



Fulton County Schools Math Changes for 2011-12

Update: April 1, 2011

On March 14, 2011, State Board of Education Superintendent, John Barge recommended several changes to the mathematics curriculum that were approved. A key approval is the flexibility with the delivery method of the content which will now be taught through a traditional approach. As a district, we have had extensive curriculum revisions and the incorporation of the 7-Step Direct Instruction method completed over the last year. Therefore, Fulton County will fully incorporate this change. The following outlines the transition that will take place in Fulton County Schools as we complete our transition:

What flexibility will now be provided as a result of the mathematics curriculum changes?

State Board approved districts to have the flexibility to offer four new Georgia Performance Standards (GPS) math courses known as discrete (traditional) courses: GPS Algebra, GPS Geometry, GPS Advanced Algebra, and GPS Pre-Calculus.

What will Fulton County Schools (FCS) do as a result of this ruling?

The newly approved discrete (traditional) courses will be implemented in FCS for all students beginning in August 2011. Math course names will change as follows:

| Old Course Name | New Course Name |
|---|------------------------------|
| Integrated Advanced Algebra | GPS Algebra |
| Integrated Geometry | GPS Geometry |
| Integrated Algebra 2 | GPS Advanced Algebra |
| Integrated Trigonometry | GPS Pre-Calculus |
| Accelerated Integrated Advanced Algebra | GPS Accelerated Algebra |
| Accelerated Integrated Geometry | GPS Accelerated Geometry |
| Accelerated Integrated Pre-Calculus | GPS Accelerated Pre-Calculus |

What are we doing to prepare for the transition?

A transition plan that shifts units from one course to another will be implemented beginning in August 2011. For example, the two geometry units currently taught in ninth grade will be moved to the tenth grade course "GPS Geometry". The quadratics unit currently taught in tenth grade will be moved to the ninth grade course "GPS Algebra" and will follow the current quadratics unit in the 9th grade so they can be taught together.

What additional support will be provided to high schools as they prepare to offer traditional courses to students?

Local school staff members have received ongoing communication about the possibility of moving to a traditional progression. A plan outlining each course's framework including units and standards, the communication plan for schools to share with parents, and professional learning will be provided to teachers. This transition plan will also be reviewed with counselors so they will be able to correctly articulate our direction as a district.

How will we determine which existing high school students will be eligible to transfer to a traditional course?

It is the intent to transition all students to a traditional course sequence including middle school students and the plan will address this transition. After reviewing the few curricular gaps remaining after the previous shift to a more traditional curriculum, the recommendation is that all students move to the traditional course sequence. Course structure and guidance will be provided to make sure no gaps remain and that students will have a full complement of completed math courses. Acceptance of the traditional sequence by colleges should not be an issue since colleges are still accepting traditional courses from districts outside the state of Georgia. GPS standards will continue to support what will be taught in each of our courses and the name changes will provide a clearer indication of the course content

How does this decision affect the End of Course Tests (EOCT)?

As of yet, the State has not approved any changes to the content on the math EOCTs. We anticipate that an EOCT will be developed for students on the discrete (traditional) pathway.

How does this decision affect students currently on the integrated pathway moving to the traditional pathway?

The only students that will be impacted are those who are currently taking Integrated Advanced Algebra. These students will see the content from the two ninth grade geometry units again in GPS Geometry. Therefore, it will be important for teachers to use pre-assessment data to determine how to best compact the curriculum to adequately pace course content. We will work with teachers to provide the one quadratic unit students will miss as they transition from ninth to tenth grade. This unit is currently available as an online module as part of Georgia High School Graduation Test (GHS GT) preparation, free from the Georgia Department of Education (GADOE), and can be utilized with students during class, during extended day, or independently. In anticipation of this gap, one recommendation is that teachers currently teaching Integrated Advanced Algebra begin teaching this unit to their current students upon completion of the EOCT this spring.

What type of training will math teachers receive to support this transition?

The previous move of the district to a traditional approach will benefit the effort as we transition to the traditional courses. The transition plan will continue to include the same units as a part of the curriculum. However, the order of these units will be shifted to match a more traditional sequence. Teachers will still need to have support for using direct instruction lesson plans along with developing a more in-depth content knowledge. Teachers will also be provided professional development to equip them with strategies needed to provide instructional support for any learning gaps that are missed as a result of the transition. Curriculum revisions will take place in June. Professional development will begin in July, with follow-up during the pre-school sessions and will continue throughout the school year. Teachers will have the needed professional development prior to teaching any of the revised units to students.

Can we use the same books?

Current textbooks that are available in schools will continue to be used. A process will be developed for sharing books across classes for the three units that were shifted to the other course because the books contain content from more than one course. Students will be able to utilize the online versions of the textbooks to address missing content. Resources will also be made available in Student Achievement Management System (SAMS) for standards not included in the textbooks.

How does this affect scheduling math courses?

