

# ARTICULATION COORDINATING COMMITTEE

## COLLEGE LEVEL ACADEMIC SKILLS WORKSHOP

May 26, 2010

Turlington Building, 1703/07  
Tallahassee, FL

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**College Level Academic Skills Program (CLASP)**  
White Paper  
Prepared for the Articulation Coordinating Committee  
May, 2010

*It is the intent of the Legislature that the examination of college-level communication and mathematics skills serve as a mechanism for students to demonstrate that they have mastered the academic competencies prerequisite to upper-division undergraduate instruction. It is further intended that the examination serve as both a summative evaluation instrument prior to student enrollment in upper-division programs and as a source of information for student advisers. It is not intended that student passage of the examination supplant the need for a student to complete the general education curriculum prescribed by an institution.*

*(s. 1008.29, F.S., repealed 2009)*

***Creation of the CLASP/CLAST Program***

The College-Level Academic Skills Program (CLASP) was established in the early 1980s by the Florida Legislature as a means to ensure that students entering the upper division had mastered a set of communication and computation skills that faculty deemed important for success. The College-Level Academic Skills Test (CLAST) was administered for the first time in October 1982.

By 1984 cut scores had been established and students were required to pass the CLAST as a pre-requisite to earning the Associate in Arts (AA) degree and/or admission to the upper division at a state university. The original intent was to develop cut scores that would indicate mastery of the skills that formed the basis for the test. However, the final scores were not based upon faculty determination of what constituted mastery.

Originally, the intent was for students to take the CLAST as they neared the 60-semester hour mark in their academic career. However, once the test became a requirement (“high-stakes”), students had to be given multiple chances to pass. This resulted in a policy that allowed students to take the CLAST after earning only 18 semester hours of college credit, thereby giving those who did not meet cut scores the opportunity to take the test multiple times before completing the AA degree.

## ***CLAST Alternatives***

Alternatives to the CLAST were first introduced by the Legislature in 1995 and amended in 1997. Per State Board of Education Rule 6A-10.0311, students could be exempted from the testing requirement if they met either of the following criteria: 1) achieved a specified cut score on a nationally standardized examination; or 2) achieved a grade point average of 2.5 on selected postsecondary level courses. Implementation of the CLAST alternatives resulted in a decline in the number of students sitting for the test. Over the subsequent years, the number of test takers dropped from 53,470 first time takers in public and private institutions in 1994-95 to 16,643 in 2008-09, and the number and percent of students using the alternatives substantially increased.

In 2003, the Articulation Coordinating Committee (ACC) convened the *Task Force on Transition Assessments* to investigate the utilization of the CLAST alternatives and the resultant impact on student performance in the upper division. Results of the investigation indicated that although 2/3 of students were using the CLAST alternatives rather than the test as a means of satisfying CLASP requirements, student preparedness for upper-division (as measured by GPA) did not decrease. As the shift occurred from the test to the alternatives, the average upper-division GPA earned by AA transfers in the SUS remained steady.

Task Force members discussed the potential for a different approach to accountability based on the use of programmatic indicators or proxy measures rather than on the individual attainment of CLAST skills or the alternatives. Recommendations included the following:

1. A mechanism of accountability should remain in place to ensure that students receive quality lower division instruction (in both the universities and colleges) that prepares them for success in upper division coursework.
2. Performance accountability mechanisms should be established to ensure important indicators of lower division quality are quantified and measured.
3. If program performance accountability measures are demonstrated to be valid indicators of preparedness of students for upper division work, and hence the attainment of College-Level Academic Skills, CLASP should be repealed.

## ***Current Situation***

Due to budgetary concerns, Senate Bill 1676 (effective July 1, 2009) repealed section 1008.29, Florida Statutes, and eliminated the College-Level Academic Skills Test (CLAST) as an examination. However, the CLAST alternatives previously in Rule were embedded in section 1007.25, F.S. Specifically, an AA

or baccalaureate degree may not be conferred upon any student who fails to successfully complete one of the following requirements:

- 1) Achieve a score that meets or exceeds a minimum score on a nationally standardized examination, as established by the State Board of Education in conjunction with the Board of Governors; or
- 2) Demonstrate successful remediation of any academic deficiencies and achieve a cumulative GPA of 2.5 or above, on a 4.0 scale, in postsecondary-level coursework identified by the State Board of Education in conjunction with the Board of Governors. The Department of Education shall specify the means by which a student may demonstrate successful remediation.

Previously, these requirements were considered to be ways in which a student would be “**exempt**” from taking the examination (CLAST). However, since there is no longer an examination to be “exempt” from, these are now de facto **requirements** for receipt of the AA degree and progression into the upper division of a baccalaureate program.

The Articulation Coordinating Committee (ACC) met on August 13, 2009 to approve recommendations relating to the appropriate standardized examinations and cut scores as well as the identification of postsecondary courses for which the 2.5 GPA requirement could apply. These recommendations were forwarded as proposed amendments to State Board of Education Rule 6A-10.0311 and Board of Governors Regulation 6.017. The ACC recommendations were approved by the State Board of Education on November 11, 2009 (effective 12/15/09) and the Board of Governors on December 10, 2009.

In addition to the adoption of the ACC recommendation in Rule/Regulation, the following State Board of Education Rules relating to the CLAST were repealed by the State Board of Education on March 26, 2010: 6A-10.0312 – Minimum Standard of College-Level Communication and Computation Skills; 6A-10.0314 – Applications of College-Level Communication and Computation Skills; and 6A-10.0317 – Participation in the College-Level Communication and Computation Skills Testing Program by Nonpublic Postsecondary Institutions.

On October 28, 2009, the ACC conducted a workshop to address the current and future direction of the CLASP. There was consensus among the participants that some type of quality control mechanism should remain in place to ensure that students are prepared to be successful in upper-division coursework. However, there was a common sentiment expressed that a “one-size-fits-all” examination (like the CLAST) may not be the most appropriate way to assess student readiness for upper division coursework, particularly in a variety of different majors. In addition, the ACC did not view the current statutory provisions and the associated ACC recommendations as a workable long term solution.

