

**Assessment of Student Learning in the General Education Division  
2016 – 2017 Academic Year**

**Part I – General Education Outcomes**

Upon completion of the Associate of Applied Science degree students should be able to demonstrate the following skills and abilities (as defined within the Association of American Colleges & Universities VALUE Rubrics):

1. **Written Communication.** Written communication is the development and expression of ideas in writing. Written communication involves learning to work in many genres and styles. It can involve working with many different writing technologies, and mixing texts, data, and images. Written communication abilities develop through iterative experiences across the curriculum.
2. **Oral Communication.** Oral communication is a prepared, purposeful presentation designed to increase knowledge, to foster understanding, or to promote change in the listeners' attitudes, values, beliefs, or behaviors.
3. **Quantitative Literacy.** Quantitative Literacy (QL) – also known as Numeracy or Quantitative Reasoning (QR) – is a "habit of mind," competency, and comfort in working with numerical data. Individuals with strong QL skills possess the ability to reason and solve quantitative problems from a wide array of authentic contexts and everyday life situations. They understand and can create sophisticated arguments supported by quantitative evidence and they can clearly communicate those arguments in a variety of formats (using words, tables, graphs, mathematical equations, etc., as appropriate).
4. **Problem Solving.** Problem solving is the process of designing, evaluating and implementing a strategy to answer an open-ended question or achieve a desired goal.
5. **Civic Engagement.** Civic engagement is "working to make a difference in the civic life of our communities and developing the combination of knowledge, skills, values and motivation to make that difference. It means promoting the quality of life in a community, through both political and non-political processes." (Excerpted from *Civic Responsibility and Higher Education*, edited by Thomas Ehrlich, published by Oryx Press, 2000, Preface, page vi.) In addition, civic engagement encompasses actions wherein individuals participate in activities of personal and public concern that are both individually life enriching and socially beneficial to the community.
6. **Critical Thinking.** Critical thinking is a habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion.
7. **Information Literacy.** The ability to know when there is a need for information, to be able to identify, locate, evaluate, and effectively and responsibly use and share that information for the problem at hand. – Adopted from the National Forum on Information Literacy.

In fall 2017, the Academic Council approved an eighth SLO for the General Education Program:

8. **Intercultural Knowledge and Competence.** Intercultural Knowledge and Competence is "a set of cognitive, affective, and behavioral skills and characteristics that support effective and appropriate interaction in a variety of cultural contexts." (Bennett, J. M. 2008. Transformative training: Designing programs for culture learning. In *Contemporary leadership and intercultural competence: Understanding and utilizing cultural diversity to build successful organizations*, ed. M. A. Moodian, 95-110. Thousand Oaks, CA: Sage.)

## **Part II – General Education Outcomes – Classroom SLOs, Results, and Analyses**

Students develop their General Education skills, knowledge, and abilities within the following courses and according to the following course outcomes:

### **1. Criterion One: Written Communication**

#### **a. Business & Technical Writing**

- i. Properly format letters, e-mails, reports, and memos
- ii. Use APA-style citation
- iii. Organize ideas logically in writing.
- iv. Use evidence and reasons to support claims.
- v. Demonstrate appropriate skills in grammar, punctuation, and mechanics.

#### **b. College Composition**

- i. Construct an effective thesis statement
- ii. Demonstrate improved skills in grammar, punctuation, and mechanics.
- iii. Compose and revise essays for content, structure, tone, voice, and diction.
- iv. Identify assumptions and logical fallacies in others' arguments
- v. Use evidence and reasoning to support claims.
- vi. Format essays and cite sources according to APA guidelines.

#### **c. Advanced Composition**

- i. Summarize the arguments of others fairly, concisely, and accurately in the form of a precis.
- ii. Organize ideas logically in writing.
- iii. Use good reasoning to support claims.
- iv. Use appropriate and relevant sources to support claims.
- v. Write essays and papers with attention to language and style.
- vi. Format essays and papers according to APA-style guidelines.

