



Florida Student Success Center

Guide to Florida Policies Related to Mathematics

September 2018

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This informational guide provides information relevant to secondary policies in Florida that can assist in guiding the work of the workgroups. The guide may not be exhaustive, but it includes a list of general secondary policy, curriculum, articulation and advising resources.

Middle School Policy

[Section. 1003.4156, Florida Statutes](#), details mathematics and general requirements for middle grades promotion, outlines general requirements for middle grades promotion.

Promotion from middle school requires successful completion of three middle school academic courses or higher in the following areas, as specified in [s. 1003.4156, F.S.](#):

- English/Language Arts (ELA)
- Mathematics
- Science
- Social Studies
- One semester of which must include the study of state and federal government and civics education

Additional Information Related to Mathematics and Science Courses:

- Successful completion of a high school-level Algebra 1, Geometry or Biology 1 course is not contingent on passing the statewide, standardized end-of-course (EOC) assessment.
- To earn high school credit for Algebra 1, Geometry or Biology 1, a middle grades student must take the corresponding statewide, standardized EOC assessment and pass the course.
 - A middle grades student may also earn high school credit with the passage of a statewide, standardized EOC assessment without enrollment in or completion of a course via the Credit Acceleration Program (CAP), per [s. 1003.4295\(3\), F.S.](#) Refer to the Florida High School Graduation Options for a Standard Diploma section in this Handbook for additional information on CAP.
 - A student's performance on the statewide, standardized Algebra 1, Geometry or Biology 1 EOC assessment constitutes 30 percent of the student's final course grade.
 - 30 percent is not applicable if a middle grades student is not enrolled in the course and passed the EOC assessment.
 - Middle grades students enrolled in Algebra 1, Geometry or Biology 1 must take the statewide, standardized EOC assessment for those courses and are not required to take the corresponding grade-level statewide, standardized assessment. Each school that includes middle grades must offer at least one high school-level mathematics course.

Middle School Grade Forgiveness Policy

- Effective for students in 6th-8th grade, grade forgiveness policies apply to students who take any high school course for high school credit and earn a grade of C, D or F or the equivalent of a grade C, D or F as defined in [S. 1003.437, F.S.](#)
- Districts must allow the replacement of the grade with a grade of C or higher (or the grade equivalent of C or higher), earned subsequently in the same or comparable course. Any course grade replaced shall not be included in the calculation of the student's cumulative grade point average (GPA) required for graduation ([s. 1003.4282\(5\), F.S.](#)).

High School Policy

- [Section. 1003.4282, Florida Statutes](#), details requirements for a standard high school diploma, includes grade forgiveness policy requirements for middle grades students who take high school-level courses for high school credits.

Florida students entering high school may choose from the following options to earn a standard diploma:

- 24-credit program
- 18-credit, Academically Challenging Curriculum to Enhance Learning (ACCEL) option
- Advanced International Certificate of Education diploma program
- IB diploma program.

Florida's public high school mathematics and graduation requirements are specified in the following sections of Florida Statutes:

- [S. 1003.4282, F.S.](#), Requirements for a standard high school diploma
- [S. 1002.3105, F.S.](#), Academically Challenging Curriculum to Enhance Learning (ACCEL) Option
- All graduation programs required students to earn a cumulative GPA of 2.0 on a 4.0 scale and achieve a passing score on the statewide, standardized Grade 10 ELA Assessment or earn a concordant score.
- Florida requires four credits of mathematics, one of which must be Algebra I and Geometry. Students must successfully pass the EOC for Algebra I and Geometry to receive high school credit for each course.
- [Information on Graduation Requirements for Florida's Statewide Assessments](#)

High School Grade Forgiveness Policy

A forgiveness policy for required core courses shall be limited to replacing a grade of D (or the grade equivalent) or F (or the grade equivalent) with a grade of C (or the grade equivalent) or higher, earned subsequently in the same or comparable course. A forgiveness policy for elective courses shall be limited to replacing a grade of D (or the grade equivalent) or F (or the grade equivalent) with a grade of C (or the grade equivalent) or higher, earned subsequently in another course.

Credit Recovery

[Credit recovery courses](#) are credit-bearing courses students can enroll in after a failed attempt at the course or EOC. Student are still required to pass an EOC in order to receive credit in an Algebra I, Geometry and Biology I credit recovery course.

