The communication and computation skills identified herein, pursuant to Section 1001.02(2)(d), Florida Statutes, are associated with successful performance of students in college programs through the baccalaureate level.

(1) The following skills, by designated category, are defined as college-level communication skills:

(a) Reading with literal comprehension includes all of the following skills:
   1. Recognizing main ideas in a given passage.
   2. Identifying supporting details.
   3. Determining meaning of words on the basis of context.

(b) Reading with critical comprehension includes all of the following skills:
   1. Recognizing the author’s purpose.
   2. Identifying the author’s overall organizational pattern.
   3. Distinguishing between statement of fact and statement of opinion.
   4. Detecting bias.
   5. Recognizing author’s tone.
   6. Recognizing explicit and implicit relationships within sentences.
   7. Recognizing explicit and implicit relationships between sentences.
   8. Recognizing valid arguments.
   9. Drawing logical inferences and conclusions.

(c) Listening with literal comprehension includes all of the following skills:
   1. Recognizing main ideas.
   2. Identifying supporting details.
   3. Recognizing explicit relationships among ideas.
   4. Recalling basic ideas, details, or arguments.

(d) Listening with critical comprehension includes all of the following skills:
   1. Perceiving the speaker’s purpose.
   2. Perceiving the speaker’s organization of ideas and information.
   3. Discriminating between statements of fact and statements of opinion.
   4. Distinguishing between emotional and logical arguments.
   5. Detecting bias.
   6. Recognizing the speaker’s attitude.
   7. Synthesizing by drawing logical inferences and conclusions.

(e) Composing units of discourse providing ideas and information suitable for purpose and audience includes all of the following skills:
   1. Selecting a subject which lends itself to development.
   2. Determining the purpose and the audience for writing.
   3. Limiting the subject to a topic which can be developed within the requirements of time, purpose, and audience.
   4. Formulating a thesis or statement of main idea which focuses the essay.
   5. Developing the thesis or main idea statement by all of the following:
      a. Providing adequate support which reflects the ability to distinguish between generalized and specific evidence.
      b. Arranging the ideas and supporting details in a logical pattern appropriate to the purpose and the focus.
      c. Writing unified prose in which all supporting material is relevant to the thesis or main idea statement.
      d. Writing coherent prose and providing effective transitional devices which clearly reflect the organizational pattern and the relationships of the parts.

(f) Transmitting ideas and information in effective written language which conforms to the conventions of standard American English includes all of the following skills:
   1. Demonstrating effective word choice by all of the following:
      a. Using words which convey the denotative and connotative meanings required by context.
      b. Avoiding inappropriate use of slang, jargon, cliches, and pretentious expressions.
c. Avoiding wordiness.

2. Employing conventional sentence structure by all of the following:
   a. Placing modifiers correctly.
   b. Coordinating and subordinating sentence elements according to their relative importance.
   c. Using parallel expressions for parallel ideas.
   d. Avoiding fragments, comma splices, and fused sentences.

3. Employing effective sentence structure by all of the following:
   a. Using a variety of sentence patterns.
   b. Avoiding overuse of passive construction.

4. Observing the conventions of standard American English grammar and usage by all of the following:
   a. Using standard verb forms.
   b. Maintaining agreement between subject and verb, pronoun and antecedent.
   c. Using proper case forms.
   d. Maintaining a consistent point of view.
   e. Using adjectives and adverbs correctly.
   f. Avoiding inappropriate shifts in verb tenses.
   g. Making logical comparisons.

5. Using standard practice for spelling, punctuation, and capitalization.

6. Revising, editing, and proofreading units of written discourse to assure clarity, consistency, and conformity to the conventions of standard American English.

(g) Speaking involves composing the message, providing ideas and information suitable to topic, purpose, and audience which includes all of the following skills:
   1. Determining the purpose of the oral discourse.
   2. Choosing a topic and restricting it according to purpose and audience.
   3. Fulfilling the purpose by the following:
      a. Formulating a thesis or main idea statement.
      b. Providing adequate support material.
      c. Organizing suitably.
      d. Using appropriate words.
      e. Using effective transitions.

(h) Speaking involves transmitting the message, using oral delivery skills suitable to the audience and the occasion by all of the following skills:
   1. Employing vocal variety in rate, pitch, and intensity.
   2. Articulating clearly.
   3. Employing the level of American English appropriate to the designated audience.
   4. Demonstrating nonverbal behavior which supports the verbal message with eye contact and appropriate posture, gestures, facial expressions, and body movements.