### **Results**

	<b>ENG 1503 Business &amp; Technical Writing</b>	<b>ENG 1903 College Composition</b>	<b>ENG 2203 Advanced Composition</b>
# of Outcomes assessed	205	84	99
# of Outcomes met	190	78	91
% of Outcomes met	93	93	92

### **Analysis & Recommendations**

- Students are meeting a sufficient amount (about 93 percent) of outcomes in these courses at the rate of passing (D or above).
- The instructor continues to work on and improve these courses:
  - Include more opportunities to improve grammar, mechanics, punctuation, and usage.
  - Augment the value of doing revisions.
  - Implement a pass/fail system for formatting (letters, emails, APA-style papers, etc.)



**2. Criterion Two: Oral Communication**

*a. Sales Communication*

- i. Become familiar with the steps of the sales process – prospecting, preparing, opening, presenting, closing, and servicing the sale.
- ii. Work together to prepare group sales presentations.
- iii. Gain a better understanding of sales through shadowing a professional salesperson.
- iv. Develop skills in assessing and overcoming obstacles and challenges when presented with different scenarios relevant to sales.
- v. Develop skills in oral communication by becoming involved in the sales process by participating in an actual sales presentation.
- vi. Develop skills in written communication by developing expression of ideas through writing assignments and a written final project.

**Results**

	<b>SPC 1103: Sales Communications</b>
# of Outcomes assessed	266
# of Outcomes met	262
% of Outcomes met	98

**Analysis & Recommendations**

- Students are meeting a sufficient amount (about 98 percent) of outcomes in these courses at the rate of passing (D or above).
- The instructor continues to work on and improve these courses.
- Reinstate the SPC 1113: Speech course.

### 3. Criterion Three: Quantitative Literacy

#### a. *Math for Veterinary Technicians*

- i. Obtain an understanding of and perform arithmetic operations using fractions, decimals, percents, ratios and proportions.
- ii. Analyze and solve application problems using fundamental arithmetic operations using fractions, decimals, percents, ratios, and proportions.
- iii. Apply the basic principles of algebra, geometry, statistics, and graphs to the solution of applications in veterinary care.
- iv. Recognize Roman numerals and be able to translate to ordinary numbers.
- v. Perform conversions within and between Metric and Standard measurement systems.
- vi. Solve single and multi-step dosage problems and the dilution of stock solutions to desired concentrations.

#### b. *Agricultural Math*

- i. Add, subtract, multiply and divide proper and improper fractions.
- ii. Calculate sales tax amounts when given the rate and purchase price.
- iii. Do calculations with positive and negative numbers.
- iv. Solve problems using basic geometric formulas
- v. Solve for unknowns in basic algebraic equations.

#### c. *College Algebra*

- i. Compute the solutions to equations and inequalities
- ii. Produce and analyze the graphs of functions in two-dimensional coordinates
- iii. Apply the properties of algebra to functions
- iv. Compute the zeros of polynomial functions
- v. Analyze and graph a rational function
- vi. Use mathematical equations to model real life situations
- vii. Apply the properties of exponential and logarithmic functions to simplify expressions
- viii. Compute the solutions to exponential and logarithmic equations
- ix. Analyze and graph the equations of the conic sections
- x. Compute the solutions to linear and nonlinear systems of equations

#### d. *Trigonometry*

- i. Determine the direction of a directed line segment
- ii. Position points on the rectangular coordinate system
- iii. Convert radian measure to degree measure and conversely
- iv. Write the general definitions of the trig function of any angle
- v. List the exact value of the trig functions of certain special angles
- vi. Compute the approximate value of the trig functions of any angle
- vii. Solve problems involving right angles
- viii. Recognize the association between directed angle and real numbers
- ix. Solve problems involving trigonometric functions of real numbers
- x. Verify trig identities using the eight fundamental identities
- xi. Graph variations of the trig functions
- xii. Solve problems involving logarithmic computation
- xiii. Solve problems involving oblique triangles and trig functions
- xiv. Apply the law of cosines and law of sines
- xv. Apply the inverse trig functions
- xvi. Solves problems involving complex numbers

## Results

	<b>MTH 1203 Math for Vet Techs</b>	<b>MTH 1403 Agricultural Math</b>	<b>MTH 1503 College Algebra</b>	<b>MTH 2253 Trigonometry</b>
# of Outcomes assessed	270	175	90	105
# of Outcomes met	195	135	63	82
% of Outcomes met	72	77	70	78

#### **Analysis & Recommendations**

- Students are meeting a sufficient amount (about 74 percent) of outcomes in these courses at the rate of passing (D or above).
- The instructor continues to work on and improve these courses.