Statewide, Standardized Assessment Implications ([s. 1008.22, F.S.](#))

- [Florida Administrative Code 6A-1.09422](#) outlines the statewide standardized assessment program requirements and minimum scores required.
 - Students scoring below Level 3 on the statewide, standardized ELA or on the statewide, standardized mathematics assessments in Grades 3-8 and the Algebra 1 EOC assessment must be provided with additional diagnostic assessments to determine:
 - The nature of the student's difficulty
 - The area of academic need and strategies for providing academic supports to improve the student's performance

- A student who is not meeting the school district or state requirements for proficiency in ELA and/or mathematics must be covered under one of the following plans intended to target instruction and identify ways to improve academic achievement:
 - A federally required student plan such as an individual educational plan.
 - A schoolwide system of progress monitoring for all students, except a student who scores Level 4 or above on the ELA and mathematics assessments may be exempted from participation by the principal.
 - An individualized progress-monitoring plan.
- A crosswalk of the alignment between the statewide learning objectives in secondary mathematics and college mathematics is included as a resource in Canvas.

Articulated Acceleration Mechanisms

- [Section. 1003.4295, Florida Statutes](#) Each high school shall advise each student of courses through which a high school student can earn college credits, including Advanced Placement (AP), International Baccalaureate (IB), AICE, dual enrollment, early admission, and career academy courses that lead to industry certification, as well as the availability of course offerings through virtual instruction. Students should also be advised of early graduation options under [s. 1003.4281, F.S.](#)

Acceleration Exams

- **Advanced Placement (AP)** offers [mathematics exams](#) that give high school students the opportunity to earn college credits in Statistics, Calculus I and Calculus II at participating high schools, including Florida Virtual School.
- **Advanced International Certificate of Education (AICE)** offer [Cambridge AICE courses](#) are equivalent to those offered at U.S. university freshmen level or beyond. Students can earn up to 30 college credits through IB that include Statistics, Precalculus, Trigonometry, Calculus and Calculus II.
- **College-Level Examination Program (CLEP)** is a [College Board](#) program that offers students of any age the opportunity to earn college credits in College Algebra, Liberal Arts Mathematics I or II (exam title Mathematics for College), Precalculus and Calculus while prior to formal enrollment in postsecondary education.
- **International Baccalaureate (IB) program** is designed to meet the highest standards required of any high school student in the world. Students can earn up to 30 college credits through IB that include Statistics, Precalculus, Trigonometry, Calculus and Calculus II.

Credit-by- Exam (S.1007.27 (2))

- Florida's public colleges and universities are required to award the minimum recommended credit for AP, AICE, IB, DSST, DLPT, UEXCEL, and CLEP
- [Credit-by-Exam Equivalencies List](#) informs students of the college level course they will receive credit for if they achieved minimum scores on an approved exam listed.

Dual Enrollment

- Eligible students in Grades 6-12 can enroll in postsecondary courses that satisfy high school and college requirements ([S. 1007.271, F.S.](#)).

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- College credit dual enrollment criteria requires a 3.0 unweighted GPA and the minimum score on a common placement test adopted by the State Board of Education. Placement test minimum scores are detailed in [Florida Administrative Code 6A-10.0315](#).
- During the 2016-2017 academic year, approximately 64,000 high school students participated in college credit dual enrollment in the Florida College System. College Algebra (MAC X105) had the third largest enrollment with 16,887 students enrolled and Intermediate Algebra (MAT X033) had the eighth largest with 6,174 students enrolled.
- Available at no charge to students enrolled in home education programs and or public school districts. Private secondary institutions are eligible to establish dual enrollment articulation agreements with public colleges and universities in Florida.
- The [Dual Enrollment Course Equivalency list](#) informs dual enrollment students and advisors how college coursework is equated and applied to satisfy requirements of the high school diploma. Course equivalencies for Career and Technical education programs courses are also included.

Postsecondary Policies

[Section. 1007.25, F.S.](#), requires the universities and Florida College System institutions to work with their school districts to ensure that high school curricula coordinate with the general education curricula and to prepare students for college-level work. General education curricula for associate in arts programs shall be identified by each institution and include 36 semester hours in the subject areas of communication, mathematics, social sciences, humanities, and natural sciences.

