

## ASSESSMENT PLAN: BS Chemistry

Date Updated: 11/11/2015

### PROGRAM MISSION

[CSUEB Missions, Commitments, and ILOs, 2012](#)

### PROGRAM LEARNING OUTCOMES (PLOs)

Students graduating with a BA in Chemistry will be able to!

	demonstrate knowledge in the various area of chemistry, including inorganic chemistry, analytical chemistry, organic chemistry, physical chemistry, and biochemistry
	use quantitative reasoning to analyze and solve chemical problems and evaluate chemical data
	work effectively and safely in a laboratory environment to perform experimental procedures and operate modern chemical/biochemical instruments
	design, carry out, record and analyze the results of chemical experiments
	communicate chemical or biochemical issues clearly.

### Year 1: "1+", "1"

	"LO 1
	#es
	thoroughly and creatively and a highly analytical and (quantitative reasoning to address complex) challenges and everyday problems*
	C+EM , ,2 Organic Chemistry II C+EM , -1 Physical Chemistry I
	,. Utilize the second law of thermodynamics to predict spontaneity of chemical processes. Learn from Chem , -12
	Embedded exam (questions
	Final Exam
	4 quantitative, report to include proportion of students in each level 05, 2-5, -05, 6-5, 1005 percent for each (question
	Instructor for Chem , -1, Assessment 7e'
	3all 2018, Spring 2019
	Internal assessment of results with planning to address shortcomings

### Year 2: "1", " "

	"LO 2
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	#es
	demonstrate effective synthesis and integration of ideas, methods, theory and practice in a specialized discipline of study.
	C+EM , -2 Physical Chemistry II C+EM <20 Instrumental Analysis C+EM <10 Advanced Inorganic Chemistry C+EM , 20 Bioanalytical and Forensic Laboratory
	Model the time-dependence of the evolution of chemical systems using the tools of chemical kinetics. (exam) from Chem , - 12
	Embedded Exam 4 questions
	Final Exam
	4 quantitative, report to include a portion of students in each level 0.5, 2-5, -0.5, 6-5, 100% correct for each (question)
	Instructors for Chem , - 1, Chem <<2, Chem <<, , Assessment 7e'
	Fall 2019, Spring 2020
	Internal assessment of results with planning to address shortcomings
*ear #: " " , " "1	
	"LO ,
	: o
	C+EM , , 2 Organic Chemistry II C+EM <20 Instrumental Analysis C+EM , - - Physical Chemistry La C+EM , 20 Bioanalytical and Forensic Laboratory
	safely carry out standard laboratory techniques (uses for the purification of organic compounds, including distillation, recrystallization, column chromatography, thin layer chromatography, and extraction.
	Read and parse Safety Data Sheets (SDS)
	Pre-laboratory assignments, Laboratory 7e' reports
	4 qualitative & quantitative assessment of laboratory safety performance on safety related assignments
	Course instructors, Assessment 7e'
	Spring 2021
	Internal assessment of results with planning to address shortcomings
*ear -: " "1, " "	
	"LO <
	#es
	communicate ideas, perspectives, and values clearly and persuasively while listening only to others
	C+EM , , 2 Organic Chemistry II C+EM <20 Instrumental Analysis C+EM , - - Physical Chemistry La C+EM , 20 Bioanalytical and Forensic Laboratory
	Upon successful completion of this course, students will be able to communicate statistical concepts clearly and appropriately to others.