#### 4. **Criterion Four: Problem Solving**

##### a. *Software Productivity*

- i. Gain a basic working knowledge of Microsoft Publisher 2016.
- ii. Clearly demonstrate proficiencies developed when using Microsoft Publisher 2016.
- iii. Gain a basic working knowledge of Adobe Creative Suite.
- iv. Clearly demonstrate proficiencies developed when using Adobe Creative Suite.

##### b. *Plant Science (and Plant Science Lab)*

- i. Students will be able to describe seed, root, stem, leaf and flower structure and function.
- ii. Students will examine water uptake and transpiration including why transpiration is critical for plant growth.
- iii. Students will be able to describe the major photosynthetic pathways and factors that influence the efficiency of plant photosynthesis.
- iv. Students will be able to recognize how plants obtain stored energy for growth including source-sink relationships during plant growth and development.
- v. Students will differentiate how light, temperature and stress affects plant growth and reproduction.
- vi. Students will recognize the major plant hormones and be able to describe their role in plant growth and development.
- vii. Students will distinguish how genetics affects plant characteristics and methods of genetic engineering.
- viii. Students will be able to describe growth and development of monocot and dicot agronomic crops, and relate these to selected management situations.
- ix. Students will be able to identify important morphological structures of monocot and dicot plants.
- x. Students will be able to determine growth stages of corn, sorghum, soybean, small grains, and prairie and forages grasses and legumes; and relate these to selected management situations.
- xi. Students will be able to analyze seed structure as it relates to seed germination and food/feed products obtained from seed.

##### c. *Fundamentals of Animal Biology*

- i. Identify parts of a cell.
- ii. Explain the action of a cell.
- iii. Describe cell division and heredity.
- iv. Explain the physiological processes of a system
- v. Use a binocular microscope.
- vi. Identify basic anatomical parts of a prepared specimen.

##### d. *General Biology*

- i. Describe the basic causes and effects of evolution.
- ii. Discuss the taxonomic system used in classifying living things.
- iii. Explain the process of DNA replication, RNA production, and Protein synthesis.
- iv. Write a scientific paper correctly including all of the required parts.
- v. Complete work in the laboratory using the proper safety procedures.

##### e. *Introduction to Chemistry I*

- i. 1. Recognize the various groups of elements on the periodic table.
- ii. 2. Describe the structure of an atom.
- iii. 3. Balance chemical equations.
- iv. 4. Solve stoichiometric problems.

- v. 5. Describe the electron orbitals of an atom.

**Results**

	<b>AIT 1083: Software Productivity</b>	<b>ASI 1024: Fundamentals of Animal Biology</b>	<b>BIO 1313: Plant Science (Lec + Lab)</b>	<b>BIO 1104: General Biology (Lec + Lab)</b>	<b>CHM 1014: Intro to Chemistry</b>
# of Outcomes assessed	321	228	268	95	178
# of Outcomes met	264	198	222	77	140
% of Outcomes met	82	87	83	81	79

**Analysis & Recommendations**

- Students are meeting a sufficient amount (about 83 percent) of outcomes in these courses at the rate of passing (D or above).
- Instructors continue to work on and improve these courses.

