STATE OF ALABAMA
DEPARTMENT OF EDUCATION

Thomas R. Bice
State Superintendent of Education

Alabama State Board of Education

Governor Robert Bentley
President

Al Thompson
District I

Betty Peters
District II

Stephanie Bell
District III

Yvette M. Richardson, Ed.D.
District IV

Ella B. Bell
District V
Vice President

Cynthia McCarty, Ph.D.
District VI

Jeff Newman
District VII
President Pro Tem

Mary Scott Hunter, J.D.
District VIII

Thomas R. Bice, Ed.D.
Secretary and Executive Officer

May 26, 2015

MEMORANDUM

TO: City and County Superintendents of Education

FROM: Thomas R. Bice TRB
State Superintendent of Education

RE: Mathematics Pathways

The additional substitute courses referenced in the *Approved Courses in Mathematics and Science* (FY15-1013) memorandum dated April 3, 2015, has generated numerous telephone calls and e-mails inquiring about pathways of mathematics using the courses in the mathematics course of study, substitute courses, and special education courses. Inquiries have addressed how these may all fit together in assisting students in becoming prepared for their goals in high school and afterwards.

Students should choose their mathematics courses carefully and with intense counseling. The courses should be selected that would best aid the students in preparing for their college and career plans. Four-year plans may require mathematics course adjustments in the higher grades as the students' focus becomes clearer regarding future post-high school goals and mathematics preparation needed to be successful.

Students need to be familiar with the college or university mathematics admissions requirements of the institutions they plan to attend. Certain scholarships may also have high school mathematics course requirements. Athletes need to know if the National Collegiate Athletic Association (NCAA) approves the selected mathematics course credits for eligibility. One of the most important considerations is whether the mathematics courses selected will prepare the student for his/her future college or career goals. If a local education agency (LEA) is considering using dual enrollment to meet high school mathematics course requirements, the LEA should consider working closely with postsecondary institutions to develop courses that align with high school course standards.

The accompanying document provides possible mathematics pathways for students, parents, and counselors to consider as the student prepares for high school mathematics course credits. Some students begin to earn high school mathematics credits as early as Grade 7 or Grade 8. If high school credits are earned earlier than Grade 9, the students who have been advanced need to know what mathematics courses will be available in Grades 9-12. The purpose for advancing students in mathematics is to ensure that the students may receive

additional mathematics credit in high school. The charts provide possible pathways for those students. The charts also describe pathways for students who are on track for earning their mathematics credits in Grades 9-12. Possible pathways for regular education students with special needs or students with disabilities have also been included.

If you have questions concerning the mathematics pathways, please contact Dr. Susan B. Davis at (334) 353-9151 or by e-mail at sdavis@alsde.edu or Mrs. Alicia Hodge at (334) 242-8114 or by e-mail at ahodge@alsde.edu.