## ***National Perspective***

The current national landscape is characterized by an increased focus on the institutional assessment of student learning outcomes and the utilization of assessment results to promote continuous improvement. The National Institute for Learning Outcomes Assessment (NILOA) conducted a survey of over 2,800 higher education institutions in 2009 regarding their institutional assessment activities. Findings suggested that:

1. Most institutions have identified a common set of learning outcomes that apply to all students.
2. Most institutions use a combination of institution-level and program-level assessment approaches.
3. The most common use of assessment data is related to accreditation.
4. Assessment approaches and uses of assessment results vary systematically by institutional selectivity.
5. Assessment is driven more by accreditation and a commitment to improve than external pressures from government or employers.
6. Most institutions conduct learning outcomes assessment on a shoestring: 20% have no assessment staff and 65% have two or fewer.
7. Gaining faculty involvement and support remains a major challenge. Campuses would also like more assessment expertise, resources and tools.
8. Most institutions plan to continue outcomes assessment work despite budgetary challenges.

*More Than You Think, Less Than We Need:  
Learning Outcomes Assessment in American Higher Education  
NILOA, October 2009*

As referenced above, the accreditation process requires institutional commitment to student learning and achievement as well as to the concept of quality enhancement through continuous assessment and improvement. All Florida public colleges and universities are accredited by the Southern Association of Colleges and Schools, Commission on Colleges. Specifically, Principle 3.5.1 of the SACS Principles of Accreditation: Foundations for Quality Enhancement (2010 Edition) states that institutions are responsible for identifying “college-level general education competencies and the extent to which graduates have attained them.” There is an additional expectation that once institutions identify expected outcomes and the extent to which they are achieved by students, each institution will provide evidence of improvement based on an analysis of data.

## ***Learning Outcomes - Florida Perspective***

### **State University System**

University students are served best when students and faculty fully engage in a teaching-learning partnership, and this partnership is all the more meaningful if it is made as clear as possible to students what it is they will learn and how program faculty will assess that learning. Therefore, the Board of Governors has promulgated a Regulation that requires universities to develop “Academic Learning Compacts” and related assessment processes to define and demonstrate student achievement in baccalaureate degree programs in the State University System.

Each Academic Learning Compact must include, at a minimum, the expected core student learning outcomes for program graduates, as well as a list of the types of assessments students might encounter in the program (e.g., capstone projects, juried performances, internship performance, standardized exams, common embedded exam questions, research projects, portfolio requirements, etc.). This information must be posted on the university Web site.

In addition to developing Academic Learning Compacts, university personnel must identify the corresponding assessment tools and procedures that faculty use within the context of the program to determine if individual students have met each of the articulated core student learning expectations. They also must develop robust and effective program assessment/evaluation systems to substantiate that graduates have truly attained the expected core competencies. Finally, program faculty must demonstrate the use of results from program assessments/evaluations to continuously improve program effectiveness and student learning.

Currently, the Board of Governors receives a status report from each university on an annual basis. The updates indicate which undergraduate degree programs have implemented Academic Learning Compacts and related assessment processes and are in a continuous improvement mode, and which programs are in a developmental or termination mode. The Board does not dictate the specific outcomes or assessments themselves, but has promulgated the Regulation to ensure that universities are putting into place the infrastructure, policies, and procedures to develop, implement, and review Academic Learning Compacts and related assessment activities. Board staff members continue to work with university personnel to refine processes and products and to share best and promising practices.

In addition to developing the Academic Learning Compacts, several universities (9 of 11) have elected to participate in the Voluntary System of Accountability (VSA), which includes a group of 332 colleges and universities from across the country with a common goal of assessing the extent to which college instruction helps to improve the skills that students will need to succeed beyond college. Although specific skills vary by major, it is generally accepted that all students need skills related to critical thinking, problem solving, and the ability to communicate complex issues.

### Florida College System

In response to the implementation of Academic Learning Compacts by the State University System, the Florida College System, through its Council on Instructional Affairs, established a Learning Outcomes Task Force in 2008 to address the

identification and the assessment of general education outcomes. As a result, statewide general education categories, a statewide glossary of terms, purposes of assessment, and principles of assessment have been established and agreed upon by all 28 colleges. On a common Web site (<http://valenciac.edu/slo>), each college lists general education outcomes, best practices, and any tools, strategies, and reports that have been created that apply to general education outcomes and assessment. For the 2008-2009 academic year, each of the 28 colleges agreed to provide evidence that they have outcomes for at least one of the five general education outcome categories, pilot a student assessment for that outcome, and share the preliminary results of that assessment and a plan for using the results. Each college then agreed to add at least one category each year for the next five years, with all colleges providing evidence for all five state general education outcome categories by the end of the 2012-2013 academic year.

Proposed Action Plan for ensuring *student preparedness* (mastery of foundational communication and computation skills):

- Bring postsecondary faculty discipline teams together in 2010 to review core lower division math and communication skills in Rule 6A-10.0316 and update the common competencies (expected student learning outcomes) for all AA degree recipients.
- Review lower level communication and computation courses in the SCNS to determine the current competencies covered in each course and update course descriptions to include the revised competencies adopted in Rule 6A-10.0316.
- Require each institution to have in place student assessment/program evaluation mechanisms to substantiate that students are attaining the expected competencies.
- Develop mechanisms to ensure that each instructor teaching lower-division courses will have the responsibility for ensuring that individual students demonstrate mastery of the course competencies before receiving a “C” or higher.

***Using Data as an Accountability Tool***

Florida has a robust data system that makes it possible to track student progression and performance over time and across educational sectors. This ability to track students at the individual student and course level enables the state and individual institutions to identify potential issues related to student success once they progress to the next level.

For example, section 1008.37, F.S., requires the Commissioner of Education to report annually to the State Board of Education, the Board of Governors, the Legislature, and the local school boards on the performance of recent public high school graduates in this state who enroll in a Florida public postsecondary institution. This report, referred to as the “High School Feedback Report,” provides school districts with data related to

student preparation for and success in higher education, allowing them to target problem areas and make adjustments to curriculum, instruction, etc.

