

# Assessment Impact by Course Objectives

## Palau Community College

### Program (ES) - Environmental Marine Science

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#### CLO: SC 161 - General Chemistry II: CLO 1

KNOWLEDGE IN GENERAL CHEMISTRY: Student gains in-depth knowledge in the fundamental concepts in general chemistry

**CLO Assessment Cycle:** 2014-2015 (Fall 2014)

**CLO Status:** Active

Means of Assessment			
Means of Assessment	Expected Student Performance	Notes	Active
Integrate, analyze, and apply all of the general chemistry concepts and principles: phases of matter; gas properties and gas laws; solution formation, solubility, and colligative properties of solutions; determining strengths of acids and bases, and buffering systems; establishing chemical equilibrium and applying Le Chatelier's principle to predict changes in a system; oxidation-reduction reactions and applications; radioactivity and its applications; hydrocarbons; and biochemistry of macromolecules including proteins, enzymes, carbohydrates, nucleic acids, and lipids. <b>Signature assignment:</b> Final Exam	70% of the students assessed will perform at the proficiency level.		Yes
Prepare the following gases and investigate their properties: hydrogen, oxygen, and carbon dioxide; Investigate and describe the behavior of ideal gas samples under different pressure, volume, and temperature conditions; Determine the solubility of a given salt and prepare solubility curve for the given salt; Investigate the effect of adding a solute has on the boiling and freezing points of a solvent; Use different techniques to determine the pH and pOH values of various concentrations of acids, bases, and salts by the three methods: pH meter, titration, and pH paper; Apply the titration process to analyze unknown concentration of an acidic solution such as vinegar; Investigate the effect of adding small amounts of strong acids and bases to several buffer systems and determine how effectively each system resists large changes in pH; Investigate how outside forces acting on a system at equilibrium provoke changes within the system (Le Chatelier's Principle); Investigate the electrolysis of water and compare it to the electrolysis of a solution of the salt potassium iodide; Synthesize different esters by reacting organic acid (carboxylic acid) and an alcohol, using sulfuric acid as reaction catalys; Demonstrate the process of hydrolyzing esters; Detect and characterize proteinaceous materials using the following protein tests: Biuret test, Xanthoproteic test, and Lead Acetate test for sulfur; Apply the denaturation of protein; Examine the catalytic properties of several common enzymes: ptyalin (salivary amylase), proteases, and catalase. <b>Signature assignment:</b> Lab Journal	70% of the students assessed will perform at the proficiency level.		Yes

Results			
Summary of Data Collected	Use of Results	Follow-Up	Semester Assessed

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Lab Journal - 12/23/2014 - 100% of the students assessed performed at the proficiency level <b>Expected Student Performance Met:</b> Yes <b>Related Documents:</b> <a href="#">Lab Journal</a>	04/09/2015 - No action needed at this time as the expected outcome has been met 04/09/2015 - No action needed at this time as the expected outcome has been met		2014 - 2015 (Fall 2014)
Final Exam - 12/23/2014 - 100% of the students assessed performed at the proficiency level <b>Expected Student Performance Met:</b> Yes <b>Related Documents:</b> <a href="#">Final Exam Scan</a>	04/09/2015 - No action needed at this time as the expected outcome has been met		2014 - 2015 (Fall 2014)

### CLO: SC 161 - General Chemistry II: CLO 2

SCIENTIFIC INQUIRY: Students develop abilities to conduct scientific investigations and analyze data

CLO Assessment Cycle: 2014-2015 (Fall 2014)