TRB/RAN/LM

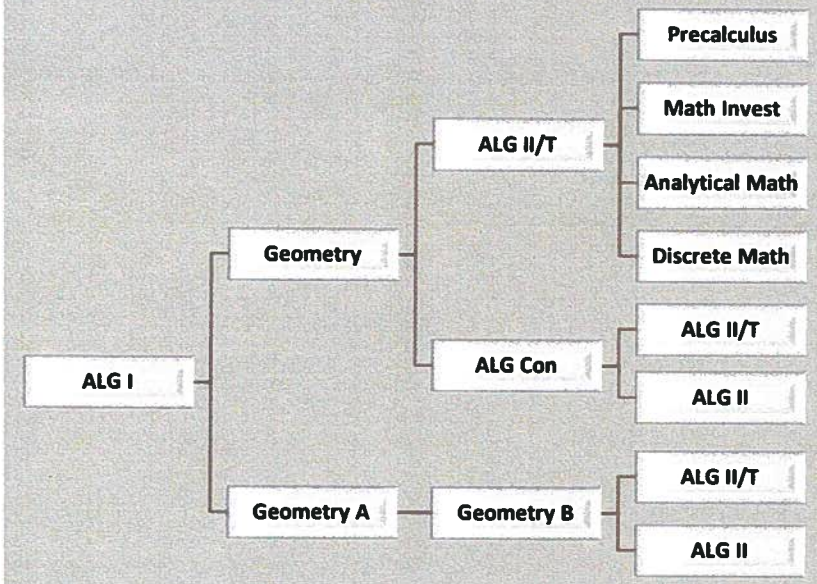
Attachments

cc: LEA Curriculum Directors
LEA Counselors
LEA Technology Coordinators
Principals
Dr. Susan B. Davis
Mrs. Alicia Hodge

