## Colorado State University – Pueblo Academic Program Assessment Report for AY 2018-2019

Program:Biochemistry, M.S	<b>Date:</b> May 28, 2019
Completed by:Richard Farrer	
Assessment contributors (other faculty involved in this program's assessment):none	

Due: May 24, 2019

## I. Program student learning outcomes (SLOs) assessed in this cycle, processes, results, and recommendations.

A. Which of the	B. When	C. What method was	D. Who was	E. What is the	F. What were	G. What were the	H. What
program SLOs	was this	used for assessing	assessed?	expected	the results of	department's	changes/improv
were assessed	SLO last	the SLO? Please	Please fully	achievement	the	conclusions about	ements to the
during this	assessed?	include a copy of any	describe	level and how	assessment?	student	program are
cycle? Please	Please	rubrics used in the	the student	many or what		performance?	planned based
include the	indicate	assessment process.	group(s)	proportion of			on this
outcome(s)	the		and the	students should			assessment?
verbatim from	semester		number of	be at it?			
the assessment	and year.		students or				
plan.			artifacts				
			involved.				
1: Chemistry	Spring	This SLO is assessed	CHEM501(0	All students	Two active	Students	None.
MS students	2018 by	through both	students),	should receive a	students in	satisfactorily	
will be able to	Richard	performance in	CHEM510(0	grade of A or B	the Biochem	progressing toward	
evaluate the	Farrer.	coursework and	students),	in all graded	MS program	graduation.	
scientific		performance during	CHEM512(1	courses. All	at this time.		
literature and		thesis committee	students),	students should			
to use it in their		meetings. I believe	CHEM513(1	have positive			
courses and		that all 500 level	student),	reviews from			
research.		courses involve some	CHEM525(1	committee			
		evaluation of	student),	meetings –			
		literature; however	CHEM525L(	which shows			
		all MS students begin	0 students),	that the student			
		their coursework in	CHEM591	is making the			

		CHEM510, where	(0	nococcany			
		students are	,	necessary			
			students),	progress toward			
		expected to develop	CHEM578(0	graduation. All			
		a thesis plan.	students),	students should			
		Additionally, in	CHEM589(1	receive an A in			
		CHEM593 (seminar)	students),	the thesis			
		and CHEM589 (thesis	CHEM592(1	defense –			
		defense), students	student),	showing mastery			
		are required to	CHEM593(1	of their area of			
		demonstrate	students),	study and			
		significant	and	research.			
		knowledge of	CHEM599(2	Realistically,			
		scientific literature.	students).	some student			
		For students who	Also, all	perform poorly			
		take the intership	students	in classwork –			
		option, CHEM588 is	have had at	many students			
		the intership	least one	not prepared for			
		defense. Also,	committee	depth, breadthe,			
		students are	meeting	and scope of			
		evaluated during	this past	courses and/or			
		research credits,	year.	research.			
		CHEM599 and		Students must			
		CHEM592.		maintain a 3.0			
				GPA to remain in			
				good standing in			
				the program.			
2: Chemistry	Spring	See SLO 1.	CHEM501(0	Formal	Satisfactory	Students	None.
MS students	2018 by	Coursework,	students),	evaluations	progress.	satisfactorily	
will be able to	Richard	research, and	CHEM510(0	occur during		progressing toward	
effectively	Farrer.	committee meetings	students),	courses,		graduation.	
communicate		are used to guide	CHEM512(1	committee			
scientific		and direct the	students),	meetings and			
research, both		student toward	CHEM513(1	thesis defenses.			
their own and		mastery in this area,	student),	Non-formal			
information		and also for	CHEM525(1	evaluations			
from the		purposed of	student),	occur in regular			
		P.S. POSCA 01	36445116/	Joan III I Chaiai	l		