CLO Status: Active

Means of Assessment			
Means of Assessment	Expected Student Performance	Notes	Active
Prepare the following gases and investigate their properties: hydrogen, oxygen, and carbon dioxide; Investigate and describe the behavior of ideal gas samples under different pressure, volume, and temperature conditions; Determine the solubility of a given salt and prepare solubility curve for the given salt; Investigate the effect of adding a solute has on the boiling and freezing points of a solvent; Use different techniques to determine the pH and pOH values of various concentrations of acids, bases, and salts by the three methods: pH meter, titration, and pH paper; Apply the titration process to analyze unknown concentration of an acidic solution such as vinegar; Investigate the effect of adding small amounts of strong acids and bases to several buffer systems and determine how effectively each system resists large changes in pH; Investigate how outside forces acting on a system at equilibrium provoke changes within the system (Le Chatelier's Principle); Investigate the electrolysis of water and compare it to the electrolysis of a solution of the salt potassium iodide; Synthesize different esters by reacting organic acid (carboxylic acid) and an alcohol, using sulfuric acid as reaction catalys; Demonstrate the process of hydrolyzing esters; Detect and characterize proteinaceous materials using the following protein tests: Biuret test, Xanthoproteic test, and Lead Acetate test for sulfur; Apply the denaturation of protein; Examine the catalytic properties of several common enzymes: ptyalin (salivary amylase), proteases, and catalase. <b>Signature assignment:</b> Lab Journal	70% of the students assessed will perform at the proficiency level.		Yes

Results			
Summary of Data Collected	Use of Results	Follow-Up	Semester Assessed

## Results

Summary of Data Collected	Use of Results	Follow-Up	Semester Assessed
Lab Journal - 12/23/2014 - 100% of the students assessed performed at the proficiency level <b>Expected Student Performance Met:</b> Yes	04/09/2015 - No action needed at this time as the expected outcome has been met		2014 - 2015 (Fall 2014)
<b>Related Documents:</b> <a href="#">Lab Journal</a>			

### CLO: SC 161 - General Chemistry II: CLO 3

SCIENTIFIC MEASUREMENTS: Students acquire skills in collecting and reporting quantitative information from scientific investigations to describe chemical properties of matter

**CLO Assessment Cycle:** 2014-2015 (Fall 2014)

**CLO Status:** Active

Means of Assessment			
Means of Assessment	Expected Student Performance	Notes	Active
Integrate, analyze, and apply all of the general chemistry concepts and principles: phases of matter; gas properties and gas laws; solution formation, solubility, and colligative properties of solutions; determining strengths of acids and bases, and buffering systems; establishing chemical equilibrium and applying Le Chatelier's principle to predict changes in a system; oxidation-reduction reactions and applications; radioactivity and its applications; hydrocarbons; and biochemistry of macromolecules including proteins, enzymes, carbohydrates, nucleic acids, and lipids. <b>Signature assignment:</b> Final Exam	70% of the students assessed will perform at the proficiency level.		Yes
Prepare the following gases and investigate their properties: hydrogen, oxygen, and carbon dioxide; Investigate and describe the behavior of ideal gas samples under different pressure, volume, and temperature conditions; Determine the solubility of a given salt and prepare solubility curve for the given salt; Investigate the effect of adding a solute has on the boiling and freezing points of a solvent; Use different techniques to determine the pH and pOH values of various concentrations of acids, bases, and salts by the three methods: pH meter, titration, and pH paper; Apply the titration process to analyze unknown concentration of an acidic solution such as vinegar; Investigate the effect of adding small amounts of strong acids and bases to several buffer systems and determine how effectively each system resists large changes in pH; Investigate how outside forces acting on a system at equilibrium provoke changes within the system (Le Chatelier's Principle); Investigate the electrolysis of water and compare it to the electrolysis of a solution of the salt potassium iodide; Synthesize different esters by reacting organic acid (carboxylic acid) and an alcohol, using sulfuric acid as reaction catalys; Demonstrate the process of hydrolyzing esters; Detect and characterize proteinaceous materials using the following protein tests: Biuret test, Xanthoproteic test, and Lead Acetate test for sulfur; Apply the denaturation of protein; Examine the catalytic properties of several common enzymes: ptyalin (salivary amylase), proteases, and catalase. <b>Signature assignment:</b> Lab Journal	70% of the students assessed will perform at the proficiency level.		Yes

## Results

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Lab Journal - 12/23/2014 - 100% of the students assessed performed at the proficiency level <b>Expected Student Performance Met:</b> Yes <b>Related Documents:</b> <a href="#">Lab Journal</a>	04/09/2015 - No action needed at this time as the expected outcome has been met		2014 - 2015 (Fall 2014)
Final Exam - 12/23/2014 - 100% of the students assessed performed at the proficiency level <b>Expected Student Performance Met:</b> Yes <b>Related Documents:</b> <a href="#">final exam</a>	04/09/2015 - No action needed at this time as the expected outcome has been met		2014 - 2015 (Fall 2014)