

ASSESSMENT PLAN: BS Chemistry

Date Updated: 11/1/2018

PROGRAM MISSION

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

PROGRAM LEARNING OUTCOMES (PLOs)

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

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| | 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"

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| | "LO 1 |
| | #es |
| | thoroughly and creatively and apply 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\$, " "

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| | "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 | |
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| | 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 & 7e' quantitative assessment of laboratory safety & environmental 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. |

