



Student Learning Outcome Assessment Plan

Department: Chemistry

Degree Program: BS-Chemistry (includes Biochemistry specialization)

Student Learning Outcome (performance, knowledge, attitudes)	Related CWU Strategic Outcome(s) http://www.cwu.edu/strategic-planning/	Method(s) of Assessment (What is the assessment?)*	Who Assessed (Students from what courses - population)**	When Assessed (term, dates)***	Standard of Mastery/ Criterion of Achievement (How good does performance have to be?)
1. Master the concepts and skills, including experimental techniques, designated in curriculum learning outcomes for courses in General, analytical, biochemistry, inorganic, organic, and physical chemistry, which are needed to graduate and successfully pursue career pathways.	1.1.1 Students will achieve programmatic learning outcomes.	Grades in relevant courses Student exit portfolio Student exit survey Alumni survey ACS content exams	Chemistry majors in all required courses for BS degree in chemistry, including Biochemistry specialization	Quarterly Annual review of student exit portfolios.	All graduates maintain an overall GPA of at least 2.0 and a GPA for courses within the major of at least 2.25. Mean ACS exam scores, by course, are at or above national averages All students' portfolio components will be rated at satisfactory or higher.
2. Write and speak clearly in the language and style of the discipline.	1.1.1 Students will achieve programmatic learning outcomes. 3.1.2 Sustain the number of courses that include research, scholarship, and creative expression skills as key outcomes.	Grades in relevant courses Student written lab reports Student research reports for those students who performed research Student exit portfolio	Chemistry majors in all required courses for BS degree in chemistry. Course exams require some short answer as well as drawing of chemical structures and diagrams CHEM 183Lab (written abstracts) CHEM 361Lab, 363Lab,	Quarterly Annual review of student exit portfolios.	All graduates maintain an overall GPA of at least 2.0 and a GPA for courses within the major of at least 2.25. All students receive a grade of C+ or better on their oral presentation in CHEM 488 All artifacts of writing in exit portfolio are rated at satisfactory or better.

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			382Lab, 383Lab, 431Lab, 452Lab (full or partial lab reports; brief oral presentations) CHEM 295, 395 or 495, student research reports CHEM 488 oral presentation		
3. Demonstrate critical thinking skills that utilize qualitative and quantitative problem solving.	1.1.1 Students will achieve programmatic learning outcomes.	Grades in relevant courses ACS content exams	Chemistry majors in all required courses for BS degree in chemistry	Quarterly Annual review of student exit portfolios.	All graduates maintain an overall GPA of at least 2.0 and a GPA for courses within the major of at least 2.25. Mean ACS Exam scores by course are at or above national averages.
4. Use computers and the modern software of the discipline.	1.1.1 Students will achieve programmatic learning outcomes. 3.1.2 Sustain the number of courses that include research, scholarship, and creative expression skills as key outcomes.	Course grades in: CHEM 488 Student Research CHEM 295, CHEM 395, and/or CHEM 495 Student exit portfolio	CHEM 488 CHEM 295, 395 or 495 (research) Chemistry majors submitting exit portfolios (all majors)	Quarterly Annual review of student exit portfolios.	All students receive a grade of C+ or better on their oral presentation in CHEM 488 The research report component in the students' portfolio will be rated at satisfactory or higher.
5. Retrieve and critically analyze chemical literature.	1.1.1 Students will achieve programmatic learning outcomes. 3.1.2 Sustain the number of courses that include research, scholarship, and creative expression skills as key	Course grades in: CHEM 488 Student Research CHEM 295, CHEM 395, and/or CHEM 495 Student exit portfolio	CHEM 488 CHEM 295, 395 or 495 (research) Chemistry majors submitting exit portfolios (all majors)	Quarterly Annual review of student exit portfolios.	All students receive a grade of C+ or better on their oral presentation in CHEM 488 The research report component in the students' portfolio will be rated at satisfactory or higher.

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	outcomes.				
6. Practice health and safety protocols that are integral to the discipline.	1.1.1 Students will achieve programmatic learning outcomes.	Grades in laboratory courses Participation in laboratory safety training sessions Number of reported lab incidents/accidents	Chemistry majors in laboratory courses. Chemistry majors working in research labs. Chemistry majors employed as TA's by the department.	Quarterly	All students receive a grade of C+ or better in laboratory courses. All research students receive a grade of B or better. All students receive laboratory safety training sufficient for required lab procedures. The number of lab incidents/accidents is reduced.
7. Work effectively in group situations.	1.1.1 Students will achieve programmatic learning outcomes. 3.1.2 Sustain the number of courses that include research, scholarship, and creative expression skills as key outcomes.	Grades in laboratory courses Grades in student research courses: CHEM 295, CHEM 395, and/or CHEM 495 Exit Survey	Chemistry majors in laboratory courses. Chemistry majors Chemistry majors submitting exit portfolios (all majors)	Quarterly Quarterly Annual review of student exit portfolios.	All students receive a grade of C+ or better in laboratory courses. All research students receive a grade of B or better. Reflective assessment in student exit portfolio.

*Method(s) of assessment should include those that are both direct (tests, essays, presentations, projects) and indirect (surveys, interviews) in nature

**Data needs to be collected and differentiated by location (Ellensburg campus vs University Centers) and modality (face-to-face, online)

***Timing of assessment should ideally be at different transition points of program (i.e., admission, mid-point, end-of-program, post-program)

rev. 11/14

Assessment Cycle

Analysis and Interpretation: December
Improvement Actions: Completed by June
Dissemination: Completed by June

Year SLOs	15-16	16-17	17-18	18-19	19-20	20-21
1	X	X	X	X	X	X
2			X			
3		X				X
4				X		
5	X				X	
6			X			
7	X				X	

Assessment Oversight

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