



Department of Psychology
492 Bluemont Hall
1100 Mid-Campus Drive
Manhattan, KS 66506-5302
785-532-6850
Fax: 785-532-5401

May 16, 2005

TO: Michael Kanost *Biochemistry*
FROM: College Assessment Review Committee (CARC)
RE: Assessment Plan

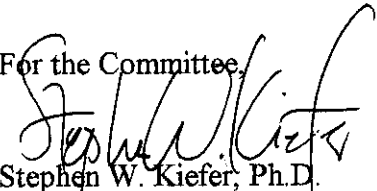
The College Assessment Review Committee has examined your revised undergraduate assessment plan and it has been approved.

We might suggest that you seriously think about assessing some course in addition to your capstone course. This might provide you with a broader view of your students' performances.

Please note that each department will be responsible for filing a progress report which will be due March 1, 2006 in the Dean's Office. As has been true throughout this process, the members of CARC (Stephen W. Kiefer, Psychology; Kathleen King, Art; Cia Verschelden, Women's Studies; Anne Phillips, English; and Kelly Liu, Geology) are willing to consult with your program on the assessment process.

If you have any questions, feel free to contact me.

For the Committee,


Stephen W. Kiefer, Ph.D.
Professor and Head, Department of Psychology


Dean Stephen White, College of Arts & Sciences

cc: Patricia Marsh, Planning and Assessment

**Template
Degree Program
Assessment of Student Learning Plan
Kansas State University**

- Check the box if your program's student learning outcomes have been modified since November 2003. If so, please email (apr@ksu.edu) or attach a hard copy to this document.

A. College, Department, and Date

College: *Arts and Sciences*
Department: *Biochemistry*
Date: *3/10/2005*

B. Contact Person(s) for the Assessment Plans

Michael R. Kanost
Professor and Head

C. Degree Program

B.S./B.A. Biochemistry

D. Assessment of Student Learning Three-Year Plan

1. Student Learning Outcome(s)

[Insert at least 2-5 learning outcomes that will be assessed by the unit over the next three years. Each unit will select which of its learning outcomes to assess.]

- 1. Graduates from the Biochemistry program will have demonstrated understanding of the structures and functions of biological molecules.*

- 2. Graduates from the Biochemistry program will have demonstrated ability to use computers as information and research tools.*

Special rationale for selecting these learning outcomes (optional):

[If applicable, provide a brief rationale for the learning outcomes that were selected]

None

Relationship to K-State Student Learning Outcomes (insert the program SLOs and check all that apply):

Program SLOs	University-wide SLOs (Undergraduate Programs)					Program SLO is conceptually different from university SLOs
	Knowledge	Critical Thinking	Communication	Diversity	Academic / Professional Integrity	
1. understanding of the structures and fundamentals of biological molecules.	X	X	X			
2. Ability to use computers as information and research tools	X	X				

Program SLOs	University-wide SLOs (Graduate Programs)			Program SLO is conceptually different from university SLOs
	Knowledge	Skills	Attitudes and Professional Conduct	
1.				
2.				
3.				
4.				
5.				

2. How will the learning outcomes be assessed? What groups will be included in the assessment?

The learning outcomes will be assessed by a department assessment committee. Biochemistry majors enrolled in the capstone courses (BIOCH 755/765) and graduating seniors will be assessed.

- Understanding of the structures and functions of biological molecules.

1: This outcome will be assessed by examination of a portfolio of work done by biochemistry majors in the capstone courses (BIOCH 755/765) that are taken by all biochemistry majors. We will evaluate competence in this outcome based on (A) answers exam questions relevant to structure and function of biological molecules; and (B) a writing assignment that specifically addresses understanding and analysis of protein structure and function. [direct measure] A rubric will be developed for assessing the writing assignment.

2. A senior exit interview will specifically address the question of biochemistry majors' view of their understanding of structures and functions of biological molecules. [indirect measure]

3. The Education and Professional Development Committee of the American Society for Biochemistry and Molecular Biology is in the process of developing assessment tools for use in biochemistry undergraduate programs. As these become available we will evaluate whether they may be useful in our assessment of this and other learning outcomes.

- Ability to use computers as information and research tools

1: This outcome will be assessed using an online survey, to be answered by biochemistry seniors during April of each year. The survey will incorporate a series of questions to assess the students' level of experience and knowledge related to a variety of uses of computers in biochemistry (sequence and structure databases, searching and retrieval of biochemical literature, molecular graphics software, statistical analysis and graphing software, word processing and slide presentation software). [indirect measure]

2: A writing assignment in the capstone course BIOCH 755, which requires use of a variety of computer resources (database and literature searching, molecular graphics, word processing) will be evaluated to assess the competence of biochemistry majors in this learning outcome [direct measure]. A rubric will be developed for assessing use of computers in the writing assignment.

3. When will these outcomes be assessed? When and in what format will the results of the assessment be discussed?

[Briefly describe the timeframe over which your unit will conduct the assessment of the learning outcomes selected for the three-year plan. For example, provide a layout of the semesters or years (e.g., year 1, year 2, and year 3), list which outcomes will be assessed, and which semester/year the results will be discussed and used to improve student learning (e.g., discussed with faculty, advisory boards, students, etc.)]

These two outcomes will be assessed by the department committee in the spring/summer of 2006 (based on Fall 05/Spring 06 academic year), 2007 (2006/2007 academic year), and 2008 (2007/2008 academic year) after completion of the fall/spring capstone courses (BIOCH 755/765). The results of the assessment will be discussed at a biochemistry department faculty meeting early in the fall of those years.

During the 2005-2006 academic year an assessment plan will be developed for two additional student learning outcomes:

- understanding of intermediary metabolism and its control.
- understanding of molecular genetics.

4. What is the unit's process for using assessment results to improve student learning?

[Briefly describe your process for using assessment data to improve student learning.]

Each of the six faculty members teaching in the capstone courses (BIOCH 755/765) provides copies of exams used in the courses to all other members of the department.

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and analysis of the performance of biochemistry majors in the course. This provides an ongoing overview of student learning in those courses.

The assessment committee's data on student competence in the selected learning outcomes will be discussed at a faculty meeting devoted to assessment. If areas of weakness are identified, a committee will be appointed to plan appropriate changes in curriculum and course content to address the problems. The faculty will meet again to discuss, revise as needed, and implement the committee's recommendations.