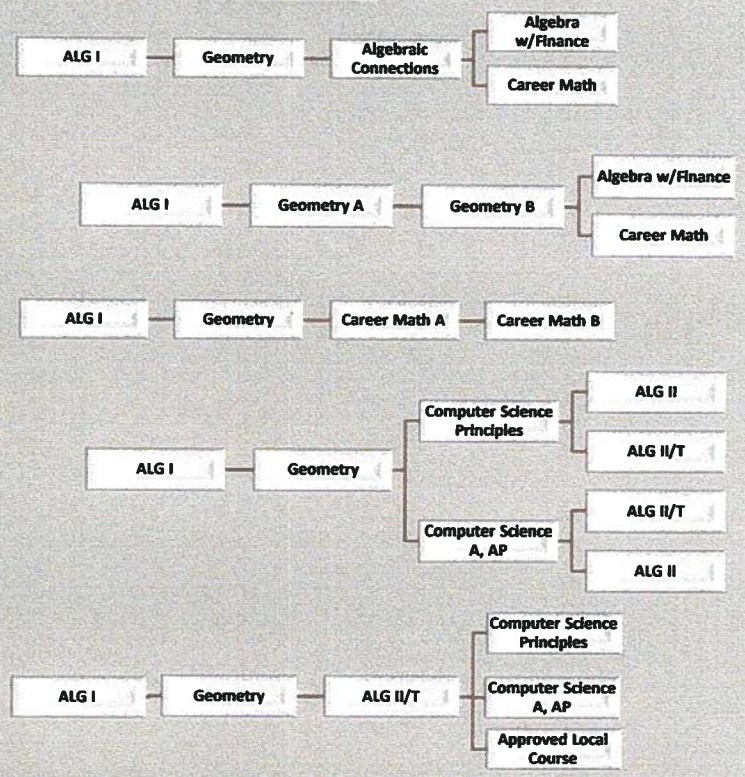
FY15-2072

Math Pathways

Algebra I in Grade 9



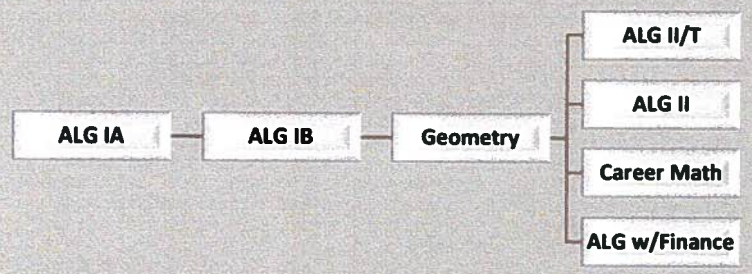
Math Substitutes



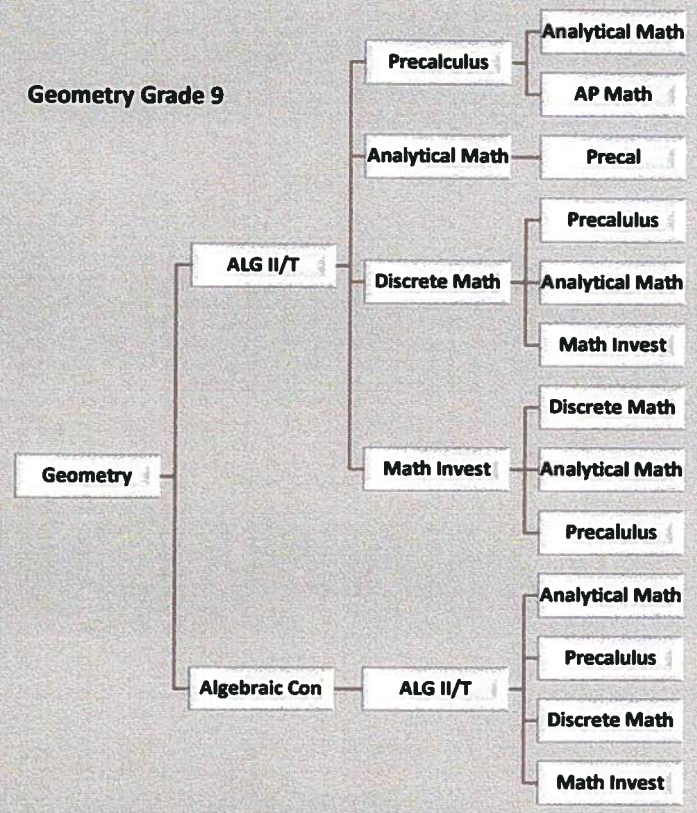
- **Selected mathematics courses should be checked by the student, with counselor guidance, for acceptance by NCAA, certain scholarships, college or university admission requirements, and/or chosen career goals.**
- Students must be well counseled before they enroll in any mathematics course, including substitute courses.
- Mathematics courses should be carefully chosen for the student's four-year plan and modified as the student narrows his/her focus on post-high school goals.
- Mathematics courses should be selected by each student, with proper counseling, that will enable him/her to be successfully prepared to reach his/her desired post-high school goal(s).

