ DP (Physical Sciences)
☒ DB (Biological Sciences) ☐ DS (Social Sciences)
☐ DH (Humanities) ☐ DY (Laboratory)
☐ DL (Literature and Language)

What percentage of the CONTENT of this course focuses on this diversification area? 100

What percentage of CLASS MEETINGS focuses on this diversification area? 100
1. **Hallmarks and SLOs.** Please explain how course-specific SLOs align with the diversification area’s hallmarks.

The Biology 171 student learning outcome alignment with diversification hallmarks (DB1-3) is shown below. Note that most of the SLOs for this course address multiple diversification areas directly. As the first semester of a two semester introductory biology course for biology and science majors 100% of the course content for these courses (171, 171L, 172, 172L) use terminology of the biological sciences to describe knowledge and theories of the biological sciences and stresses that the ONLY way that biological sciences progress as disciplines are through application of the scientific method. Because of this, all of the courses in this biology series exceed the 2/3 requirement to qualify as biology “diversification” courses. This course series provides the foundation concepts necessary for students further study of biological organism or processes at the molecular through ecosystem level of organization. These courses are a required for Associates and Bachelor of Sciences degrees in Biology at all of the University of Hawaii campuses.

DB.1 uses the terminology of the biological sciences. All of the course SLO’s adress this diversification area. As this is the first-semester foundation biology course for majors, all language used to teach biology in the foundation biology course for biology majors necessarily must use the “terminology of the biological sciences”.

DB.2 involves knowledge and theories relating to processes in the biological sciences. All of the course SLO’s adress this diversification area. As this is the first-semester foundation biology course for majors, all knowledge and theories used to teach biology in this foundation biology course for biology majors necessarily must present “knowledge and theories relating to processes in the biological sciences”.

DB.3 demonstrates inquiry that is guided by observation/experiment and reasoning/mathematics. All course SLO’s rely on the scientific method as the foundation for any and all biological principle. As the scientific method is the only method of progress for natural sciences, steps of the scientific method (observation, hypothesis, test/experiment, theory supported by mathmatics and logic) are the foundation of all slo principles or topics.

Course competencies and Student Learning Outcomes
1. Explain the process and philosophical basis of scientific inquiry. State clearly that as a natural science all discovery and progress of biological disciplines must rely on the scientific method alone.
2. Distinguish between living things and inanimate objects.
3. Describe the classification of living things, the kinds of criteria used to classify them, and the formal protocol in naming them.
4. Describe the chemical architecture of living things and the functions of the major groups of biological molecules.
5. Describe the parts, their structure and functions, of cells, diversity of cell types, cell metabolism, cell communication, and cell division processes (mitosis and meiosis).
6. Solve problems in Mendelian genetics.
7. Describe the processes whereby genes are expressed as the characteristics of the whole organism.
8. Describe evolution as the unifying principle of biological science; and present the evidence
supporting evolution and natural selection.
9. Discuss current hypotheses/theories regarding the evolutionary process and the origins of life, eukaryotic cells, sexuality, and multicellularity.
10. Describe the characteristics, systematics, and biology of viruses, prokaryotes, protists, and fungi.

Note: 100% of the course content meets the three DB hallmarks.

2. **Assessment strategies.** Explain assessment strategies you have used (or plan to use) to measure the degree to which students exit the course with the course-specific SLOs. If there are multiple sections of the course taught by different instructors, please discuss how assessment is (or will be) carried out across instructors.

Lecture exams, active participation in class discussions, take-home and in-class quizzes and assignments. Students will demonstrate their mastery of all SLO's above in tests and exams, and during the course's lecture and discussions.

3. **Assessment of assessment.** How have you used (or plan to use) the assessment findings to modify or improve this course? If there are multiple sections of the course taught by different instructors, please discuss how review of assessment results is (or will be) carried out across instructors.

4. Instructors are provided with material and asked to follow the coverage and emphasis of topics in the U.H. system outline for this course. As the foundation for their degrees in biological sciences, and articulated/numbered/transferred between all campuses, every effort is made to insure that each topic is covered in appropriate detail (externally determined for consistency between all campuses). Every time the course is completed (after the semester) faculty will now be asked to assess their outcomes and compare to results to previous semesters. This assessment will be reviewed by permanent faculty and a summary will be put in the course/instructor materials for subsequent semesters if any changes and/or modifications to the course are necessary.
DIVERSIFICATION BOARD DECISION:

☑  Approved
  Re-Certification Due: Spring 2018

☐  Not approved
  If not approved, reasons for disapproval:

Diversification Board Chair Signature: [Signature]
Date: 2/18/13