research		evaluating the	CHEM525L(	group meetings,			
literature, in		students' growth and	0 students),	meetings with			
written and		abilities in these	CHEM591	advisors, and in			
oral fashions.		areas. Additionally,	(0	everyday			
		individual research	students),	laboratory			
		group meetings	CHEM578(0	interactions.			
		often require	students),				
		students to discuss	CHEM589(1				
		their research with	students),				
		the faculty mentor	CHEM592(1				
		and other group	student),				
		members – such	CHEM593(1				
		discussions often	students),				
		lead to analysis of	and				
		data via the scientific	CHEM599(2				
		method and through	students).				
		critical thinking.	Also, all				
		Thus, some of the	students				
		best areas for growth	have had at				
		of the students	least one				
		occurs in non-formal,	committee				
		non-graded settings.	meeting				
		Honestly, these are	this past				
		the important times	year.				
		the student needs to					
		succeed – since					
		employment will be					
		more similar to these					
		occasions than					
		courses.					
3: Chemistry	Spring	See SLO 2.	CHEM501(0	Again, all	Satisfactory	Students	None.
MS students	2018 by		students),	students should	progress	satisfactorily	
will develop	Richard		CHEM510(0	complete each		progressing toward	
and master the	Farrer.		students),	course with an A		graduation.	
scientific			CHEM512(1	or B, and			
problem			students),	students should			

solving skills required to define and solve basic or applied original scientific questions using the scientific method  CHEM525L(  Mowever, the Ostudents), CHEM5291  Mowever, the Ostudents), CHEM5280  Mowever, the Ostudents), CHEM5291  Students), CHEM5891  Students), CHEM5891  Students), CHEM5891  Students), CHEM5891  Students), CHEM593(1  Students), Also, all Students Also, all Students Also and Also an
define and solve basic or applied original scientific questions using the scientific method  CHEM525L( 0 students), CHEM591 (0 students), CHEM578(0 students), CHEM591(1 students), CHEM592(1 student), CHEM592(1 student), CHEM592(1 students), and CHEM593(1 students), and CHEM599(2 students). Also, all students have had at scientific
solve basic or applied original scientific questions using the scientific method  Students, CHEM591 (0 students), CHEM591 (0 students), CHEM578(0 students), CHEM578(0 students), CHEM589(1 students), CHEM592(1 student), CHEM593(1 student), CHEM593(1 students), and CHEM593(1 students), and CHEM599(2 students). Also, all students have had at scientific grasp on the scientific
applied original scientific questions using the scientific method  CHEM591  (0  students), CHEM591  (0  students), CHEM578(0  students), CHEM589(1  students), CHEM589(1  students), CHEM592(1  student), CHEM593(1  students), and CHEM599(2  students), and CHEM599(2  students), and CHEM599(2  students), and CHEM599(3) Also, all students have had at  CHEM525L( 0 students), all weever, the committee  meetings are also to assist  misdirected students back to students back to students bestudents the time the students choose to defend their thesis/intership, the student must be at or very near mastery of their material, and have a firm grasp on the scientific
scientific questions using the scientific method  CHEM591 (0 also to assist misdirected students), CHEM578(0 students), CHEM589(1 students), CHEM589(1 students), CHEM592(1 student), CHEM593(1 the sis/intership, students), and CHEM599(2 students).  Also, all students have had at scientific committee meetings are also to assist misdirected students back to a path toward graduation. At the time the students choose to defend their their meterial, and have a firm grasp on the scientific
questions using the scientific method  CHEM591 (0 also to assist misdirected students), CHEM578(0 students), CHEM589(1 students), CHEM589(1 students), CHEM592(1 student), CHEM593(1 student), CHEM593(1 student), CHEM593(1 students), and be at or very near mastery of students).  Also, all students have had at scientific
the scientific method  (0 also to assist misdirected students), CHEM578(0 students), CHEM589(1 students), CHEM589(1 student), CHEM592(1 student), CHEM593(1 student), CHEM593(1 students), and be at or very near mastery of their material, also, all students have had at scientific
method  students), CHEM578(0 students), CHEM589(1 students), CHEM592(1 student), CHEM593(1 student), CHEM593(1 students), and be at or very CHEM599(2 students). Also, all students have had at students back to a path toward graduation. At the time the students choose to defend their thesis/intership, the student must be at or very near mastery of their material, and have a firm students parsp on the have had at scientific
CHEM578(0 students), a path toward graduation. At the time the students), CHEM592(1 students), to defend their thesis/intership, students), and be at or very CHEM599(2 students). Also, all students grasp on the have had at scientific
students), a path toward CHEM589(1 graduation. At students), the time the CHEM592(1 students choose student), to defend their CHEM593(1 thesis/intership, students), and be at or very CHEM599(2 students). their material, Also, all and have a firm students grasp on the have had at scientific
CHEM589(1 students), the time the students choose student), CHEM592(1 students choose to defend their must be at or very chem599(2 students). Their material, also, all and have a firm students grasp on the have had at scientific
students), the time the students choose student), CHEM592(1 students), to defend their thesis/intership, students), and be at or very CHEM599(2 students). Also, all students have had at scientific
CHEM592(1 students choose to defend their to defend their thesis/intership, students), and be at or very CHEM599(2 students). Also, all students have had at scientific
student), CHEM593(1 to defend their thesis/intership, students), and be at or very CHEM599(2 students). Also, all and have a firm students grasp on the have had at scientific
CHEM593(1 thesis/intership, students), the student must be at or very CHEM599(2 students). their material, Also, all students grasp on the have had at scientific
students), the student must be at or very CHEM599(2 near mastery of students). their material, Also, all and have a firm students grasp on the have had at scientific
and be at or very CHEM599(2 near mastery of students). their material, Also, all and have a firm students grasp on the have had at scientific
CHEM599(2 near mastery of students). their material, Also, all and have a firm students grasp on the have had at scientific
students). their material, Also, all and have a firm students grasp on the have had at scientific
Also, all and have a firm students grasp on the have had at scientific
students grasp on the have had at scientific
have had at scientific
have had at scientific
least one method and how
committee to apply it to
meeting experimental
this past design, data
year analysis, and
production of
results.
4: Chemistry Spring CHEM592 and CHEM592(1 Students graded One student None.
MS students 2018 by CHEM599 – research, students), on CHEM599 – scheduled
will actively Richard CHEM598 – CHEM599(2 thesis research for thesis
engage in Farrer. intership. Final students), and defense, but
collaborative assessment at thesis CHEM589(1 CHEM588/589 did not
research or defense (CHEM589) students). defenses. All defend

