Form E-1-A for Boston College Departments/Programs

Department/Program  Biochemistry  2016

1) Have formal learning outcomes been developed? What are they? (What specific sets of skills and knowledge does the department expect its majors to have acquired before they graduate?)

Learning Outcome I
Senior Biochemistry Majors will be able to demonstrate an understanding of fundamental biochemical principles, such as the structure/function of biomolecules, metabolic pathways, and the regulation of biological/biochemical processes.

Learning Outcome II
Biochemistry Majors will gain proficiency in basic laboratory techniques in both chemistry and biology, and be able to apply the scientific method to the processes of experimentation and hypothesis testing.

Learning Outcome III
Students in the Biochemistry Major will be able to apply and effectively communicate scientific reasoning and data analysis in both written and oral forums.

Learning Outcome IV
Students in the Biochemistry Major will understand and practice the ethics surrounding scientific research.

2) Where are these learning outcomes published? Be specific. (Where are the department’s learning expectations accessible to potential majors: on the web or in the catalog or in your department major handouts?)

A link to these Learning Outcomes are provided on the webpage for the Biochemistry Major (http://www.bc.edu/schools/cas/biochemistry/learning-outcomes.html)

3) Other than GPA, what data/evidence is used to determine whether graduates have achieved the stated outcomes for the degree? (What evidence and analytical approaches do you use to assess which of the student learning outcomes are being achieved more or less well?)

Faculty members who teach advanced courses within the Biochemistry Major, in addition to assigning grades, will assess students’ knowledge of the basic concepts of biochemistry as outlined in the learning outcomes, using the rubrics appropriate to these outcomes.

Senior Biochemistry Majors will complete a survey immediately prior to graduation to provide a self-assessment of their knowledge on the fundamental principles of biochemistry as well as their sense of preparedness for their chosen paths upon graduation.
4) Who interprets the evidence? What is the process? (Who in the department is responsible for interpreting the data and making recommendations for curriculum or assignment changes if appropriate? When does this occur?)

Faculty members who teach advanced courses within the Biochemistry Major will share the quantitative rubric scores with a committee of Interdepartmental faculty. This committee will analyze the survey findings and rubric scores and discuss opportunities to improve student learning through the curriculum based on the findings of the analysis. The committee will then generate an action plan for improving student learning.