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

APPLICANT: G. Witteman

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COURSE ALPHA and NUMBER: AG 100

COURSE TITLE: Introduction to Agricultural Sciences

ESTIMATED NUMBER OF SECTIONS:
Fall: 1
Spring:

APPLICATION IS FOR:
☒ New Course  ☐ Modified Course  ☐ Existing Course  ☐ Re-designation

☐ Certification  ☐ 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.

Agriculture 100 course student learning outcome alignment with diversification hallmarks (DB1-3) is shown here. Note that most of the SLOs for this course address multiple diversification areas directly. For example, Course SLO number 1 “Use the principles of scientific inquiry...” addresses DB.1 and DE.2 as well as DB.3 where it is placed. (The course has seven primary SLOs numbered 1-7 below).

DB.1 uses the terminology of the biological sciences. The course SLO’s addressing this area are:

4. Identify the factors that affect crop production including plant growth and development and the contribution of climatic, environmental, and edaphic factors.
5. Demonstrate an understanding of the importance of natural resource management in sustainable agricultural development.

SLO 4 and 5 require a familiarity of terms and vocabulary of the biological sciences because plants are living creatures they respond to certain stressors. Language involving nutrients and how it affects plant growth and how the plants change the environment including other living creatures therein are part of the discussion. These points show that these SLOs match the hallmark.

DB.2 involves knowledge and theories relating to processes in the biological sciences;

2. Explain the principles, concepts, applications, and inter-relations of biology, chemistry, soil science, and mathematics as they apply to natural and agrarian "crop-based" ecosystems.
3. Describe the principles of horticulture and the sustainable production of fruit, vegetable, and ornamental crops in the tropic.

SLO 2 directly states that biology will be applied to agriculture. Also, SLO 3 deals with how plants grow in a specific environment (tropical) and with specific techniques (sustainable). These concepts involve many process in the testing of growing of plants which is covered under the realm of the biological sciences. Due to all these facts, these SLOs fit the hallmark.

DB.3 demonstrates inquiry that is guided by observation/experiment and reasoning/mathematics.

1. Use the principles of scientific inquiry to describe, analyze, solve, and report on scientific problems involving tropical plant science and related fields
2. Explain the principles, concepts, applications, and inter-relations of biology, chemistry, soil science, and mathematics as they apply to natural and agrarian "crop-based" ecosystems.

SLOs 1 and 2 directly state that scientific reasoning and mathematics are used in this course. This clearly shows that the hallmark is fulfilled by these SLOs.

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.
Student deliverables include: Lecture exams, active participation in class discussions, two research reports.

There is formal feedback in terms of formative assessments during the lecture and summative tests. Classroom discussion sessions are the basis for formative feedback and assessment. These formative assessments are a part of the course grade and require students to demonstrate an ability to articulate and apply the scientific method and principles of biology (SLO 1 and 2, DB.3) in the first half of the course. In the second half of the course students will have to demonstrate knowledge of the principles and history of agriculture in Hawaii using proper terminology (SLO 4, 5, and 3, DB.1 and DB.2). Both summative and formative assessments also provide instant feedback to the instructor to see if the students understand the material.

The summative tests will largely be multiple choice. The test questions are based off of the SLOs, for instance some of the terms in the scientific method are directly tested. There are various types of multiple-choice questions that are used in assessment. For instance, some questions simply test knowledge like in defining the terms in the scientific method. Also, there are questions based off of evaluations to determine if an agriculture system is in fact sustainable. Also there are various other types of questions like comparative questions between different theories, application type problems for environmental impact of agriculture, etc.

Students also have to present two research reports. These reports will test to see if the students understand the “big picture” aspects of sustainable agriculture.

At the end of the term, course evaluations are passed out where the students can assess the course instructor and content. The student evaluations give direct feedback to the course. There is only one instructor teaching this course per term.

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.

At the completion of the grant period funding tuition-free offering of this course, materials and teaching strategies reports will be available to subsequent faculty teaching this course. (Assessment – change – improvement cycle rationale and reporting are stated in the grant funding the development of this course).

At the completion of the grant funding (2014), maintaining course and assessment materials will become the responsibility of full-time biology faculty. As this course will be taught once a year, instructors will be asked to provide a brief summary of recommendations for modifications to instructional materials and an evaluation of student interests in current-topic and history portions of the course. These instructor assessments will be reviewed by full time faculty and then included in the materials maintained and given to current and new instructors of this course. Any changes to the course that are the result of faculty review will be documented in the materials maintained for this course.
DIVERSIFICATION BOARD DECISION:

☑ Approved
Re-Certification Due: Spring 2017

☐ Not approved
If not approved, reasons for disapproval:

Diversification Board Chair Signature: Jennifer WegaKing
Date: 4/17/12