## Assessment of Course Student Learning Outcomes

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<tr>
<th>General Ed SLOS Assessed</th>
<th>Degree or Certificate SLOS Assessed</th>
<th>Course Level Student Learning Outcomes Assessed</th>
<th>Assessment (Performance Tasks and Success Criteria)</th>
<th>Assessment Results and Analysis</th>
<th>Action(s) Proposed</th>
<th>Budget/Resources Implications</th>
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<tbody>
<tr>
<td>What Gen Ed SLO(s) align with the degree or certificate?</td>
<td>What degree or certificate SLO(s) align with the course level SLO(s) being measured?</td>
<td>What are the student learning outcomes that are being measured in the assessment?</td>
<td>What do students have to do to show achievement of the SLOs? What are the various projects or tasks that will be used to assess the SLO(s)? What is your benchmark? How do you know if the SLO has been achieved successfully?</td>
<td>What strengths did the assessment identify? What areas can be strengthened? How did the materials and instructional methods affect the achievement of the SLOs?</td>
<td>How changes, if any, do you plan to make in your material or instructional approach in response to the results of the assessment and your analysis? How will your proposed actions lead to the achievement of the SLOs?</td>
<td>How much will your proposed actions cost the department or college? Will the actions require resource allocation? Provide a cost estimate in personnel and other resources.</td>
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<tr>
<td>AA2, AA3, and AA4 And CA6</td>
<td>II. III. and IV</td>
<td>SLO 1. The students had a good grasp of the Periodic Table and its importance in Chemistry. (100% pass)</td>
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<td>None</td>
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<td>SLO 2. The students could name both ionic and covalent compounds. They still have difficulty with naming transition element compounds with variable charge and compounds with polyatomic ions. (97.7% pass)</td>
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<td>SLO 2. None</td>
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<td>SLO 3. This is a more difficult area for students. They had a basic understanding of polarity, shapes, and bonding. They still have difficulty with ionic vs. polar covalent. I have tried to use the computer to help students visualize the shape of the molecules. I will continue to try to find ways to make this topic more understandable. (56.8% retake 75% pass)</td>
<td>SLO 3. This is a more difficult area for students. They had a basic understanding of polarity, shapes, and bonding. They still have difficulty with ionic vs. polar covalent. I have tried to use the computer to help students visualize the shape of the molecules. I will continue to try to find ways to make this topic more understandable. (56.8% retake 75% pass)</td>
<td>SLO 3. Would like to get PolyMod Models to use with the students because the ones we have now are older and difficult to manipulate.</td>
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<td>SLO 4. The students did well in this difficult area. I really stressed problem solving and showing your work. I came up with several new worksheets for practice and will continue to stress this area. (88.6% pass.)</td>
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<td>SLO 4. Continue to stress working out problems.</td>
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<td>SLO 5. This topic is very difficult for students and comes late in the semester. It was only tested on the final exam this semester. In the spring semester I put predicting the products in earlier along with</td>
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<td>SLO 5. Ask the lab teacher to do the lab on predicting products. Teach it once in the beginning and re-teach in Chapter 9</td>
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</table>

### II. III. and IV

1. Predict properties of chemical elements based on their atomic structure and their location in the Periodic Table.
2. Name chemical compounds, balance chemical and nuclear reactions.
3. Predict properties of chemical compounds based on chemical bonding, molecular shapes, and polarity.
4. Calculate mass relationships in chemical reactions and the quantity of matter in gaseous chemicals and chemical solutions.
5. Predict the product of chemical reactions. *6. Apply knowledge of chemical concepts to a current environmental, health, industrial, or technological issue or condition by writing a short research paper.*

The syllabus has been changed slightly to:

- Four embedded questions for each SLO in Midterm and Final Exams for SLO 1-5.
- For SLO 6, the students must have a grade of C or better on the Term Paper or Service Learning Project.

Criteria for Success:

At least 65% of the students who passed (at least a ‘D’ grade) answer correctly 75% of the test items for each SLO.