internships and		or intership defense		other	(currently an		
discourse with		(CHEM588).		internship/resea	INC as grade)		
the faculty in				rch is pass/fail.			
the Chemistry				All students			
Department				should be			
and other				receiving either			
STEM				an A or B in			
disciplines as				thesis research,			
appropriate				and all students			
' ' '				should be			
				receiving			
				satisfactory			
				grades in S/U			
				coursework.			
				Students should			
				receive A's for			
				defenses.			
5: Chemistry	Spring	CHEM588,	CHEM589(1	Students are	Presentation	Satisfactory	None.
MS students	2018 by	CHEM589,	students)	expected to	s at the	progress.	
and faculty will	Richard	CHEM593, CSU-	and	receive A's in	university		
disseminate	Farrer.	Pueblo symposia,	CHEM593	their defenses.	level at the		
the prodcts of		and regional and	(0	For symposia,	Spring		
the Chemistry		national scientific	students).	students are	symposium.		
MS program		meetings. Also,	Graduate	expected to			
within the CSU-		publication of	students	know the			
Pueblo		material in scientific	presented	material and			
community and		journals.	their	confidently			
communities			research at	discuss their			
outside the			the	experiments and			
university in			University	results. This is			
activities using			Student	typically the			
their			Symposium	case, since			
professional			that was	faculty ensure			
expertise			held Spring	that the material			
			2019 - one	is prepared well,			
			student	and the student			

	presented	is also prepared.		
	research as	Faculty spend		
	this	many hourse		
	symposium.	working with		
		students in		
		preparation of		
		presentations.		

During the 2017-2018 academic year, one student completed his MS degree (corrected thesis to be turned in prior to June 15<sup>th</sup>).

## II. Follow-up (closing the loop) on results and activities from previous assessment cycles. In this section, please describe actions taken during this cycle that were based on, or implemented to address, the results of assessment from previous cycles.

A. What SLO(s)	B. When was this	C. What were the	D. Were the	E. What were the results of the
did you address?	SLO last assessed?	recommendations for change	recommendations for	changes? If the changes were not
Please include	Please indicate the	from the previous	change acted upon? If not,	effective, what are the next steps or
the outcome(s)	semester and year.	assessment?	why?	the new recommendations?
verbatim from				
the assessment				
plan.				

This assessment is based on two students that were enrolled in coursework as part of the Biochemistry MS program. We realized that the limited number of students in the program makes valid assessment difficult. However, we are determined to find a good method of assessment for the program, so that we can make necessary changes and improvements. We are looking at the current assessment of the MS Biochemistry program, and working to develop methods to improve our assessment of graduate students in the program.