5. **Criterion Five: Civic Engagement**

a. *Interpersonal Skills for Leadership*

- i. Participate in effective communication and listening skills
- ii. Describe personal values, ethics, strengths, and weaknesses and be able to search for constructive ways to enhance those traits
- iii. Describe and recognize effective leadership and have a sense of their own leadership style
- iv. Recognize diversity and the benefits a diverse society can provide
- v. Report on their service learning project and the impacts it had on the community and the individuals involved

**Results**

	<b>AED 1023: Interpersonal Skills for Leadership</b>
# of Outcomes assessed	325
# of Outcomes met	303
% of Outcomes met	93

**Analysis & Recommendations**

- Students are meeting a sufficient amount (about 93 percent) of outcomes in these courses at the rate of passing (D or above).
- The instructor continues to work on and improve these courses.

6. **Criterion Six: Critical Thinking**

- a. *Business & Technical Writing*
  - i. *Use evidence and reasons to support claims*
- b. *College Composition*
  - i. *Use evidence and reasons to support claims*
- c. *Advanced Composition*
  - i. *Use evidence and reasons to support claims*

**Results**

	<b>ENG 1503: Business and Technical Writing</b>	<b>ENG 1903: College Composition</b>	<b>ENG 2203: Advanced Composition</b>
# of Outcomes assessed	41	14	18
# of Outcomes met	40	13	17
% of Outcomes met	98	93	94

**Analysis & Recommendations**

- The high rate of passing may be a reflection of the difficulty of assessing an abstract skill.
- Two recommendations are suggested for assessment:
  - Explore a more precise, quantitative method of measuring the use of “evidence and reasons to support claims” in written assignments.  
AND/OR
  - Implement a second valid and reliable method of measuring critical thinking skills. E.g.:
    - Logical Fallacies quizzes/exams in ENG 1503 and ENG 1903
    - Practical argumentation exercises in ENG 2203.

7. **Criterion Seven: Information Literacy**

a. *Learning Communities*

- i. Students will be able to identify, locate, evaluate and effectively and responsibly use and share information.

**Results**

	<b>PSY 1011: Learning Communities</b>
# of Outcomes assessed	131
# of Outcomes met	111
% of Outcomes met	85

**Analysis & Recommendations**

- Collect data from each division on how (specifically) this outcome is being measured; if necessary, recommend alternatives for improvement.

**8. Intercultural Knowledge and Competence.**

*a. Learning Communities*

- i. Students will demonstrate a set of cognitive, affective, and behavioral skills and characteristics that support effective and appropriate interaction in a variety of cultural contexts.

**Results**

	<b>PSY 1011: Learning Communities*</b>
# of Outcomes assessed	94
# of Outcomes met	64
% of Outcomes met	68
*1 Division appears not to have assessed this SLO.	

**Analysis & Recommendations**

- Make sure all divisions are assessing this SLO and using the proper language.
- Collect data from each division on how (specifically) this outcome is being measured; if necessary, recommend alternatives for improvement.

## **Part II – General Education Outcomes – Additional Recommendations**

In addition to the recommendations above, it is recommended that the General Education Division:

1. Remind faculty not to include “results” for students who were not actually tested (e.g., Counting students as failing an outcome because they did not take the exam, etc.).

### **Part III – General Education Outcomes – Results of Previous Recommendations**

The following recommendations have been implemented.

1. A new program-level outcome was discussed and assessed in response to an HLC recommendation for more diversity in the curriculum: Intercultural Knowledge and Competence.
  - a. This outcome was added to the Learning Communities Course
2. All faculty participated in two QM workshops to improve assessment skills: Connecting Learning Objectives and Assessments & Using Instructional Materials and Technology to Promote Learner Engagement.

The following recommendations are in progress:

1. Explore more precise or alternative methods of measuring “Critical Thinking” in the writing courses.
2. Ask Academic Council to review the appropriateness and validity of specific course outcomes in meeting program outcomes.
  - a. I am taking individual syllabi to Academic Council for review. This process probably will take a year to complete
3. Continue to encourage faculty to conduct pre- as well as post-test measures of all outcomes.
4. The Division should continue to encourage faculty to submit raw data along with their SLO reports.

The following recommendations are not yet in progress:

1. Require faculty to show how assessment measures match with specific SLOs in their syllabi.