MEMO

TO: Program Review Committee
FROM: Frank Percival, Biology Department Chair
RE: Assessment Report
DATE: January 27, 2006

I. Overview

As you recall, the Biology Department is about one year behind in the development of our program review procedures. We submitted a plan for program review in September, 2005, and we received notification that our proposal had been approved on December 30, 2005. During the Fall, we began to collect evidence of student learning, and we will be continuing that process during this semester. We are looking ahead to reviewing the data during the beginning of Mayterm with an eye toward submitting our annual report in June, 2006.

II. Review of Departmental Goals

A. Goal #1. Students in the Biology major grow in their understanding of life processes at different levels of structural organization.

1. We would like to be sure that our students are conversant with concepts and details in Biology at the cellular/molecular, the organismal, and the population levels. This is a discipline-specific goal.

2. Our plan for measuring student performance related to this goal is to administer the Educational Testing Service’s Major Field Test in Biology to samples of our first year students and our graduating seniors. We are working toward accomplishing this task during the current semester in order to have data by our May meetings.

3. Since this will be the first year we will be administering the test, the data we obtain will serve as the beginning points of a longitudinal study of our students’ mastery of biological material. We will be able to compare our students’ performance on the instrument to that of students nation-wide, and, of course, we expect that graduating seniors will do better than the first year students.

B. Goal #3. Biology students will be able to present the results of scientific research through written research reports, oral presentations and scientific posters.
1. Communicating the results of a scientific study effectively is as important a skill as being able to carry out the study itself. We want our students to be proficient in a variety of models of scientific communication. The competencies they develop in this area are also addressed by the institutional goals, Critical-Interdisciplinary Thinking, Written and Oral Communication, and Research and Technology.

2. This is a goal for which we need to develop our evaluation methods. We have been collecting examples of student work during this academic year. These will include research reports, powerpoint files from oral presentations, and scientific posters prepared as powerpoint slides. We will review a sample of these pieces of student work in May with an eye toward developing a set of criteria that can be used, both in future assessment meetings and in the instruction we give our students.

C. Goal #4. Students will be able to identify and describe a wide range of controversies, positions, and approaches to the interdisciplinary and theological implications of biological theory. Advanced students will be able to assess the way in which their own understanding of these issues has developed over the course of their study, and to consciously reflect on how they deal with ambiguity.

1. We want to see our graduates developing a sophisticated understanding of the interdisciplinary issues that arise from biological investigation so that they in turn might be a force for thoughtful and respectful dialogue concerning these issues in the broader culture. Learning in these areas also involves growing in the areas describe by the institutional goals, Christian Orientation, Critical-Interdisciplinary Thinking, and Active Societal and Intellectual Engagement.

2. Last Fall in Biology 6, the second semester of our introductory sequence, and this semester in Biology and Faith, an upper division seminar course, students were given a survey at the beginning of the course to determine their views on the creation-evolution controversy as well as on issues of faith and science in general. The survey is given again at the end of the course as a way of seeing how the students’ perspectives changed as a function of engaging the course material. The results from these surveys will be reviewed in our May meetings.

3. We will need to discuss how to interpret this first set of data when we meet in May. You would predict that there would be some change in perspective as a result of participating in the class activities in both courses, and one would expect a greater level of sophistication from the older students.