A similar approach can be taken for postsecondary education. Currently, the Division of Florida Colleges produces an annual report (Articulation Accountability Report) related to 2+2 articulation which tracks the movement of students from the Florida College System into the State University System. However, this report does not drill down to the student and course level so that problem areas can be specifically identified. Creation of a report that is similar to the High School Feedback Report and focused on 2+2 articulation would allow institutions to get more targeted feedback relating to the performance of their students as they progress to the upper-level. This would not only be useful information for the state as an accountability measure, but could also be useful for institutions in their accreditation process.

Proposed action plan for ensuring *institutional accountability* for student mastery of foundational communication and computation skills:

- Develop a two-way postsecondary transition feedback report as part of a formal statewide Articulation Accountability System.
- Amend the Articulation Accountability statute (s. 1008.38, F.S.) during the 2011 Legislative Session to include an outline of the process for collecting and sharing data related to student performance in the upper division.
- Amend section 1007.25, F.S., to delete the requirements related to the previous “exemption” criteria in favor of an institutional accountability approach.
- Use Florida’s outstanding data systems to report information needed by personnel at different levels in the process (e.g., policymakers, institution administration, faculty) for continuous improvement.
- Provide feedback to institutions where students completed lower division requirements as to how the students are performing in the upper division.  
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- Encourage sharing of best practices for assessing student demonstration of identified competencies.

\*\* *Do we expect institutions to act on the feedback in some way if the data reveals a problem?*



**1007.25 General education courses; common prerequisites; and other degree requirements.--**

- (1) The department shall identify the degree programs offered by public postsecondary educational institutions.
- (2) The department shall identify postsecondary career education programs offered by community colleges and district school boards. The department shall also identify career courses designated as college credit courses applicable toward a career education diploma or degree. Such courses must be identified within the statewide course numbering system.
- (3) The department shall identify those courses that meet general education requirements within the subject areas of communication, mathematics, social sciences, humanities, and natural sciences. The courses shall be identified by their statewide course code number. All public postsecondary educational institutions shall accept these general education courses.
- (4) The department shall identify those courses offered by universities and accepted for credit toward a degree. The department shall identify courses designated as either general education or required as a prerequisite for a degree. The courses shall be identified by their statewide course number.
- (5) The department shall identify common prerequisite courses and course substitutions for degree programs across all institutions. Common degree program prerequisites shall be offered and accepted by all state universities and community colleges, except in cases approved by the State Board of Education for community colleges and the Board of Governors for state universities. The department shall develop a centralized database containing the list of courses and course substitutions that meet the prerequisite requirements for each baccalaureate degree program.
- (6) The boards of trustees of the community colleges shall identify their core curricula, which shall include courses required by the State Board of Education. The boards of trustees of the state universities shall identify their core curricula, which shall include courses required by the Board of Governors. The universities and community colleges shall work with their school districts to assure that high school curricula coordinate with the core curricula and to prepare students for college-level work. Core curricula for associate in arts programs shall be adopted in rule by the State Board of Education and shall include 36 semester hours of general education courses in the subject areas of communication, mathematics, social sciences, humanities, and natural sciences.
- (7) An associate in arts degree shall require no more than 60 semester hours of college credit, including 36 semester hours of general education coursework. Except for college-preparatory coursework required pursuant to s. [1008.30](#), all required coursework shall count toward the associate in arts degree or the baccalaureate degree.
- (8) A baccalaureate degree program shall require no more than 120 semester hours of college credit, including 36 semester hours of general education coursework, unless prior approval has been granted by the Board of Governors for baccalaureate degree

programs offered by state universities and by the State Board of Education for baccalaureate degree programs offered by community colleges.

(9) A student who received an associate in arts degree for successfully completing 60 semester credit hours may continue to earn additional credits at a community college. The university must provide credit toward the student's baccalaureate degree for an additional community college course if, according to the statewide course numbering, the community college course is a course listed in the university catalog as required for the degree or as prerequisite to a course required for the degree. Of the courses required for the degree, at least half of the credit hours required for the degree shall be achievable through courses designated as lower division, except in degree programs approved by the State Board of Education for programs offered by community colleges and by the Board of Governors for programs offered by state universities.

(10) Students at state universities may request associate in arts certificates if they have successfully completed the minimum requirements for the degree of associate in arts (A.A.). The university must grant the student an associate in arts degree if the student has successfully completed minimum requirements for college-level communication and computation skills adopted by the State Board of Education and 60 academic semester hours or the equivalent within a degree program area, with 36 semester hours in general education courses in the subject areas of communication, mathematics, social sciences, humanities, and natural sciences, consistent with the general education requirements specified in the articulation agreement pursuant to s. [1007.23](#).

(11) The Commissioner of Education shall appoint faculty committees representing both community college and public school faculties to recommend to the commissioner for approval by the State Board of Education a standard program length and appropriate occupational completion points for each postsecondary career certificate program, diploma, and degree offered by a school district or a community college.

(12)(a) A public postsecondary educational institution may not confer an associate in arts or baccalaureate degree upon any student who fails to successfully complete one of the following requirements:

1. Achieve a score that meets or exceeds a minimum score on a nationally standardized examination, as established by the State Board of Education in conjunction with the Board of Governors; or
2. Demonstrate successful remediation of any academic deficiencies and achieve a cumulative grade point average of 2.5 or above, on a 4.0 scale, in postsecondary-level coursework identified by the State Board of Education in conjunction with the Board of Governors. The Department of Education shall specify the means by which a student may demonstrate successful remediation.

(b) Any student who, in the best professional opinion of the postsecondary educational institution, has a specific learning disability such that the student cannot demonstrate successful mastery of one or more of the authorized examinations but is achieving at the college level in every area despite his or her disability, and whose diagnosis indicates that further remediation will not succeed in overcoming the disability, may appeal through the appropriate dean to a committee appointed by the president or the chief

academic officer for special consideration. The committee shall examine the evidence of the student's academic and medical records and may hear testimony relevant to the case. The committee may grant a waiver for one or more of the authorized examinations based on the results of its review.