Florida College System Admissions and Placement

- Admission to the Florida College System requires a standard high school diploma, GED, certificate of completion that specifically stipulates eligibility for the Common Placement Test or previously demonstrated competency in college-credit postsecondary coursework. Additionally, each board of trustees shall establish policies that notify students about developmental education options for improving their communication or computation skills that are essential to performing college-level work, including tutoring, extended time in gateway courses, free online courses, adult basic education, adult secondary education, or private provider instruction pursuant to [s.1007.263, F.S.](#)
- Pursuant to [s. 1008.30, F.S.](#), high schools are no longer required to administer a Postsecondary Education Readiness Test (PERT), ACT, SAT or ACCUPLACER to specified grade 11 students in order to evaluate their college readiness nor are grade 12 students required to complete appropriate postsecondary preparatory instruction before high school graduation. Previously students were able to use the PERT as a concordant score for the Algebra I EOC in addition to the use of PERT as a college placement exam.

Developmental Education

- Pursuant to [s. 1008.30\(3\)\(a\), F.S.](#), students who entered 9th grade in a Florida public school in 2003-04 and thereafter and earned a Florida standard high school diploma or a student who is serving as an active duty military member, are not required to take a common placement test and are not required to enroll in developmental education courses at a Florida College System institution. Students meeting this criteria are often referred to as “exempt”.
- Developmental education is offered widely at Florida College System institutions and Florida A&M University is the only State University System institution that offers developmental education.
- [Section. 1008.02, Florida Statutes](#). lists and defines the accelerated developmental education delivery strategies colleges can offer and defines gateway courses and meta-majors:

- *Modularized* instruction that is customized and targeted to address specific skills gaps.
- *Compressed* course structures that accelerate student progression from developmental instruction to college-level coursework.
- *Contextualized* developmental instruction that is related to meta-majors.
- *Corequisite* developmental instruction or tutoring that supplements credit instruction while a student is concurrently enrolled in a credit-bearing course.
- *Gateway course* means the first course that provides transferable, college-level credit allowing a student to progress in his or her program of study.
- *Meta-major* means a collection of programs of study or academic discipline groupings that share common foundational skills.

General Education Core Requirements

- The general education core course options were adopted in [State Board of Education Rule 6A-14.0303, F.A.C.](#) and [Board of Governors Regulation 8.005](#). The remaining hours to complete the general education requirement are at the discretion of the institution. First-time in college students entering a Florida College System institution or state university in 2015-2016 or thereafter must meet these new general education requirements. [S.1007.25, F.S.](#)
- General Education Core mathematics options include:
 - MAC X105 College Algebra;
 - MAC X311 Calculus I;
 - MGF X106 Liberal Arts Mathematics I;
 - MGF X107 Liberal Arts Mathematics II;
 - STA X023 Statistical Methods; or
 - Any student who successfully completes a mathematics course for which one of the general education core course options in mathematics is an immediate prerequisite shall be considered to have completed the mathematics core.

Mathematics and Academic Programs

- [State Board of Education Rule 6A-14.065, F.A.C](#) also identifies the appropriate mathematics gateway course aligned with meta-major academic pathways. The gateway courses are assigned as follows:
 - Business gateway courses: College Algebra (MAC X105) or Elementary Statistics (STA X023)
 - STEM gateway course: College Algebra (MAC X105)
 - All other meta-major academic pathways: College Algebra (MAC X105), Elementary Statistics (STA X023), Liberal Arts Mathematics I (MGF X106) or Liberal Arts Mathematics II (MGF X107)
 - All Florida College System Institutions require Intermediate Algebra (MAT X033) as a prerequisite to College Algebra

Articulation

Florida's articulation provides efficient and effective progression and transfer of students within the education system and to allow students to proceed toward their educational objectives.

- [Section 1001.02, Florida Statutes](#) requires the State Board of Education to adopt, in consultation with the Board of Governors, and from time to time modify, minimum and uniform standards of college-level communication and computation skills generally associated with successful performance and progression through the baccalaureate level and to identify college-preparatory

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high school coursework and postsecondary-level coursework that prepares students with the academic skills necessary to succeed in postsecondary education.