The mathematics department will work with student information to mass assign students from the current course number to the new course number. Revised versions of the FCS Math progression chart, math placement guidelines, and transfer placement guidelines will be shared with principals, counselors, curriculum assistant principals, math department chairs, and posted on the Secondary Mathematics website.

What about students on the accelerated pathway?

Currently, the state has only approved district flexibility for the on-level math courses. However, they are in the process of reviewing multiple pathways for accelerated students as well. In the meantime, we have submitted a course waiver to the State to request the approval to offer regular Calculus to GPS students graduating in 2012 or 2013.

What options are available to students currently on the accelerated math pathway in middle school?

Middle school students currently in *Accelerated Integrated Advanced Algebra* have the option of receiving high school credit for their current course and enrolling in ***GPS Accelerated Geometry*** or ***GPS Geometry***, or receiving no credit and enrolling in *GPS Accelerated Algebra* or ***GPS Algebra*** the following year.

Will it be possible for qualified students to “double up” and take two math courses in the same year?

Because each mathematics course builds on the knowledge from the previous course, it is not recommended that students take two courses for the first time simultaneously in the same year. In extenuating circumstances, students will continue to have an option to attend summer school once prerequisites have been met as a way to move to the next course through the waiver process.

Will there be a plan to “accelerate” students through the middle school curriculum in two years so more will be eligible for GPS Algebra in 8th grade?

The Fulton County Schools supports a Continuous Achievement framework for advancement that allows each child to progress in mathematics at their optimum pace and depth, expanding and compacting the curriculum as appropriate. We are currently reviewing this framework to determine how we can make it better serve students who are capable of learning content in higher grade levels.

How will students in current 8th grade advanced courses continue to have their academic needs met in the new plan?

Students currently in 8th grade advanced math have the option of enrolling in the traditionally sequenced courses *GPS Algebra* (Math 1) or *GPS Accelerated Algebra*. Students enrolled in GPS Accelerated Math will begin the year with Algebra concepts and will end the year by being introduced to Geometry standards. This follows the progression pattern that advanced students have had been exposed to in prior grades with some standards from the next grade level being introduced as a part of the advanced course.

What steps need to be taken for students interested in taking a summer bridge course (online summer enrichment)?

During the summer bridge course, students will receive instruction in the GPS Accelerated Algebra H (Accel I) course standards that are not currently taught in the Integrated Advanced Algebra course. This will prepare students with the prerequisite standards for GPS Accelerated Geometry. Parents interested in enrolling their child in the summer bridge course should contact the counseling department at their local school for registration. As with other summer offerings, students enrolled in the course are required to pay the online summer school enrollment fee.

What steps will be taken to place students enrolling in a FCS school from a private or out of state school in the correct mathematics progression?

Revised versions of the Secondary Mathematics Guidance for Placement of Transfer Students and FCS Math Sequence chart will be provided to counselors, principals, department chairs, and contacts to facilitate the proper placement of students transferring from a private or out of state school.

When will curriculum realignment from integrated to traditional be shared with teachers?

By the end of April 2011, teachers should have access to the GADOE's documents aligned to the discrete (traditional) sequence of mathematics courses. The process to align FCS mathematics curriculum to these state documents will take place during the month of June. Teachers will have access to the revised units once they have been uploaded into SAMS. Plans are to have this process completed by July 1, 2011.

When will the alignment be available to parents on the website?

The most up-to-date version of the FCS Math Progression chart is available on the Secondary Mathematics website under *Curriculum Documents*. All updated curriculum maps should be posted on the same website by August 1, 2011 once all changes have been made.

What is the difference between GPS Accelerated Pre-Calculus H (Accel 3) and GPS Pre-Calculus (M4)?

GPS Accelerated Pre-Calculus H (Accel 3) is the 3rd course in the sequence of accelerated math courses. This accelerated pathway is primarily for students interested in pursuing Science, Technology, Engineering, or Mathematics (STEM) majors in college that require them to take AP Calculus or AP Statistics in high school. GPS Pre-Calculus is considered as the 4th year option for on-level college-bound seniors. The standards covered in each course are identically the same with the exception of three additional standards in GPS Accelerated Pre-Calculus H (Accel 3). These extra standards on parametric equations and polar coordinates appear in the second to the last unit of the year.

What flexibility will be given to students regarding the progression to higher level courses once they have successfully completed GPS Accelerated Geometry H (Accel 2)?

Upon completion of *GPS Accelerated Geometry H (Accel 2)*, students will have the option of taking *GPS Accelerated Pre-Calculus (Accel 3)* or *GPS Pre-Calculus (Math 4)*.

Why is it important for teachers to provide adequate pacing and instructional support for students on the accelerated pathway?

According to noted educational researcher, Carol Ann Tomlinson, teachers who differentiate their instruction ensure that all students work to their potential. It is the expectation in Fulton County Schools that differentiation is utilized as a key instructional practice for all classes, including accelerated ones. Professional development, including modeling and demonstration teaching will be provided for teachers to support the full implementation of this practice.

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