(c) Each public postsecondary educational institution president shall establish a committee to consider requests for waivers from the requirements in paragraph (a). The committee shall be chaired by the chief academic officer of the institution and shall have four additional members appointed by the president as follows:

1. One faculty member from the mathematics department;
2. One faculty member from the English department;
3. The institutional test administrator; and
4. One faculty member from a department other than English or mathematics.

(d) Any student who has taken the authorized examinations and has not achieved a passing score, but has otherwise demonstrated proficiency in coursework in the same subject area, may request a waiver from the examination requirement. Waivers shall be considered only after students have been provided test accommodations or other administrative adjustments to permit the accurate measurement of the student's proficiency in the subject areas measured by the authorized examinations. The committee shall consider the student's educational records and other evidence as to whether the student should be able to pass the authorized examinations. A waiver may be recommended to the president upon a majority vote of the committee. The president may approve or disapprove the recommendation. The president may not approve a request that the committee has disapproved. If a waiver is approved, the student's transcript shall include a statement that the student did not meet the requirements of this subsection and that a waiver was granted.

**History.**--s. 351, ch. 2002-387; s. 107, ch. 2004-357; s. 115, ch. 2007-217; s. 20, ch. 2009-59.

**6A-10.0311 Assessment of Student Attainment of College-Level Communication and Computation Skills.**

Students must demonstrate college-level proficiency in communication and computation skills by successfully completing one or more of the following requirements before the award of the associate in arts degree or baccalaureate degree:

(1) Achieve a score that meets or exceeds a minimum score on a nationally standardized examination as listed below:

Skill Area	Required Score on Examination
Reading	<ul style="list-style-type: none"><li>○ 500 or above on the SAT Critical Reading portion taken after February 2005</li><li>○ 500 or above on the Verbal section of the recentered SAT I taken prior to March 2005</li><li>○ 421 or above (non-recentered score) on the Verbal section of the SAT I taken prior to March 2005</li><li>○ 22 or above on the ACT program in Reading</li><li>○ 20 or above on the Composite of the ACT taken prior to October 1989</li><li>○ 93 or above on the ACCUPLACER Reading Comprehension Examination</li></ul>
English Language and Essay	<ul style="list-style-type: none"><li>○ 500 or above on the SAT Writing portion taken after February 2005</li><li>○ 500 or above on the Verbal section of the recentered SAT I taken prior to March 2005</li><li>○ 421 or above (non-recentered score) on the Verbal section of the SAT I taken prior to March 2005</li><li>○ 21 or above on the ACT program in English</li><li>○ 21 or above on the ACT program in English/Writing (English with Essay component)</li><li>○ 20 or above on the Composite of the ACT taken prior to October 1989</li><li>○ 105 or above on the ACCUPLACER Sentence Skills Examination</li></ul>
Computation	<ul style="list-style-type: none"><li>○ 500 or above on the SAT Mathematics portion taken after February 2005</li><li>○ 500 or above on the Mathematics section of the recentered SAT I taken prior to March 2005</li><li>○ 473 or above (non-recentered score) on the Mathematics section of the SAT I taken prior to March 2005</li><li>○ 21 or above on the ACT program in Mathematics</li><li>○ 21 or above on the ACT taken prior to October 1989</li><li>○ 91 or above on the ACCUPLACER Elementary Algebra examination</li></ul>

(2) Achieve a grade point average of 2.5 or above on a 4.0 grade scale in selected postsecondary level courses at Florida public institutions and non-public institutions on the Statewide Course Numbering System, pursuant to Section 1007.24(7), F.S., as specified below. Each postsecondary institution shall establish its own policies for the evaluation of students' coursework when that student earned credits that are not part of the Statewide Course Numbering System

(a) To meet the College Level Academic Skills requirements in communication, a student must earn a 2.5 grade point average in a combination of at least one (1) course with the ENC prefix and any other course, exclusive of those with the SPC prefix, that is designated as a Gordon Rule writing course pursuant to the requirements of paragraph 6A-10.030(2)(a), F.A.C. Course prefixes are assigned in accordance with Section 1007.24, F.S.

(b) To meet the College Level Academic Skills requirements in computation, a student must earn a 2.5 grade point average in any combination of two (2) courses from the list below:

1. Any MAC course with the last three (3) digits of 102 or higher;
2. MGFX106 – Liberal Arts Mathematics I;
3. MGFX107 – Liberal Arts Mathematics II;
4. MGFX113 – Topics in College Mathematics I;
5. MGFX114 – Topics in College Mathematics II;
6. MGFX118 – Mathematics for CLAST Review;
7. Any MGF course with last three (3) digits of 202 or higher;
8. Any Gordon Rule statistics course;
9. Any mathematics course that has College Algebra (MACX105 as a prerequisite).

(c) Credits granted in accordance with the Articulation Coordinating Committee Credit-By-Examination Equivalencies shall be substituted for the courses specified above. The document, Articulation Coordinating Committee Credit-By-Examination Equivalencies, is hereby incorporated by reference as a part of this rule to become effective with the effective date of this rule. Copies may be obtained by contacting the Office Articulation, Department of Education, 325 West Gaines Street, Tallahassee, FL or from the Department's web site at <http://www.fldoe.org/articulation/pdf/ACC-CBE.pdf>. If a student earns credit by examination for two (2) courses listed in both paragraphs (2)(a) and (2)(b), of this rule, the requirement will be considered to be met. If a student earns credit by examination for one (1) course within either paragraph (2)(a) or (2)(b), of this rule, no grade will be assigned for that course. The 2.5 grade point calculation will be based solely on grades earned in courses completed at an institution.

*Rulemaking Authority 1001.02(6), 1007.25(12)(a) FS. Law Implemented 1001.02, 1007.25, 1012.56 FS. History—New 9-3-81, Amended 5-25-82, 10-7-82, 12-7-82, 12-20-83, 3-28-84, Formerly 6A-10.311, Amended 4-13-88, 4-1-91, 8-19-91, 10-18-94, 11-25-97, 3-28-00, 12-15-09.*

## 6.017 Criteria for Awarding the Baccalaureate Degree

(1) Except as approved by the Board of Governors, all students receiving a baccalaureate degree within the State University System must meet the following graduation requirements:

(a) Completion of thirty-six (36) semester hours of general education courses in the subject areas of communication, mathematics, social sciences, humanities, and natural sciences, including:

1. Six (6) semester hours of English coursework and six semester hours of additional coursework in which the student is required to demonstrate college-level writing skills through multiple assignments. Each institution shall designate the courses that fulfill the writing requirements of this section. Students awarded college credit in English based on their demonstration of writing skills through dual enrollment, advanced placement, or international baccalaureate instruction shall be considered to have satisfied this requirement to the extent of the college credit awarded.