For SLO 1, the students had a good grasp of the Periodic Table and its importance in Chemistry. (100% pass)

SLO 2. The students could name both ionic and covalent compounds. They still have difficulty with naming transition element compounds with variable charge and compounds with polyatomic ions. (97.7% pass)

SLO 3. This is a more difficult area for students. They had a basic understanding of polarity, shapes, and bonding. They still have difficulty with ionic vs. polar covalent. I have tried to use the computer to help students visualize the shape of the molecules. I will continue to try to find ways to make this topic more understandable. (56.8% retake 75% pass)

SLO 4. The students did well in this difficult area. I really stressed problem solving and showing your work. I came up with several new worksheets for practice and will continue to stress this area. (88.6% pass.)

SLO 5. This topic is very difficult for students and comes late in the semester. It was only tested on the final exam this semester. In the spring semester I put predicting the products in earlier along with

### Action(s) Proposed

- SLO 1. None
- SLO 2. None
- SLO 3. Would like to get PolyMod Models to use with the students because the ones we have now are older and difficult to manipulate.
- SLO 4. Continue to stress working out problems.
- SLO 5. Ask the lab teacher to do the lab on predicting products. Teach it once in the beginning and re-teach in Chapter 9

### Budget/Resources Implications

- 15 sets of MolyMod model kits @approximately $50 a set
- Supplemental instructor (started spring 2011)
Apply knowledge of chemical concepts to a current environmental, health, industrial, or technological issue or condition by writing a short research paper or by doing a Service-Learning Project.

SLO 6. Most students completed the Term Paper. One student completed the Service-Learning Option.(100% pass)

<table>
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<tr>
<th>General Ed SLOS Assessed</th>
<th>Associate in Arts Degree</th>
<th>Certificate of Achievement-Veterinary Assisting</th>
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<tbody>
<tr>
<td>I Students will be able to understand the importance of ethical conduct and practice it in their daily lives.</td>
<td>AA1 Draw on knowledge from the liberal arts to succeed in upper division courses.</td>
<td>CA1 Effectively communicate with clients and veterinary staff</td>
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<td>II Students will be able to communicate through speaking, writing and listening effectively individually and in teams.</td>
<td>AA2 Recognize and respond to the wonders and challenges of the natural environment, both biological and physical.</td>
<td>CA2 Schedule appointments and generate invoices</td>
</tr>
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<td>III Students will be able to think critically and solve problems by finding, analyzing and evaluating information and engaging in informed debate.</td>
<td>AA3 Use research and technology skills to access information from multiple sources.</td>
<td>CA3 Demonstrate proper patient restraint and safety procedures</td>
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<td>AA4 Use critical thinking and problem-solving skills to evaluate and synthesize information to form conclusions, ideas, and opinions.</td>
<td>CA4 Conduct routine physical exams and obtain patient histories</td>
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<td>CA5 Assist with surgical procedures and dental cleanings</td>
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<td>CA6 Calculate dosages and administer medications</td>
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<td>CA7 Collect blood samples and perform diagnostic laboratory tests</td>
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</table>
CCPLT1 Describe common plant and insect lifecycles, understand basic plant nutritional requirements and plant propagation techniques
CCPLT2 Recommend common controls for plant pests
CCPLT3 Properly manage soil for plant growth
CCPLT4 Operate common landscape and turfgrass equipment
CCPLT5 Demonstrate landscape maintenance skills or turfgrass maintenance skills

ASCBTDM1 Integrate basic environmental science concepts with traditional and modern resource management practices in recommending environmental management decisions.
ASCBTDM2 Exhibit best management practices when extracting and utilizing natural resources.
ASCBTDM3 Design and implement an environmental study.
ASCBTDM4 Effectively use laboratory and field instrumentation to collect data.
ASCBTDM5 Analyze and interpret environmental data.
ASCBTDM6 Write an objective technical report involving the presentation and analysis of environmental data.

