LIFE SCIENCES

HOW ARE WE USING THE RESULTS OF ASSESSMENTS TO MAKE CHANGES?

1. What courses/certificates/programs have you assessed this past year?

Biology 33 – Medical Terminology (Spring 11)

2. Summarize the analysis of your assessment results for courses in your area.

Anatomy 1 (Fall 08)
Many of the students had difficulty with the proper spelling of words. Instructors should place more emphasis on the underlying structure of anatomical terminology, including increased focus on common prefixes, suffixes and roots. The results support the general distribution of grades in Anatomy 1 over a ten year period.

Anthropology 101 (Fall 10)
It was apparent from the analysis that the majority of students were able to clearly articulate specific facts and maintain a logical progression of thought in their essays. Some were more capable of doing so than others, yet even those who received the lowest scores demonstrated a certain level of academic capability.

The curriculum itself does not need modification. If any changes were to be made, perhaps it would be to offer expanded services and assistance at the writing labs, to better support those students who need to develop greater competence in verbal expression.

Anthropology 102 (Fall 10)
Students varied in their ability to write a compare and contrast paper but were able to express factual details of the different roles of religion and kinship/family systems among different cultures. There is a need to assist students in the drafting of a simple in-class three-part essay.

Anthropology 104 (Fall 10)
It seems clear from the test responses, homework assignments, and this essay, that students taking this class are much better at focusing on the details and definitions (phonemes; morphemes; syntax, etc.), than on the general concepts. I can see that it will be necessary to more explicitly and frequently relate the details back to these concepts throughout the course. Based on overall course work, and a final discussion the last day of class, I do believe that the students have a greater grasp on the complex relationships between language, culture, and social life.
Anthropology 121 (Fall 10)

When provided with a guideline for essay structure, even those students who are weak in the subject at hand can pull their thoughts together for presentation. Students do need more guidance in essay writing as a whole.

Biology 3 (Spring 09)

Overall, the student groups performed better than expected. Students performed least effectively on the experimental design problem of the evaluation, which demanded them to stretch beyond the simple procedures taught during the semester to experimental design itself. Groups also had some difficulty with the proper definition of a control group. Instructors will place more focus on experimental design and the components of an experiment will be a focus of the new custom lab manual being prepared.

Biology 6 (Spring 10)

The percentage of students who explained the Review Article and principles accurately, earning the higher scores of 4 or 3, was 64%. This is slightly less than the success rate of students in Biology 6 (earning an A, B or C) over the past five years. Increasing the number of students who respond accurately will be increased by using more classroom time to review the components of a properly designed experiment, including the use of a control group.

Biology 7 (Fall 10)

Students were able to respond much more clearly in the opinion format of this evaluation than in the argumentative format of the Biology 6 evaluation. Overall, most of the students were able to write a cohesive essay that carefully analyzed the facts of the case.

Biology 33 (Spring 11)

Majority of the students did well. Each student’s score was consistent with his/her previous quiz performance. The results support the general distribution of grades in previous years’ Medical Terminology classes. Writing out and correctly spelled medical terms remain the most difficult portion of the quiz. Repetitious practices in building and writing of the terms are recommended.

Physiology 1 (Spring 2010)

The number of students who explained a mechanism accurately, earning a score of 4 or 3, was 71%. This is closely correlated with the success rate of students in Physiology 1 (earning an A, B or C) over the past five years. Increasing the number of students who respond accurately could be increased by employing exercises on writing cohesive responses to essay questions and by emphasizing the underlying nature of homeostatic mechanisms during the course.

3. How have the results of your assessments been shared and discussed among the members of your program? (Provide dates and minutes of meetings or transcript of online discussion)

All discussions regarding the establishment of SLO’s and their assessments have been conducted on a class-by-class basis with the faculty teaching those courses. There are no records of these discussions or meetings as they were not maintained during the process.
4. **How have the results of your assessments been shared and discussed with members of your advisory committee (if vocational program)?**

N/A

5. **Based on the discussion and analysis of your assessment results, what changes have you made or plan to make (provide dates, description of changes, and person responsible).**

Minor changes have been made to the amount of time devoted to different areas in each of the Life Science courses that have been assessed. In some cases a change of text has occurred, while in other cases the amount of writing required by students has increased. For the Biology 3 course, full-time and adjunct faculty have been involved in the development of a new lab manual that is more user-friendly and focuses more on the process of science rather than simple facts.

6. **What is your assessment plan for the program and courses for the upcoming program review period? Provide dates, SLO(s) to be measured, means of assessment, and person to be responsible.**

Faculty in each discipline will be modifying SLO’s for each course as needed, including adding additional SLO’s specific to the course. The following is the assessment plan for programs and courses in the Life Sciences:

**Anatomy 1** (Fall 12) – Mike Reynolds with adjunct faculty

Students will identify and name different structures of the human body by naming them on visual presentations.

Students in all Anatomy 1 sections will be given a short 15-question quiz at the end of the semester in which different cells, tissues and organs of the human body must be identified.

**Anthropology 101** (Spring 13) – Mike Reynolds and Dr. Arthur Gribben (Vice-Chair) and adjunct faculty

Students will explain and analyze the major environmental and biological events of the past that lead from early primates to the emergence of Homo sapiens/modern man.