2. Six (6) semester hours of mathematics coursework at the level of college algebra or higher. Applied logic, statistics and other computation-based coursework that may not be offered by a mathematics department may be used to fulfill three (3) of the six (6) hours required by this section. Students awarded college credit based on their demonstration of mathematics skills at the level of college algebra or higher through dual enrollment, advanced placement, or international baccalaureate instruction shall be considered to have satisfied this requirement to the extent of the college credit awarded.

(b) Completion of a minimum of one hundred twenty (120) credit hours through university coursework, acceleration mechanisms, and/or transfer credit.

(c) Beginning July 1, 2009, demonstrate college-level proficiency in English Language Skills, Reading, and Essay and computation skills previously tested by the College-Level Academic Skills Test (CLAST) four-part subtests. These proficiencies may be demonstrated as follows:

1. A student may meet the skills requirement by earning a 2.5 grade point average in two (2) courses as in Table 1. Courses numbered 0XXX or X990 (i.e., remedial, independent study, or special topic) may not be considered.

**TABLE 1**

<b>Skill Area</b>	<b>Required Combination of courses</b>
Reading, English Language, Essay	A combination of at least one (1) course with the ENC prefix and any other course that is designated as Gordon Rule (i.e., class that meets the (1)(a)1. requirement above) writing course, excluding courses with the SPC prefix.

Computation	<p>Any combination of two (2) courses from the list below:</p> <ul style="list-style-type: none"> <li>• Any MAC course with the last three (3) digits of 102 or higher</li> <li>• MGFX106-Liberal Arts Mathematics I</li> <li>• MGFX107 – Liberal Arts Mathematics II</li> <li>• MGFX113-Topics in College Mathematics I</li> <li>• MGFX114-Topics in College Mathematics II</li> <li>• MGFX118-Mathematics for CLAST Review</li> <li>• Any MGF course with last three (3) digits of 202 or higher</li> <li>• Any Gordon Rule statistics course</li> <li>• Any mathematics course that has College Algebra (MACX105) as a prerequisite</li> </ul>
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Credits granted in accordance with the Articulation Coordinating Committee Credit-By-Examination Equivalencies may be substituted for the courses specified above. If a student earns credit for two courses meeting the above, the requirement will be considered to be met. If a student earns credit for one (1) course within the list above, no grade will be assigned for that course. The 2.5 grade point calculation will be based only on the grade earned in the second course taken in order to meet the requirement (i.e., the grade in this course must equate to a 2.5 or higher).

2. A student may also meet one or more skill area requirements by meeting or exceeding a corresponding examination score found in Table 2.

**Table 2**

<b>Skill Area</b>	<b>Required Score on Examination</b>
Reading	<ul style="list-style-type: none"> <li>• <b>500</b> or above on the SAT Reasoning Test Critical Reading portion taken after February 2005</li> <li>• <b>500</b> (recentered score) or <b>421</b> (non-recentered score) or above on the Verbal section of the SAT I taken prior to March 2005</li> <li>• <b>22</b> or above on the ACT program in Reading</li> <li>• <b>20</b> or above on the Composite of the ACT taken prior to October 1989</li> <li>• <b>93</b> or above on the ACCUPLACER Reading Comprehension Examination</li> </ul>
English Language and Essay	<ul style="list-style-type: none"> <li>• <b>500</b> or above on the SAT Reasoning Test Writing portion taken after February 2005</li> <li>• <b>500</b> (recentered score) or <b>421</b> (non-recentered score) or above on the Verbal section of the SAT I taken prior to March 2005</li> <li>• <b>21</b> or above on the ACT program in English</li> <li>• <b>21</b> or above on the ACT program in English/Writing (English with Essay Component)</li> <li>• <b>20</b> or above on the Composite of the ACT taken prior to October 1989</li> <li>• <b>105</b> or above on the ACCUPLACER Sentence Skills Examination</li> </ul>
Computation	<ul style="list-style-type: none"> <li>• <b>500</b> or above on the SAT Reasoning Test Mathematics portion taken after February 2005</li> <li>• <b>500</b> (recentered score) or <b>473</b>(non-recentered score) or above on the Mathematics section of the SAT I taken prior to March 2005</li> <li>• <b>21</b> or above on the Enhanced ACT program in mathematics</li> <li>• <b>21</b> or above on the ACT taken prior to October 1989</li> <li>• <b>91</b> or above on the ACCUPLACER Elementary Algebra examination</li> </ul>

3. A student who is unable to meet the requirements in subsections(s) 1. and/or 2. may apply for and receive a waiver. The committee reviewing the request shall review the student's academic records and such other information as appropriate. If a waiver is approved, the student's transcript shall include a statement that the student did not meet the requirements of this subsection and that a college academic skills waiver was granted. The student must have achieved a 2.0 grade point average in the coursework and demonstrated the specific skills in the subject area(s) for which the waiver is sought.

If the student has completed instructional programs for English as a second language or English as a foreign language with a minimum grade point average of 2.0 in all college credit courses in the skill area for which a waiver is being considered, and has met the



requirements of Board of Governors Resolution adopting 6A-10.030 (Gordon Rule) for that area, then a waiver may be considered.