- [Section 1007.01, Florida Statutes](#) outlines K-20 articulation policies and roles of the State Board of Education, Board of Governors and Articulation Coordinating Committee.
- 2+2 Statewide Articulation is codified in [Section 1007.23, Florida Statutes](#), and [Chapter 6A-10.024, Florida Administrative Code](#) (F.A.C.)/[Board of Governors \(BOG\) Articulation Resolution](#), is the most comprehensive articulation agreement in the nation.
- Common Prerequisites are required to be completed associate degree students for consideration for admission to a baccalaureate degree program in the State University System. Incorporating common prerequisites into associate degree advising is important to ensure students complete the appropriate mathematics courses. These requirements are published annually in the [Common Prerequisite manual](#).
- Enhanced 2+2 articulation agreements are individual articulation agreements between specific state colleges and universities. State universities may offer guaranteed admission to graduates of partner colleges for particular programs. There are over 70 enhanced articulation agreements between institutions in the Florida College System and State University System, and all 28 Florida College System institutions has at least one enhanced articulation agreement with a State university. The larger enhanced 2+2 articulation programs include:
 - Florida International University- [Connect4Success](#)
 - University of Central Florida- [Direct Connect](#)
 - University of South Florida- [FUSE](#)

Contact Information

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Appendices

Appendix A- Resources

- [CPALMS](#) is the State of Florida's official source for standards information and course descriptions.
- [Florida Counseling for Future Education Handbook](#) is comprehensive advising resource for school counselors to provide guidance to secondary students planning to pursue postsecondary education in Florida.
- [Florida Virtual Campus/Florida Shines](#) is made up of several units which provide statewide innovative educational services for Florida's K-adult students. Working collaboratively with Florida's 12 public universities, 28 public colleges, K-12 school districts, and other partners, FLVC provides free services to help students go to college, succeed in school, prepare for career success, and in life after graduation.
- [2+2 Pathways to Success Guide](#) and [Statewide Articulation Manual](#) provide counselors, students and families an overview of articulation policies and practices related to transfer in between the Florida College System and State University System.
- ["Meet Major" video](#) on Meta-Major Academic Pathways provides a student-friendly explanation of meta-major academic pathways.
- [Board of Governors Regulations](#) provides guidance on the Board of Governors implements its constitutional regulatory authority for the State University System. Regulations are similar to State Board of Education Rules for the Florida College System.

Appendix B- Mathematics Standards and Outcomes

Mathematics Competencies

[Rule 6A-10.0316, F. A.C.](#) lists the computation skills associated with successful performance of students in college programs through the baccalaureate level.

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.**

[State Course Numbering System \(SCNS\)](#) is used at all public state colleges and universities to help facilitate the transfer of credits across public institutions with common course numbering. A few accredited private institutions may opt to participate in the SCNS. Courses share common numbering with the same three letter prefix and the last three numbers to indicate the course is equivalent. For example, MGF 1106 and MGF 2106 are considered the same course but MGF 1106 and MGF 1107 are not.

An example of course descriptions in SCNS:

MAT 1033

State Level Course

Prefix Definition

AN INSTRUCTIONAL PROGRAM THAT DESCRIBES THE RIGOROUS ANALYSIS OF QUANTITIES, MAGNITUDES, FORMS, AND THEIR RELATIONSHIPS, USING SYMBOLIC LOGIC AND LANGUAGE. INCLUDES INSTRUCTION IN ALGEBRA, CALCULUS, FUNCTIONAL ANALYSIS, GEOMETRY, NUMBER THEORY, LOGIC, TOPOLOGY AND OTHER MATHEMATICAL SPECIALIZATIONS. *

Profile Description

1. FACTORING 2. ALGEBRAIC FRACTIONS 3. RADICALS AND RATIONAL EXPONENTS 4. COMPLEX NUMBERS 5. QUADRATIC EQUATIONS 6. RATIONAL EQUATIONS 7. LINEAR EQUATIONS AND INEQUALITIES IN TWO VARIABLES AND THEIR GRAPHS 8. SYSTEMS OF LINEAR EQUATIONS AND INEQUALITIES 9. INTRODUCTION TO FUNCTIONS 10. APPLICATIONS OF THE ABOVE TOPICS