

CHEM ASSESSMENT PLAN

Department/Program: Department of Chemistry

Student Learning Objectives (SLOs) for MAJORS

1. Students will demonstrate molecular-level, atomic-level and subatomic-level understanding of each chemical discipline using the scientific method, quantitative skills, and analytic reasoning for chemical investigation and problem-solving.
2. Students will demonstrate effective investigative skills using advanced scientific instrumentation, computational methods, chemical laboratory techniques, and chemistry-related databases to collect, analyze, and interpret data.
3. Students will demonstrate effective communication of scientific information in both oral and written forms to audiences with a wide range of training in chemistry.
4. Students will demonstrate effective communication skills and a team-oriented approach to problem solving while working in group settings.
5. Students will live in accordance with the high ethical standards that are outlined in the American Chemical Society's official code of professional conduct (see Appendix 1).

Outcome Measure	SLO's	Description of Departmental Use of Data
Direct Measure. Each graduating senior student will have completed at least two ACS multiple-choice exams that will test the student's basic chemistry knowledge.	1, 2	The department will annually review the results and address weaknesses either by direct action or by making recommendations to the appropriate administrator or administrative body when additional resources are required. These results will be disseminated every other year to the Department's alumni advisory board and every seven years during

		program review.
Direct Measure. Each student will prepare a research/lab poster, a written research report/formal lab report, and deliver an oral research presentation/oral lab presentation that will be evaluated by at least a two-member faculty team. The number of these assignments to be assessed is dependent on the degree option being pursued.	1-5	As above.
Indirect Measure. Each graduating senior will participate in a group exit interview and take an exit survey.	1-5	As above.
Indirect Measure. The Department will send a survey to alumni five years after graduation.	1-5	As above.

1. **Results**—Review activities and findings by completing the Assessment Activities Table below. You can also provide a brief discussion afterward if you feel it would help the committee understand your assessment activities and findings during this cycle.

Assessment Activities Table

This year we assessed SLO(s)... (list each SLO in its own row)	...using Outcome Measure(s) (OMs). (See Report Instructions for description and example) Direct OM(s): Indirect OM(s):	Findings: program-performance for these SLOs, as indicated by these OMs, is: Excellent/Satisfactory/Needs Improvement (See Report Instructions for description and example)	Strategies for Improvement (in selected areas): (See Report Instructions for description and example)
SLO1			
SLO2			
SLO3			
SLO4			
SLO5			

Discussion (Optional):

2. What **revisions**, if any, to current SLOs and/or outcome measures did you make from previous plan? Provide the rationale for any change(s).
3. **Plans**- What learning objectives will you be assessing in the next cycle?

Map II: Map Courses, Experiences and Activities to current Program/Department SLOs

Program/ Department SLOs

1. Students will demonstrate molecular-level understanding of each chemical discipline using the scientific method, quantitative skills, and analytic reasoning for chemical investigation and problem solving.
2. Students will demonstrate effective investigative skills using advanced scientific instrumentation, computational methods, chemical techniques, and chemistry-related databases to collect, analyze, and interpret data.
3. Students will demonstrate effective communication of scientific information in both oral and written forms to a variety of audiences.
4. Students will demonstrate the ability to work effectively in group settings.
5. Students will demonstrate critical, ethical, and responsible application of chemical principles to understand and address scientific and technological issues that affect daily lives, that are relevant to responsible citizenship and stewardship, or that inhibit societal progress.

Intructions

Mark the courses/events/experiences/activities that currently address either Program SLOs or VU/Gen Ed SLOs for Gen Ed courses using the following:

Enter an I to indicate students are introduced to the SLO

R indicates the SLO is reinforced and students afforded opportunities to practice

M indicates that students have had sufficient practice and can now demonstrate mastery appropriate for the degree level

A indicates where evidence is collected and evaluated for program-level assessment as specified in the Departmental Assessment Plan

Course/ Experience	Program/Department SLOs					VU/Gen Ed SLOS	
	1	2	3	4	5	1	2
Chem111	IA	I	I	I	IA		IA
Chem115	I	I	I				I
Chem116	R	I	I	I			I
Chem121	IA	I	I	I	IA		IA
Chem131	IA	I	I	I	IA		IA
Chem122	RA	I	I	I	IA		
Chem132	RA	I	I	I	IA		
Chem190	I	I	I	I	I		
Chem221	RA	I	R	R	I		
Chem222	RA	R	RA	R	I		
Chem230	R	I/R	RA	R	I		
Chem311	M	R	MA	M	R		
Chem315	R			M	R		
Chem316	M			M	R		
Chem317	R	IRM	MA	M			
Chem321	M	M	MA	M			
Chem322	M	M	MA	M			
Chem421	M		M	M			
Chem422	M	M	M				
Chem430	M	M	M	M			
Chem440	M		M		R		
Chem450	M		M	M			
Chem490			M		M		
Chem494					R		
Chem495	M	M	MA		R		
Chem497/498	M	M	MA				
Chem499	R				R		
Activities?							
Senior Survey		A	A	A			