- a. Any student with a documented specific learning disability (SLD) by the student disability office may apply for a waiver through the appropriate dean to a committee appointed by the president or chief academic office for special consideration. The student shall have the right to appeal the findings of the committee directly to the president of the university or his or her designee.
  - b. Any other student, including those students with other documented disabilities, may apply for a waiver through a process determined by the university. The committee hearing these requests shall be chaired by the Provost or his or her designee and include four president-appointed members including a university test administrator and three faculty members (one from an English Department, one from a Mathematics Department, and the third from a department other than English or Mathematics). Students with disabilities other than SLD should seek appropriate test and classroom accommodations prior to requesting waiver consideration. If the committee described above recommends by majority vote that a waiver be given for a specified skill area, such recommendation shall be accompanied by documentation that the student has acquired the skills to the level required and statements of explanation or justification to be considered by the president or his or her designee who then may approve or disapprove the recommendation.
4. A student who is exempt from any of the CLAST subtests, has passed any of the CLAST subtests, or has had one or more of the CLAST subtests waived prior to July 1, 2009, will be deemed to have met the requirements of this subsection in those designated areas. A student transferring to a university whose transcripts reflect that he/she has met, or have received a waiver of, any of the requirements in this subsection will be deemed to have satisfied the requirements in those designated areas.

(2) In addition to meeting system-wide graduation requirements, students must meet university and programmatic graduation requirements.

(3) At New College of Florida contracts and independent study projects take the place of credit hours and grades. Working with professors, students design a course of study that parallels their interests and establish contracts each semester that specify academic activities and how student achievement will be evaluated. Students also complete three month-long independent study projects and a senior thesis or senior project. The requirements for earning a Bachelor's degree at New College of Florida are satisfactory completion of the following: seven contracts, three independent study projects, the liberal arts curriculum requirements, a senior thesis or project, and a baccalaureate exam.

Authority: Section 7(d), Art. IX, Fla. Const., History -- Formerly 6C-6.17, 8-9-83, 8-11-85, 9-28-86, 10-19-88, 11-27-95, Amended and Renumbered 1-29-09, Amended 8-6-09, Amended 12-10-09.

**1008.345 Implementation of state system of school improvement and education accountability.--**

(1) The Commissioner of Education is responsible for implementing and maintaining a system of intensive school improvement and stringent education accountability, which shall include policies and programs to implement the following:

(a) A system of data collection and analysis that will improve information about the educational success of individual students and schools, including schools operating for the purpose of providing educational services to youth in Department of Juvenile Justice programs. The information and analyses must be capable of identifying educational programs or activities in need of improvement, and reports prepared pursuant to this paragraph shall be distributed to the appropriate district school boards prior to distribution to the general public. This provision shall not preclude access to public records as provided in chapter 119.

(b) A program of school improvement that will analyze information to identify schools, including schools operating for the purpose of providing educational services to youth in Department of Juvenile Justice programs, educational programs, or educational activities in need of improvement.

(c) A method of delivering services to assist school districts and schools to improve, including schools operating for the purpose of providing educational services to youth in Department of Juvenile Justice programs.

(d) A method of coordinating with the state educational goals and school improvement plans any other state program that creates incentives for school improvement.

(2) The commissioner shall be held responsible for the implementation and maintenance of the system of school improvement and education accountability outlined in this section. There shall be an annual determination of whether adequate progress is being made toward implementing and maintaining a system of school improvement and education accountability.

(3) The annual feedback report shall be developed by the Department of Education.

(4) The commissioner shall review each district school board's feedback report and submit findings to the State Board of Education. If adequate progress is not being made toward implementing and maintaining a system of school improvement and education accountability, the State Board of Education shall direct the commissioner to prepare and implement a corrective action plan. The commissioner and State Board of Education shall monitor the development and implementation of the corrective action plan.

(5) The commissioner shall report to the Legislature and recommend changes in state policy necessary to foster school improvement and education accountability. Included in the report shall be a list of the schools, including schools operating for the purpose of providing educational services to youth in Department of Juvenile Justice programs, for which district school boards have developed intervention and support strategies and an analysis of the various strategies used by the school boards. School reports shall be distributed pursuant to this subsection and s. [1001.42](#)(18)(b) and according to rules adopted by the State Board of Education.

(6)(a) The Department of Education shall implement a training program to develop among state and district educators a cadre of facilitators of school improvement. These facilitators shall assist schools and districts to conduct needs assessments and develop and implement school improvement plans to meet state goals.

(b) Upon request, the department shall provide technical assistance and training to any school, including any school operating for the purpose of providing educational services to youth in Department of Juvenile Justice programs, school advisory council, district, or district school board for conducting needs assessments, developing and implementing school improvement plans, or implementing other components of school improvement and accountability. Priority for these services shall be given to schools designated with a grade of "D" or "F" and school districts in rural and sparsely populated areas of the state.

(c) Pursuant to s. [24.121](#)(5)(d), the department shall not release funds from the Educational Enhancement Trust Fund to any district in which a school, including schools operating for the purpose of providing educational services to youth in Department of Juvenile Justice programs, does not have an approved school improvement plan, pursuant to s. [1001.42](#)(18), after 1 full school year of planning and development, or does not comply with school advisory council membership composition requirements pursuant to s. [1001.452](#). The department shall send a technical assistance team to each school without an approved plan to develop such school improvement plan or to each school without appropriate school advisory council membership composition to develop a strategy for corrective action. The department shall release the funds upon approval of the plan or upon establishment of a plan of corrective action. Notice shall be given to the public of the department's intervention and shall identify each school without a plan or without appropriate school advisory council membership composition.

(d) The commissioner shall assign a community assessment team to each school district or governing board with a school graded "F" or a school in the lowest-performing category pursuant to s. [1008.33](#) to review the school performance data and determine causes for the low performance, including the role of school, area, and district administrative personnel. The community assessment team shall review a high school's graduation rate calculated without GED tests for the past 3 years, disaggregated by student ethnicity. The team shall make recommendations to the school board or the governing board and to the State Board of Education which address the causes of the school's low performance and may be incorporated into the school improvement plan. The assessment team shall include, but not be limited to, a department representative, parents, business representatives, educators, representatives of local governments, and community activists, and shall represent the demographics of the community from which they are appointed.

(7)(a) Schools designated with a grade of "A," making excellent progress, shall, if requested by the school, be given deregulated status as specified in s. [1003.63](#)(5), (7), (8), (9), and (10).

(b) Schools that have improved at least two grades and that meet the criteria of the Florida School Recognition Program pursuant to s. [1008.36](#) may be given deregulated status as specified in s. [1003.63](#)(5), (7), (8), (9), and (10).