(2) The following skills, by designated category, are defined as college-level computation skills:
(a) Demonstrating mastery of all of the following arithmetic algorithms:
   1. Adding, subtracting, multiplying, and dividing rational numbers.
   2. Adding, subtracting, multiplying, and dividing rational numbers in decimal form.
   3. Calculating percent increase and percent decrease.
   4. Solving the sentence a percent of b is c, where values for two of the variables are given.
(b) Demonstrating mastery of all of the following geometric and measurement algorithms:
   1. Rounding measurements to the nearest given unit of the measuring device used.
   2. Calculating distances, areas, and volumes.
(c) Demonstrating mastery of all of the following algebraic algorithms:
   1. Adding, subtracting, multiplying, and dividing real numbers.
   2. Applying the order-of-operations agreement to computations involving numbers and variables.
3. Using scientific notation in calculations involving very large or very small measurements.


5. Solving linear inequalities.

6. Using given formulas to compute results, when geometric measurements are not involved.

7. Finding particular values of a function.

8. Factoring a quadratic expression.


10. Solving a system of two (2) linear equations in two (2) unknowns.

(d) Demonstrating mastery of all of the following statistical algorithms, including some from probability:

1. Identifying information contained in bar, line, and circle graphs.

2. Determining the mean, median, and mode of a set of numbers.

3. Using the fundamental counting principle.

(e) Demonstrating mastery of logical-reasoning algorithms by deducing facts of set inclusion or set non-inclusion from a diagram.

(f) Demonstrating understanding of arithmetic concepts by all of the following skills:

1. Recognizing the meaning of exponents.

2. Recognizing the role of the base number in determining place value in the base-ten numeration system.

3. Identifying equivalent forms of positive rational numbers involving decimals, percents, and fractions.

4. Determining the order relation between real numbers.

5. Identifying a reasonable estimate of a sum, average, or product of numbers.

(g) Demonstrating understanding of geometric and measurement concepts by all of the following skills:

1. Identifying relationships between angle measures.

2. Classifying simple plane figures by recognizing their properties.

3. Recognizing similar triangles and their properties.

4. Identifying appropriate units of measurement for geometric objects.

(h) Demonstrating understanding of algebraic concepts by all of the following skills:

1. Using properties of operations correctly.

2. Determining whether a particular number is among the solutions of a given equation or equality.

3. Recognizing statements and conditions of proportionality and variation.

4. Identifying regions of the coordinate plane which correspond to specified conditions and vice versa.

(i) Demonstrating understanding of statistical concepts including probability by all of the following skills:

1. Recognizing properties and interrelationships among the mean, median, and mode in a variety of distributions.

2. Choosing the most appropriate procedure for selecting an unbiased sample from a target population.

3. Identifying the probability of a specified outcome in an experiment.

(j) Demonstrating understanding of logical-reasoning concepts by all of the following skills:

1. Identifying statements equivalent to the negations of simple and compound statements.

2. Determining equivalence or non-equivalence of statements.

3. Drawing logical conclusions from data.

4. Recognizing that an argument may not be valid even though its conclusion is true.

(k) Inferring relations between numbers in general by examining particular number pairs.

(l) Generalizing and selecting applicable generalizations in geometry and measurement by both of the following skills:

1. Inferring formulas for measuring geometric figures.

2. Selecting applicable formulas for computing measures of geometric figures.

(m) Generalizing and selecting applicable generalizations in algebra by using applicable properties to select equivalent equations and inequalities.

(n) Generalization and selecting applicable generalizations in statistics, including probability, by inferring relations and making accurate predictions from studying statistical data.

(o) Generalizing and selecting applicable generalizations in logical reasoning by both of the following skills:

1. Recognizing valid reasoning patterns as illustrated by valid arguments in everyday language.
2. Selecting applicable rules for transforming statements without affecting their meaning.
(p) Demonstrating proficiency for solving problems in the area of arithmetic by the following skills:
1. Solving real-world problems which do not require the use of variables and which do not involve percent.
2. Solving real-world problems which do not require the use of variables and which do require the use of percent.
3. Solving problems that involve the structure and logic of arithmetic.
(q) Demonstrating proficiency for solving problems in the area of geometry and measurement by both of the following skills:
1. Solving real-world problems involving perimeters, areas, or volumes of geometric figures.
2. Solving real-world problems involving the Pythagorean property.
(r) Demonstrating proficiency for solving problems in the area of algebra by both of the following skills:
1. Solving real-world problems involving the use of variables, aside from commonly used geometric formulas.
2. Solving problems that involve the structure and logic of algebra.
(s) Demonstrating proficiency for solving problems in the area of statistics, including probability, for both of the following skills:
1. Interpreting real-world data involving frequency and cumulative frequency tables.
2. Solving real-world problems involving probabilities.
(t) Demonstrating awareness of the ways in which logical reasoning is used to solve problems by drawing logical conclusions when facts warrant them.

3) The Articulation Coordinating Committee shall file with the Commissioner and the State Board, on or before November 30 of each odd-numbered year, its recommendations for changes, if any, in the above definitions of college-level communication and computation skills.

Specific Authority 1001.02(2)(d) FS. Law Implemented 1001.02, 1008.29 FS. History–New 8-1-92.