Working from a list of major critical events in the evolution of Homo sapiens, students will write a cohesive essay describing the significant changes in transition on form and/or function in the evolution of man. List may include: Role of the Great Rift Valley in East Africa for evolution of the hominids; The plausibility of the “Savannah Hypothesis” for bipedality; Significance and consequences of the exodus of the first anatomically modern humans from Africa.

**Anthropology 102** (Fall 13) - Mike Reynolds and Dr. Arthur Gribben (Vice-Chair) and adjunct faculty

Students will explain the different roles that religion, gender, or kinship/family systems play among different cultures.
Students will write a cohesive essay comparing and contrasting the different roles that religion, gender and kinship/family systems play among different cultures. Working from a list of major topics in Cultural Anthropology, students will write a cohesive essay explaining important issues arising from these topics. Topics may include: The cultural construction of race; Religion and worldview; Population pressure and cultural evolution; Influences on kinship systems; Globalization and the consequences of development.

**Anthropology 104** (Fall 13) - Mike Reynolds and Dr. Arthur Gribben (Vice-Chair) and adjunct faculty

Students will explain how languages are complex, diverse, and systematic; how all human languages and dialects are equally functional and complex forms of communication; and how language plays a vital role in human social life and culture.

Students will write an essay written on the following three issues: How languages are complex, diverse, and systematic.

**Anthropology 121** (Fall 13) - Mike Reynolds and Dr. Arthur Gribben (Vice-Chair) and adjunct faculty

Students will compare and contrast religion & belief systems within the context of culture.

The assessment tool was a short three-issue essay describing and explaining some of the main scholarly approaches to the study of religion. Students wrote a cohesive essay describing some of the main scholarly approaches to the study of religion. Examples included: the Evolutionary approach; the Marxist approach; the Functional approach; the Psychosocial approach. A total of 62 students were assessed.

**Biology 3** (Spring 12) – Dr. Steve Brown and adjunct faculty

Students will work together as a team to answer questions to a standard laboratory final exam with five different questions including: metric measurement, use of the microscope, analysis of the pH of an unknown sample, determine the presence of a biological macromolecule in an unknown sample, and determine the presence of absence of a digestive enzyme.

The assessment tool consisted of five multi-part questions related to the concepts described in the SLO. Students worked in groups not to exceed four students. All necessary equipment and supplies were provided. Although all 14 sections of Biology 3 completed the assessment, a random sample of 16 student groups was assessed with the names of students and instructors blinded to the evaluators.

**Biology 6** (Spring 13) – Mike Reynolds and Dr. Steve Brown

Students will explain the important concepts and critique the experimental design of a study presented in a primary periodical.

Students select an article from a primary biomedical journal and write a short paper in which they analyze the experimental design and explain the underlying biological principles.

**Biology 7** (Fall 13) – Mike Reynolds and Dr. Steve Brown

Students will critically analyze controversial issue in contemporary ecological biology.

Students select are given an article related to a controversial issue in ecological biology and directed to write a short essay explaining their point of view on the issue.
**Biology 33** (Spring 14) – Mike Reynolds and Dr. Wakana Saeki and adjunct faculty

Students will identify components of medical terms, determine their meanings, and utilize them in the appropriate context.

Students are given a 50 point Quiz in which they are required to do the following: 1) Write and spell correct medical terms using fill in the blank format; 2) Pair the appropriate medical abbreviations and their definition together using matching format; 3) Answer questions regarding medical terms using both multiple choice and true/false format.

**Biology 40** (N/A)

Biology 40 will be discontinued and replaced by a new course: Biology 110 – Genetic Analysis and Biotechnology in the Fall of 2012. The course will only be able to be assessed once there is sufficient FTEF to offer the course in some future semester.

**Environmental Science 2** (Fall 12) – Mike Reynolds, PACE Director and PACE adjunct faculty member

This course will be assessed in Fall 12 in coordination with the PACE Director and the adjunct faculty member teaching the course for PACE that semester.

Students will read a contemporary article on a controversial issue in environmental science then write a short essay analyzing the biological principles involved while proposing a practical solution.

Students will read an article on a controversial issue in environmental science and write a 1-page essay. It should include: understanding the issue, recognizing the controversy, explaining its significance and proposing a solution.

**Microbiology 20** (Spring 12) Dr. Angela Echeverri and Dr. Steve Brown

Students will explain the biological basis of a contagious disease.

Students will create a pamphlet on a specific contagious disease in a format that will be understandable by a typical patient in a doctor’s office.

**Physiology 1** (Spring 13)

*Students will* explain a fundamental homeostatic process of the human body and how they are controlled by the endocrine and/or nervous systems.

Students were given the following question with loose-leaf paper to respond: Homeostasis is a central theme in physiology. This process involves the maintenance of a “steady state” of numerous variables in the body. Select one of the following and describe how the body controls the variable within a normal range: 1) Glucose level; 2) Blood pressure; 3) N-wastes and salt/water balance

**Written responses to these questions are due by December 2, 2011. These answers will be important evidence for accreditation.**