(8) As a part of the system of educational accountability, the Department of Education shall:

(a) Develop minimum standards for various grades and subject areas, as required in ss. [1001.03](#), [1008.22](#), and [1008.34](#).

(b) Administer the statewide assessment testing program created by s. [1008.22](#).

- (c) Review the school advisory councils of each district as required by s. [1001.452](#).
- (d) Conduct the program evaluations required by s. [1001.03](#).
- (e) Maintain a listing of college-level communication and mathematics skills defined pursuant to <sup>1</sup>s. [1008.29](#) as being associated with successful student performance through the baccalaureate level and submit it to the State Board of Education and the Board of Governors for approval.
- (f) Maintain a listing of tests and other assessment procedures which measure and diagnose student achievement of college-level communication and computation skills and submit it to the State Board of Education and the Board of Governors for approval.
- (g) Maintain for the information of the State Board of Education, the Board of Governors, and the Legislature a file of data to reflect achievement of college-level communication and mathematics competencies by students in state universities and community colleges.
- (h) Develop or contract for, and submit to the State Board of Education and the Board of Governors for approval, tests which measure and diagnose student achievement of college-level communication and mathematics skills. Any tests and related documents developed are exempt from the provisions of s. [119.07](#)(1). The commissioner shall maintain statewide responsibility for the administration of such tests and may assign administrative responsibilities for the tests to any state university or community college. The state board, upon recommendation of the commissioner, may enter into contracts for such services beginning in one fiscal year and continuing into the next year which are paid from the appropriation for either or both fiscal years.
- (i) Perform any other functions that may be involved in educational planning, research, and evaluation or that may be required by the commissioner, the State Board of Education, the Board of Governors, or law.

**History.**--s. 379, ch. 2002-387; s. 48, ch. 2006-74; s. 176, ch. 2007-5; s. 126, ch. 2007-217; s. 187, ch. 2008-4; s. 22, ch. 2008-108; s. 23, ch. 2008-235; s. 102, ch. 2009-21; s. 4, ch. 2009-144.

<sup>1</sup>**Note.**--Repealed by s. 21, ch. 2009-59.

**1008.38 Articulation accountability process.**--The State Board of Education, in conjunction with the Board of Governors, shall develop articulation accountability measures which assess the status of systemwide articulation processes authorized under s. [1007.23](#) and establish an articulation accountability process which at a minimum shall address:

- (1) The impact of articulation processes on ensuring educational continuity and the orderly and unobstructed transition of students between public secondary and postsecondary education systems and facilitating the transition of students between the public and private sectors.
- (2) The adequacy of preparation of public secondary students to smoothly articulate to a public postsecondary institution.
- (3) The effectiveness of articulated acceleration mechanisms available to secondary students.
- (4) The smooth transfer of community college associate in arts degree graduates to a state university.
- (5) An examination of degree requirements that exceed the parameters of 60 credit hours for an associate degree and 120 hours for a baccalaureate degree in public postsecondary programs.
- (6) The relationship between the College Level Academic Skills Test Program and articulation to the upper division in public postsecondary institutions.

**History.**--s. 383, ch. 2002-387; s. 128, ch. 2007-217.

**1004.68 Community college; degrees and certificates; tests for certain skills.**--

- (1) Each community college board of trustees shall adopt rules establishing student performance standards for the award of degrees and certificates.
- (2) Each community college board of trustees shall require the use of scores on tests for college-level communication and computation skills provided in s. [1008.345](#)(8) as a condition for graduation with an associate in arts degree.

**History.**--s. 218, ch. 2002-387.

#### **1008.45 Community college accountability process.--**

(1) It is the intent of the Legislature that a management and accountability process be implemented which provides for the systematic, ongoing improvement and assessment of the improvement of the quality and efficiency of the Florida community colleges. Accordingly, the State Board of Education and the community college boards of trustees shall develop and implement an accountability plan to improve and evaluate the instructional and administrative efficiency and effectiveness of the Florida Community College System. This plan shall be designed in consultation with staff of the Governor and the Legislature and must address the following issues:

(a) Graduation rates of A.A. and A.S. degree-seeking students compared to first-time-enrolled students seeking the associate degree.

(b) Minority student enrollment and retention rates.

(c) Student performance, including student performance in college-level academic skills, mean grade point averages for community college A.A. transfer students, and community college student performance on state licensure examinations.

(d) Job placement rates of community college career students.

(e) Student progression by admission status and program.

(f) Career accountability standards identified in s. [1008.42](#).

(g) Institutional assessment efforts related to the requirements of s. III in the Criteria for Accreditation of the Commission on Colleges of the Southern Association of Colleges and Schools.

(h) Other measures approved by the State Board of Education.

(2) The State Board of Education shall submit an annual report, to coincide with the submission of the agency strategic plan required by law, providing the results of initiatives taken during the prior year and the initiatives and related objective performance measures proposed for the next year.

(3) The State Board of Education shall address within the annual evaluation of the performance of the executive director, and the community college boards of trustees shall address within the annual evaluation of the presidents, the achievement of the performance goals established by the accountability process.

**History.--**s. 392, ch. 2002-387; s. 116, ch. 2004-357; s. 129, ch. 2007-217.

**1008.46 State university accountability process.**--It is the intent of the Legislature that an accountability process be implemented that provides for the systematic, ongoing evaluation of quality and effectiveness of state universities. It is further the intent of the Legislature that this accountability process monitor performance at the system level in each of the major areas of instruction, research, and public service, while recognizing the differing missions of each of the state universities. The accountability process shall provide for the adoption of systemwide performance standards and performance goals for each standard identified through a collaborative effort involving state universities, the Board of Governors, the Legislature, and the Governor's Office. These standards and goals shall be consistent with s. [216.011](#)(1) to maintain congruity with the performance-based budgeting process. This process requires that university accountability reports reflect measures defined through performance-based budgeting. The performance-based budgeting measures must also reflect the elements of teaching, research, and service inherent in the missions of the state universities.

