

Biochemistry and Molecular Biology Assessment Plan

Measure ID	Description of the measure.
DIR-1	average score on the American Chemical Society General Chemistry exam
DIR-2	average score on the American Chemical Society Organic Chemistry exam
DIR-3	evaluation of spring seminar CHEM 4185 presentations
DIR-4	Grades in a desired WRIT 3XXX course tailored to students majoring in Biochemistry & Molecular Biology or Chemistry. This course does not yet exist.
DIR-5	grades on Biochemistry lab CHEM 4363 presentations
DIR-6	evaluation of students' presentations in Physical Biochemistry CHEM 4373
DIR-7	average score on CHEM 4352 Biochemistry final exam
DIR-8	critical review of sample work collected in the Biochemistry lab CHEM 4363
DIR-9	List of major instruments used in the physical chemistry laboratory, as a measure of students' experience using current tools.
DIR-10	BMB majors' average score on the American Chemical Society Analytical Chemistry exam. This measure will be evaluated for possible future implementation.
DIR-11	An assessment with controls of work in Physical Biochemistry Lab, CHEM 4374, has been designed and will be implemented.
IND-1	Annual (summer, fall, spring) number of students involved in research through UROP, UGRA and SURP.
IND-2	Annual (summer, fall, spring) number of registrations in undergraduate research CHEM 3194.
IND-3	Annual (summer, fall, spring) number of undergraduate student co-authors on published research papers and abstracts.

	Direct Measures (Course Embedded)	Indirect Measures
	Data for direct measures will be collected every year. For measures marked spring, collection begins Spring 2010. For measures marked fall, collection will begin fall 2010.	Data for indirect measures will be collected every year beginning spring 2011.

Program Outcomes		CHEM 1152	CHEM 1162	CHEM 2542	CHEM 4185	CHEM 4352	CHEM 4363	CHEM 4373	CHEM 4633	WRIT 3XXX	Other 1	Other 2	Other 3
Students earning the degree will have acquired a fundamental knowledge base in the major sub-disciplines of Biochemistry and Molecular Biology.	Measure	DIR-1	DIR-1	DIR-2		DIR-7							
	Collect Term	spring 2011	spring 2011	fall 2010 spring 2011		spring 2011							
Students earning the degree will have gained experience in using the current tools employed by professionals in the field of Biochemistry and Molecular Biology.	Measure								DIR-9		IND-1	IND-2	IND-3
	Collect Term								fall 2011		spring 2012	spring 2012	spring 2012
Students earning the degree will have developed chemical and/or biochemical intuition about these abstract disciplines which allow them to visualize how chemical and biochemical reactions proceed, what governs the rate at which they occur and what dictates the extent to which they occur.	Measure						DIR-5	DIR-6					
	Collect Term						fall 2012	fall 2012					

Using critical thinking and quantitative skills, students earning the degree will be able to apply their acquired professional knowledge to solve problems in the fundamental areas of Biochemistry and Molecular Biology.	Measure	DIR-1	DIR-1	DIR-2		DIR-7							
	Collect Term	spring 2011	spring 2011	fall 2010 spring 2011		spring 2011							
Students earning the degree will be able to effectively communicate (orally and in written form) technical information in the discipline to other professionals in the field.	Measure				DIR-3					DIR-4			
	Collect Term				spring 2013					future			
Students earning the degree will be able to apply their experience with lab techniques and data analysis to responsibly design, safely perform and critically analyze the results of experiments which involve 1) the measurement of biochemical quantities, 2) the synthesis and purification of biochemical reaction products and 3) the simulation or modeling of biochemical systems.	Measure						DIR-8				IND-1	IND-2	
	Collect Term						fall 2011				spring 2012	spring 2012	