General Education Annual Course Assessment Form

Course Number/Title NUFS 115 Issues in Food Toxicology GE Area ______ R __________

Results reported for AY 2016-2017 # of sections 2 each semester # of instructors 1 __________

Course Coordinator: Dr. Ashwini Wagle E-mail: ashwini.wagle@sjsu.edu

Department Chair: Ashwini Wagle College: CASA __________

Instructions: Each year, the department will prepare a brief (two page maximum) report that documents the assessment of the course during the year. This report will be electronically submitted to <curriculum@sjsu.edu>, by the department chair, to the Office of Undergraduate Studies, with an electronic copy to the home college by October 1 of the following academic year.

Part 1

To be completed by the course coordinator:

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

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 3 was assessed among 121 students over Fall 2016 (61 students) and Spring 2017 (60 students) using the following embedded exam questions, and discussion questions.

1. Students need to comment on the safety of a medicine (or a food additive) based on dose-response curves.

A scenario similar to toxicology assignment was given in the final exam. Blood thinner A was tested in rabbits. Two sets of dose-response data were obtained: one set was the dose vs. effective response of the blood thinner A and the other set was the dose vs. toxic response of blood thinner A. Students should calculate cumulative % response and plot dose vs. cumulative % response for both effective response and toxic response. Students then should comment on whether this blood thinner should be recommended to general public.

Number of students assessed: 121

(1) Calculate % cumulative response and plot dose-response curves:

Number of students answering the question 100% correct and partially correct (minor problems on calculation and drawing the curves): 115 (95%)

Wrong calculation or drawing the curves: 6 (5%)

(2) Recommendation (and explain the reasons behind recommendations):

Number of students answering the question 100% correct and partially correct (minor problems on explaining the comparisons of the two curves): 98 (81%)


Wrong or no explanation on their recommendation: 23 (19%)

This result indicated that majority of students knew how to plot % cumulative response curves. However, a small group of students were not able to explain the dose-response curves.

Number of students meeting GELO3: 98 (81%)

2. **RDA (Recommended Dietary Allowance) and UL (Tolerable Upper Intake Level) of vitamins and minerals are determined by large-scale dose-response studies (the application of dose-response relationship).** Here is a multiple-choice question to test the definition of UL:

The major difference 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.

Answer = d

Number of students assessed: 121
Number of students meeting GELO3: 106 (88%)

3. **Discussion on preventing foodborne illness**

T or F: Natural toxins in seafood and mushrooms can always be eliminated by high temperature cooking.
Answer = F

Number of students assessed: 121
Number of students meeting GELO3: 101 (83%)

4. **Students learned that acids can dissolve minerals.** This applies to the damage of coral reef in ocean due to acidification of sea water, and the storage of acidic juice in lead- or cadmium- glazed pitcher which may cause acute lead or cadmium toxicity if drinking the juice.

Multiple choice: 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.
c. Minerals can form charged particles.
d. Minerals contain electrons.

Answer = b.

Number of students assessed: 121
Number of students meeting GELO3: 95 (78.5%)
5. **Students learned the pathways of industrial contaminants entering human food supply.**

Multiple choice: According to Science Daily News on 12/16/2014, a study was conducted to trace how nanoparticles move and potentially biomagnify in human-relevant food chain. What is biomagnification?

a. the maximum values possible for observing living organism under a microscope
b. process which retained substance become more concentrated with each link in a food chain
c. trend that more complex biological organisms tend to look larger

**Number of students assessed:** 121

**Number of students meeting GELO3:** 116 (96%)

(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 is worked with the GE coordinator and Department Chair Dr. Wagle, 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.

(5) If this course is in a GE Area with a stated enrollment limit (Areas A1, A2, A3, C2, D1, R, S, V, & Z), please indicate how oral presentations will be evaluated with larger sections (Area A1), or how practice and revisions in writing will be addressed with larger sections, particularly how students are receiving thorough feedback on the writing which accounts for the minimum word count in this GE category (Areas A2, A3, C2, D1, R, S, V, & Z) and, for the writing intensive courses (A2, A3, and Z), documentation that the students are meeting the GE GELOs for writing.

NUFS 115 Issues in Food Toxicology has an enrollment cap of 30 students per section. This class has been taught by a single instructor who teaches two sections every semester and has done so for over a decade. The total number of students for the AY 2016-2017 was 121 students with an average of 60.5 students per semester (61 in Fall 2016 and 60 in Spring 2017). The number of students is appropriate for an Area R course with a rigorous 3000 words writing requirement and has not made any difference in terms of oral evaluations, or writing. Instructor has used consistent rubrics to grade assignments over the two semesters and feels that she can provide consistent and constructive feedback to students.