Program: Chem-Business

Intended Outcome: SLO 1: Demonstrate comprehensive knowledge of major disciplines in the chemical sciences: analytical, industrial, and organic chemistry.

Means of Assessment: 1. The following SLOs were assessed in Chemistry 232, Organic Chemistry I: Analyze the conformations of linear and cyclic molecules especially in regard to relative energy between two molecules, Correlate a given compound’s structural elements to chemical or physical properties, and Analyze the structures of reacting molecules to predict the products with correct regio- and stereochemistry. 2. Five SLOs were assessed in Chemistry 233, Organic Chemistry II. They included describing reactions of various types of organic compounds, explaining the outcome of a chemical reaction using an appropriately drawn mechanism, proposing chemical synthetic schemes, understanding aromaticity, and interpreting spectroscopic data. 3. Eight SLOs were assess in a section of Chemistry 113, General and Analytical Chemistry. They include calculations of gas properties, evaluation of intermolecular forces based on structure of a substance and determination of the properties arising from the forces, calculations using rate laws, calculations using general, acid-base and solubility equilibrium constants. 4. Six to seven SLOs were measured in 22 sections of Chemistry 113 (152 SLOs total). They included calculations of gas laws, concentration units, and equilibrium constants; construction and interpretation of a graph using computer software; defining and identifying acids and bases; drawing and understanding geometric isomers; and safety.

Type of Assessment: Course-embedded measure

Criteria for Success: 1. 60% of students answer questions correctly. 2. Two-thirds of class score in highly competent of moderately competent categories (> 90% and 60-90%, respectively). 3. 70% 4. 75% successful completion.

Results or Progress: 1. Percentage of students answering questions correctly are 76%, 68%, and 70%. 2. Three categories met goal (70-85%). Two categories did not meet goal (33% and 63%). respectively. 3. Five categories met goal (70-82%). Three did not meet goal (60-68%). 4. 83.6% met 75% successful completion.

Use of Results for Improvement: 1. Goals met. Plans for improvement are to include worksheets and consideration of use of decision trees for predicting reactions. 2. Provide students with more practice problems and work more problems in class. 3. Spend more time in class on equilibrium and kinetics calculations. 4. Devise an EXCEL instruction sheet, include a videoclip on the CHEM 113L course website that discusses in greater detail the types of isomers present in coordination complexes and the identification of these isomers.