Part 1: To be completed by course coordinator.

(1) What GELO(s) were assessed for the course during the AY?

GELO 2: Students will be able to distinguish science from pseudo-science

GELO 3: Ability to apply a scientific approach to answer questions about the earth and environment.

(2) What were the results of the assessment of this course? What were the lessons learned from the assessment?

GELO 2 was assessed among 124 students using 2 embedded questions on exams based on lecture material and one question presented and discussed with students in class.

For the exam questions, one question asked students to answer true or false to the following: “An important step in the pattern of scientific reasoning involves the gathering of anecdotal evidence.” Among all students, 63% answered the question correctly. Some students were confused by the word “anecdotal” which may have contributed to their incorrect answer. The second question asked students to answer true or false to the following: “Absolute safety cannot be proven.” Almost all students (97.7%) answered this question correctly.

In class, students were given a pre-post test to determine whether they agreed, were neutral, or disagreed with the claim that “Vitamin C can cure the common cold.” After class discussion of this claim, most, but not all students stated that they were either neutral or that they disagreed with this statement (even though they had agreed with the statement prior to class discussion). However, some business/marketing students still agreed with this statement, feeling that it was legitimate to make claims that were not backed up by science and would qualify as pseudo-science.

These activities indicated that for the most part, the majority of students were able to distinguish science from pseudo-science. However, others found challenging to make this distinction, depending on the question that was asked (and their understanding of the question) and their own personal biases. To improve this understanding, the instructor will be taking more time to explain these concepts to students in class. The instructor also plans to have students work in small groups on problems in class.

GELO 3 was assessed among 59 students using the following embedded exam questions. (The correct answer is in bold.)

1) Which physical principle underlies the start of tooth decay, lead in orange juice stored in a lead-glazed pitcher?
   a. Minerals are not easily destroyed
   b. Minerals can be dissolved in acidic solutions (84% answered the question correctly)
   c. Minerals can form charged particles
   d. Minerals contain electrons

2) Natural toxins in seafood and mushrooms can always be eliminated by high temperature cooking. T or F (98% answered the question correctly.)
3) RDA and UL are good examples to explain dose-response relationship. The major differences between DRI (Dietary Reference Intake) and RDA is that DRI considers Tolerable Upper Intake Level (UL). Choose a proper definition for UL from the following:

a. A nutrient intake value that is estimated to meet the requirement of half the healthy individual in a group.

b. The average daily dietary intake level that is sufficient to meet the nutrient requirement of nearly all healthy individuals in a group.

c. A recommended daily intake level based in observed or experimentally determined approximations of nutrient intake by a group of healthy people.

d. The highest level of daily nutrient intake that is likely to pose no risk of adverse health effects to almost all individuals in the general population. (80% answered the question correctly)

(3) What modifications to the course, or its assessment activities or schedule, are planned for the upcoming year? (If no modifications are planned, the course coordinator should indicate this.)

There are no modifications to the assessment schedule planned for the upcoming year. However, the instructor will be working with the new GE coordinator, Dr. Freedman, to discuss ways to further enhance student learning of these GELOs.

Part 2: To be completed by the department chair (with input from course coordinator as appropriate):

(4) Are all sections of the course still aligned with the area Goals, Student Learning Objectives (GELOs), Content, Support, and Assessment? If they are not, what actions are planned?

Yes, all sections are still aligned with the area goals, GELOs, Content, Support and Assessment. There is a single instructor for this course so that there are no differences between sections.