Student Learning Outcomes/Objectives, with Any Associations and Related Measures, Targets, Findings, and Action Plans

SLO 1: General chemistry content
Students will demonstrate an understanding of fundamental concepts in general chemistry, organic chemistry, physical chemistry, inorganic chemistry, and analytical chemistry above the national average as evidenced by performance against nationally normed assessments.

Related Measures

M 1: Mastering Chemistry assignments
Scores on Mastering Chemistry assignments in CHEM 1018.
Source of Evidence: Standardized test of subject matter knowledge
Target:
Students will perform 80 percentile compared to national performance on Mastering Chemistry assignments in CHEM 1018. Department will also examine if our students have improved over time in addition to reporting the percentile.

M 2: ETS Major Field Test
ETS Major Field Test - Chemistry Completed in final semester of degree program.
Source of Evidence: Standardized test of subject matter knowledge
Target:
Median performance of graduating students on the nationally normed ETS Major Field Test in Chemistry will be 50th percentile or better.

SLO 2: Multi-disciplinary teams
Students demonstrate ability to work effectively in multi-disciplinary teams.

Related Measures

M 3: Teamwork assessment rubric
Students will be assessed on teamwork skills in lab settings (CHEM 2025 and 3027) in which they work on specific lab assignments in small groups. Assessment will be based on collaboration skills and demonstration of competence in team efforts using standardized rubric.
Source of Evidence: Academic direct measure of learning - other
Target:
75% of students will score an average of 3.5 out of 5 on the four assessment categories of the collaboration rubric for CHEM 2025 and CHEM 3027.

SLO 3: Independent research
Students demonstrate an ability to conduct independent research or perform satisfactorily in a workplace setting as evidence by jury based assessment.

Related Measures

M 4: Oral and written competence
Jury judge oral and written competence of undergraduates as part of CHEM 3094.
Source of Evidence: Academic indirect indicator of learning - other
Target:
75% of the students will receive an average score of 3.5 or higher in the four criteria of the oral competency rubric and an average of 3.5 or higher in the four criteria of the written competency rubric.

SLO 4: Preparation for graduate programs
Students demonstrate relevant chemistry skills to qualify for graduate study in chemistry.

Related Measures

M 5: BS graduates enrolling in graduate programs
Review the number of BS graduates enrolling in M.S. and Ph.D. programs in chemistry and related sciences.
Source of Evidence: Alumni survey or tracking of alumni achievements
Target:
25% of BS graduates will be accepted into graduate programs in chemistry and related sciences immediately following graduation, based on self-reported data from the Undergraduate Exit Survey.