(1) By December 31 of each year, the Board of Governors shall submit an annual accountability report providing information on the implementation of performance standards, actions taken to improve university achievement of performance goals, the achievement of performance goals during the prior year, and initiatives to be undertaken during the next year. The accountability reports shall be designed in consultation with the Governor's Office, the Office of Program Policy Analysis and Government Accountability, and the Legislature.

(2) The Board of Governors shall recommend in the annual accountability report any appropriate modifications to this section.

**History.**--s. 393, ch. 2002-387; s. 130, ch. 2007-217.

## College-level Academic Competencies in Mathematics and Statistics - DRAFT

On May 17-18, 2010 a mathematics and statistics faculty discipline committee convened to discuss and make recommendations regarding college-level academic skills. These competencies may be used to partially replace the skills found in State Board of Education Rule 6A-10.0316 *College-Level Communication and Computation Skills Effective August 1, 1992*, FAC.

This committee membership was as follows:

Lisa Armour	Valencia Community College
Rene Barrientos	Miami Dade College
Byron Dyce	Santa Fe College
Greg Dietrich	Florida State College at Jacksonville
Karen Hogans	Lake-Sumter Community College
Fran Hopf	University of South Florida
Moana Karsteter	Tallahassee Community College
Charles Lindsey	Florida Gulf Coast University
Dennis Runde	State College of Florida, Manatee-Sarasota

The committee substantially agrees with the American Mathematical Association of Two-Year Colleges (AMATYC) standards for intellectual development that address desired modes of student thinking and represent goals for student outcomes.

The committee addressed competencies that would normally be found in college-level precalculus mathematics and statistics courses that satisfy both Gordon Rule and general education. These include: (a) MAC 1105 *College Algebra*; (b) MAC 1114 *Trigonometry*; (c) MAC 1140 *Precalculus Algebra*; (d) MGF 1106 *Liberal Arts Mathematics I*; (e) MGF 1107 *Liberal Arts Mathematics II*; and (f) STA 2023 *Statistical Methods I*.

The competencies listed below should be included in the courses indicated. Current course and institutional assessments are sufficient to indicate mastery of these competencies.

### Category: Mathematical Problem Solving

	Courses
Solve a problem by more than one method	(a)-(f)
Select and apply the appropriate algorithm/procedure to solve a problem	(a)-(f)
Use of mathematical techniques to approximate a numerical solution	(a)-(f)
Select and apply an appropriate formula to solve a problem	(a)-(f)
Express an answer in the appropriate unit of measure	(a)-(f)
Solve an equation	(a)-(f)
Select and apply appropriate geometric concepts to solve a problem	(a) (c) (d)
Employ coordinate geometry to solve a problem	(a) (d) (f)
Employ counting techniques in enumeration and probability problems	(d) (e) (f)
Compute descriptive statistics for a set of data	(d) (f)
Select the appropriate symbols to solve a problem	(a)-(f)



**Category: Mathematical Reasoning**

Determine the reasonableness of a solution	(a)-(f)
Recognize the limitations of mathematical methods	(a)-(f)
Use inductive reasoning to form a conjecture	(c) (d) (e) (f)
Use deductive reasoning to verify a conjecture	(a) (b) (c) (d) (e)
Infer relations and make reasonable predictions from data	(a) (d) (e) (f)

**Category: Connecting Mathematics with Other Areas**

Use mathematical concepts and formulas to solve problems in other disciplines	(a)-(f)
Recognize how mathematics is applied to other disciplines	(a)-(f)
Recognize functional relationships in other disciplines	(a) (c) (e) (f)
Perform statistical analysis of real-world data	(d) (f)
Use dimensional analysis when solving problems in other disciplines	(a)-(f)

**Category: Communicating**

Write and present solutions in context	(a)-(f)
Organize and present data in an appropriate format	(a)-(f)
Use appropriate vocabulary and symbolism to correctly convey meaning	(a)-(f)
Read and listen to mathematics presentations and arguments with understanding	(a)-(f)

**Category: Using Appropriate Technology**

Recognize the appropriate use of technology in mathematics	(a)-(f)
Use technology to aid in the understanding of mathematical principles	(a)-(f)
Use technology to aid in the solution of real-world problems	(a)-(f)
Recognize the limitations of technology in mathematics	(a)-(f)

**Category: Mathematical Modeling**

Determine an appropriate model needed to represent the problem mathematically	(a)-(f)
Recognize the limitations of a model	(a)-(f)
Use the solution of the model to make conclusions about the original problem	(a)-(f)
Use illustrations and symbols as appropriate to clarify the model	(a)-(f)

## **MAT 1033 *Intermediate Algebra***

The competencies listed above are intended for general education and Gordon Rule mathematics and statistics courses. Institutions are encouraged to begin coverage of these competencies in MAT 1033 to prepare students for college-level academic competencies.

Those competencies listed above that would be appropriate to begin coverage in MAT 1033 include:

### Mathematical Problem Solving

- Solve a problem by more than one method
- Select and apply the appropriate algorithm/procedure to solve a problem
- Use of mathematical techniques to approximate a numerical solution
- Select and apply an appropriate formula to solve a problem
- Express an answer in the appropriate unit of measure
- Solve an equation
- Select and apply appropriate geometric concepts to solve a problem
- Employ coordinate geometry to solve a problem
- Select the appropriate symbols to solve a problem

### Mathematical Reasoning

- Determine the reasonableness of a solution
- Recognize the limitations of mathematical methods

### Connecting Mathematics with Other Areas

- Use mathematical concepts and formulas to solve problems in other disciplines
- Recognize how mathematics is applied to other disciplines

### Communicating

- Write and present solutions in context
- Use appropriate vocabulary and symbolism to correctly convey meaning
- Read and listen to mathematics presentations and arguments with understanding

### Using Appropriate Technology

### Mathematical Modeling

- Determine an appropriate model needed to represent the problem mathematically
- Use the solution of the model to make conclusions about the original problem
- Use illustrations and symbols as appropriate to clarify the model

**6A-10.0316 College-Level Communication and Computation Skills Effective August 1, 1992.**

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.
8. Evaluating objectively.

(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.
4. Solving linear equations.
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.
9. Finding the roots of a quadratic equation.
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.*