Math Pathways

Algebra IA in Grade 9



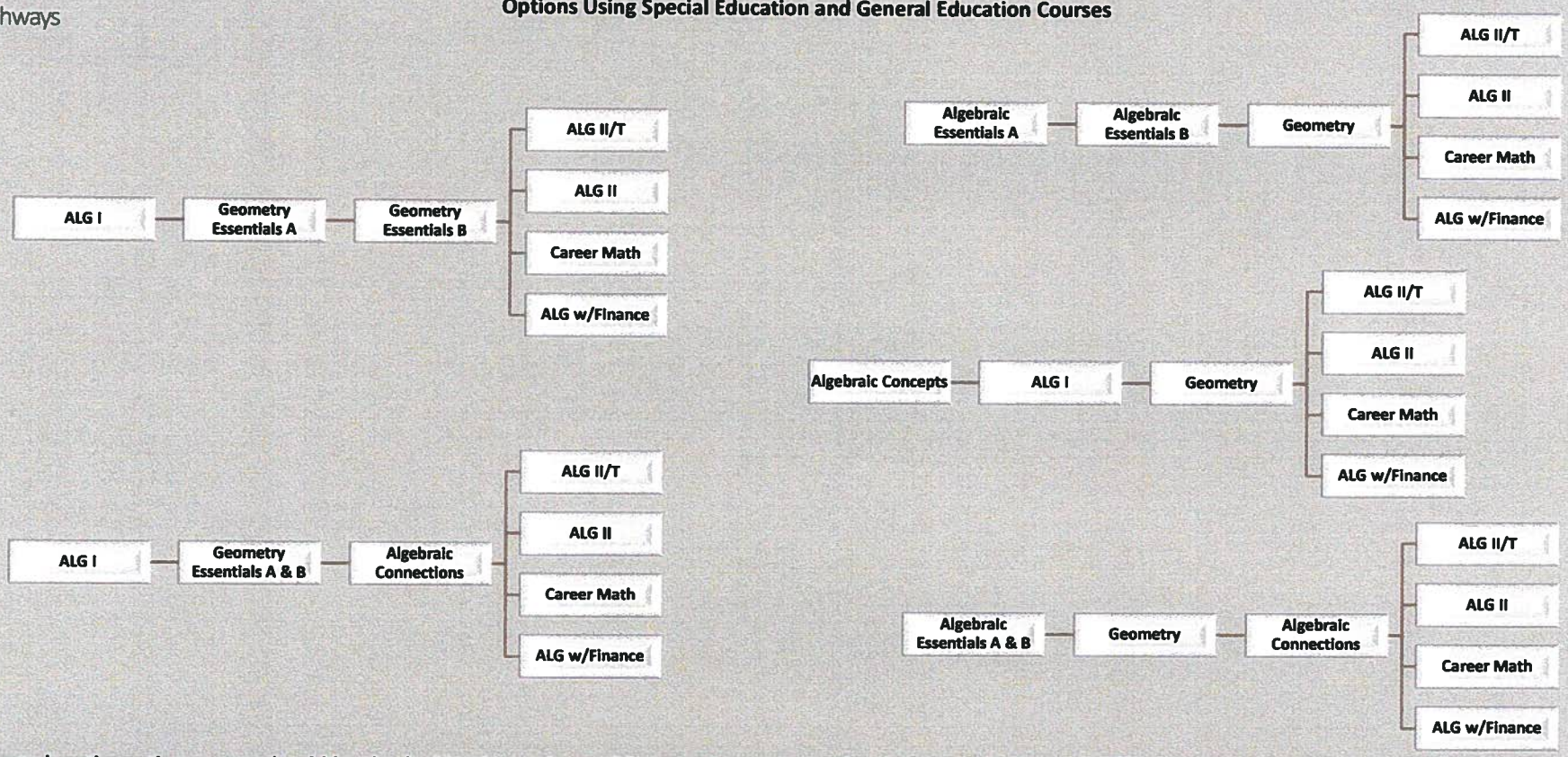
Geometry Grade 9



- **Selected mathematics courses should be checked by the student, with counselor guidance, for acceptance by NCAA, certain scholarships, college or university admission requirements, and/or chosen career goals.**
- Students must be well counseled before they enroll in any mathematics course, including substitute courses.
- Mathematics courses should be carefully chosen for the student's four-year plan and modified as the student narrows his/her focus on post-high school goals.
- Mathematics courses should be selected by each student, with proper counseling, that will enable him/her to be successfully prepared to reach his/her desired post-high school goal(s).

Math Pathways

Options Using Special Education and General Education Courses



- **Selected mathematics courses should be checked by the student, with counselor guidance, for acceptance by NCAA, certain scholarships, college or university admission requirements, and/or chosen career goals.**
- Students must be well counseled before they enroll in any mathematics course, including substitute courses.
- Mathematics courses should be carefully chosen for the student's four-year plan and modified as the student narrows his/her focus on post-high school goals.
- Mathematics courses should be selected by each student, with proper counseling, that will enable him/her to be successfully prepared to reach his/her desired post-high school goal(s).