ASCBTPB1 Cultivate and maintain plant growth
ASCBTPB2 Identify plants
ASCBTPB3 Fluent in aseptic culture
ASCBTPB4 Perform biotech lab activities (genetic engineering, DNA analysis)
ASCBTPB5 Conduct pharmaceutical and nutraceutical research
ASCBTPB6 Apply technology, management, and marketing skills to become a bioprocessing entrepreneur
ASCBTPB7 Follow standard ethics and regulations of the biotech profession, biosafety, and intellectual property rights

ASCArt1 Make accurate drawings and paintings from observation
ASCArt2 Apply the visual elements of line, shape, light and shadow, color, texture, and the design principles of balance, rhythm, focal points, implied movement, and unity in works of art
ASCArt3 Draw the human figure accurately and expressively

ASCSWT1 Describe tree anatomy and physiology
ASCSWT2 Identify and characterize tree species on the Hawaii ISA list
ASCSWT3 Recommend tree preservation techniques during construction
ASCSWT4 Use ISA pruning standard ANSI A300
ASCSWT5 Apply ANSI Z133.1 and OSHA safety standards
ASCSWT6 Assess trees for risk
ASCSWT7 Select and use tree pruning and felling equipment

ASCArt1 Utilize the appropriate computer applications to produce professional-level documents, including electronic spreadsheets, presentations, databases, and web pages to enhance effective communication
ASCArt2 Understand and apply basic accounting skills such as recording, posting, summarizing, and interpreting financial data of an organization
ASCArt3 Develop a working understanding of skills required for effective management of a business, including but not limited to communications, administrative, technical, human relations, and problem solving.
ASCArt4 Develop a basic understanding of ethical and moral issues involved in and related to the use of computer technology, the misuse of accounting information, and employment issues of women and other minority groups.

ASCSWT1 Follow standard ethics and regulations of the biotech profession, biosafety, and intellectual property rights
ASCSWT2 Identify plants
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ASCSWT6 Assess trees for risk
ASCSWT7 Select and use tree pruning and felling equipment

ASCArt1 Communicate effectively via writing, speaking and nonverbal cues.
ASCArt2 Manage a group by supervising, negotiating, evaluating others, fostering teamwork and open communication.
ASCArt3 Operate a computer to manage records, communicate and gather information.
ASCArt4 Interact effectively and ethically one-on-one or in a group, show good listening skills, empathy and problem-solving.

ASCHS1 Access sources of information about Hawaii and Hawaiian Studies
ASCHS2 Critically analyze information about Hawaii and Hawaiian Studies
ASCHS3 Communicate, applying correct Hawaiian pronunciation, spelling, basic phrase and sentence patterns
ASCHS4 Apply a firm foundation to continued Hawaiian language acquisition
ASCHS5 Demonstrate a basic understanding of Hawaii, its natural and social history, and its Hawaiian heritage.
ASCHS6 Identify Hawaiian environmental and community issues and ways to contribute to Hawaii by applying information and understanding gained from the ASC in Hawaiian Studies.
ASCHS7 Understand, appreciate, articulate, and safeguard Hawaii, its unique heritage and identity through having attained the ASC in Hawaiian studies.

ASCArt1 Use current and emerging technologies effectively to create and manage documents
ASCArt2 Communicate clearly and effectively through oral and written interactions, complying with standard office etiquette.
ASCArt3 Apply appropriate strategies to secure employment

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ASCArt1 Draw the human figure accurately and expressively
ASCArt2 Apply the visual elements of line, shape, light and shadow, color, texture, and the design principles of balance, rhythm, focal points, implied movement, and unity in works of art
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<th>Programs</th>
<th>COPICS AB2 Integrate Web technologies into business applications to update information technology skills.</th>
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<tr>
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<td>COPICS AB3 Integrate design elements in publications and Web projects.</td>
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<td>COPICS WS2 Upload the website with interactive Web components.</td>
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<td></td>
<td>COPICS WS3 Modify and update the website and add new components as needed.</td>
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<tr>
<td></td>
<td>CCOICS WS4 Develop and produce a published product.</td>
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