Possible Mathematics Course Pathways

Algebra I in Grade 9

Algebra I
Geometry
Algebra II/Trigonometry
Precalculus

Algebra I
Geometry
Algebraic Connections
Algebra II/Trigonometry

Algebra I
Geometry
Algebra II/Trigonometry
Mathematical Investigations

Algebra I
Geometry
Algebraic Connections
Algebra II

Algebra I
Geometry
Algebra II/Trigonometry
Analytical Mathematics

Algebra I
Geometry A
Geometry B
Algebra II/Trigonometry

Algebra I
Geometry
Algebra II/Trigonometry
Discrete Mathematics

Algebra I
Geometry A
Geometry B
Algebra II

Mathematics Substitutes

Algebra I
Geometry
Algebraic Connections
Algebra with Finance

Algebra I
Geometry
Computer Science Principles
Algebra II/Trigonometry

Algebra I
Geometry
Algebra II/Trigonometry
Computer Science A, AP

Algebra I
Geometry
Algebraic Connections
Career Mathematics

Algebra I
Geometry
Computer Science Principles
Algebra II

Algebra I
Geometry
Algebra II/Trigonometry
Approved Local Course

Algebra I
Geometry A
Geometry B
Algebra with Finance

Algebra I
Geometry
Computer Science A, AP
Algebra II/Trigonometry

Algebra I
Geometry A
Geometry B
Career Mathematics

Algebra I
Geometry
Computer Science A, AP
Algebra II

Algebra I
Geometry
Career Mathematics A
Career Mathematics B

Algebra I
Geometry
Algebra II/Trigonometry
Computer Science Principles

Possible Mathematics Course Pathways

Algebra IA in Grade 9

Algebra IA Algebra IB Geometry Algebra II/Trigonometry	Geometry Algebra II/Trigonometry Precalculus Analytical Mathematics
Algebra IA Algebra IB Geometry Algebra II	Geometry Algebra II/Trigonometry Precalculus AP Math
Algebra IA Algebra IB Geometry Career Mathematics	Geometry Algebra II/Trigonometry Analytical Mathematics Precalculus
Algebra IA Algebra IB Geometry Algebra with Finance	Geometry Algebra II/Trigonometry Discrete Mathematics Precalculus

Geometry in Grade 9

Geometry Algebra II/Trigonometry Discrete Mathematics Analytical Mathematics	Geometry Algebraic Connections Algebra II/Trigonometry Analytical Mathematics
Geometry Algebra II/Trigonometry Discrete Mathematics Mathematical Investigations	Geometry Algebraic Connections Algebra Ii/Trigonometry Precalculus
Geometry Algebra II/Trigonometry Mathematical Investigations Discrete Mathematics	Geometry Algebraic Connections Algebra II/Trigonometry Discrete Mathematics
Geometry Algebra II/Trigonometry Mathematical Investigations Analytical Mathematics	Geometry Algebraic Connections Algebra II/Trigonometry Mathematical investigations
Geometry Algebra II/Trigonometry Mathematical Investigations Precalculus	

Possible Mathematics Course Pathways

Options Using Special Education and General Education Courses

Algebra I	Algebra I	Algebraic Essentials A	Algebraic Concepts	Algebraic Essentials A & B
Geometry Essentials A	Geometry Essentials A & B	Algebraic Essentials B	Algebra I	Geometry
Geometry Essentials B	Algebraic Connections	Geometry	Geometry	Algebraic Connections
Algebra II/T	Algebra II/T	Algebra II/T	Algebra II/T	Algebra II/T
Algebra I	Algebra I	Algebraic Essentials A	Algebraic Concepts	Algebraic Essentials A & B
Geometry Essentials A	Geometry Essentials A & B	Algebraic Essentials B	Algebra I	Geometry
Geometry Essentials B	Algebraic Connections	Geometry	Geometry	Algebraic Connections
Algebra II	Algebra II	Algebra II	Algebra II	Algebra II
Algebra I	Algebra I	Algebraic Essentials A	Algebraic Concepts	Algebraic Essentials A & B
Geometry Essentials A	Geometry Essentials A & B	Algebraic Essentials B	Algebra I	Geometry
Geometry Essentials B	Algebraic Connections	Geometry	Geometry	Algebraic Connections
Career Math	Career Math	Career Math	Career Math	Career Math
Algebra I	Algebra I	Algebraic Essentials A	Algebraic Concepts	Algebraic Essentials A & B
Geometry Essentials A	Geometry Essentials A & B	Algebraic Essentials B	Algebra I	Geometry
Geometry Essentials B	Algebraic Connections	Geometry	Geometry	Algebraic Connections
Algebra w/Finance	Algebra w/Finance	Algebra w/Finance	Algebra w/Finance	Algebra w/Finance