GLASSBORO SCHOOL DISTRICT

Updated 2/1/05

Monthly Board Items

Date Submitted:	Proposed Effective Date:	Grade(s) impacted:
02/10/2020	**2020-2021**	**11, 12**

Name:	Position/Item:	Submitted By:	Building:
Brandi Sheridan	**Course additions**	**Brandi Sheridan**	**GHS**

Proposed cost/amount:	Funded through:	Hours/Days per wk:	Benefits: Y or N (circle one)
None	**Budget**		

Is candidate currently employed by District:
_____No __X__Yes

(if yes, what position)
If yes, part time or **full time** (circle one)

Is candidate a former employee:
___ No ___ Yes

Check references/review district personnel file?
_____ No _____Yes

Board Action Requested:
I am requesting the the course MATH, MODELING AND APPLICATIONS be added to the Glassboro High School Program Planning Guide for the 2020-2021 School Year

Details and ramifications:
GHS currently only offers three mathematics courses for resource room students. These courses are Integrated Algebra 1, Integrated Geometry, and Integrated Algebra 2.

This proposed course would be offered in place of Integrated Algebra 2 for those students whose needs would be better served with a different math course.

Positives:
This proposed course would be an extension of Algebra 1 and Geometry, as required by New Jersey Graduation Requirements. It would contain more appropriate topics relevant to the students.

Concerns:
No new staff would be needed to teach these courses.

Other Comments:
This course has been thoughtfully planned by both regular education and special education high school mathematics teachers, as well as the math supervisor and special education supervisor.

FOR OFFICE USE ONLY:

Board Date: _____ Approved: Y or N Index #: _____

New Mathematics Course: Math, Modeling & Applications

Course Description :

This year-long course builds on the foundation of general mathematics studies to integrate the traditional content of algebra and geometry. Each topic is studied with slow and deliberate attention improving mathematical skills and problem solving. Enrollment is limited to those students recommended by the Guidance Counselor or CST Departments. During enrollment in this course, students will not participate in any additional math courses, and must complete a full year of the course in order to obtain course credit.

Course Code:

001 Informal Mathematics courses emphasize the teaching of mathematics as problem solving, communication, and reasoning, and highlight the connections among mathematical topics and between mathematics and other disciplines. These courses approach the teaching of general math, pre-algebra, and pre-geometry topics by applying numbers, and algebraic and geometric concepts and relationships to real world problems.

Math Course Proposal

Course Description: Introduction to College and Career Mathematics

Grades/Level: 11th grade special education resource room students. Semester based course would include only the resource setting.

Rationale: Students are struggling with staying at grade level and accomplishment of higher order level mathematics courses. These courses include the current requirements of Algebra II. Data has shown that special education students are several grades below proper grade level. This has caused challenges in completing the Algebra II curriculum with full attainment. Students need an alternative mathematics course to properly prepare them for college and 21st century careers. The new course will be the third year of a mathematics course for students. After successful completion of this course, students will satisfy the mathematics requirements for graduation (Algebra I, Geometry, and a third year of math that builds on the concepts and skills of algebra and geometry and prepares students for college and 21st century careers). A partnership could be formed with RCGC to prepare students for the placement exam. Upon completion of this course, students would take the RCGC placement exam to determine their entrance course, should they choose to attend RCGC upon graduation. Students taking this course in their junior year (11th grade) would have the opportunity to take the In-Class Resource Integrated Algebra 2 their senior year.

Student Learning Objectives/Outcomes:

- Students will use place values, do basic operations with whole numbers, and utilize order of operations. *(NJSLS.6.EE.2)*

- Students will perform arithmetic operations with fractions and mixed numbers. Also, students will find the least common multiple

and greatest common factor in order to write equivalent fractions. Then, students must be able to put fractions in order. *(NJSLS.7.NS.2)*

- Students will perform arithmetic operations with decimals. Also, students will compare and convert fractions to decimals. Then, students will round decimals for a given place value. *(NJSLS.7.EE.3)*

- Students will compare amounts using a ratio and find a missing term using a proportion. They will use these skills to solve word problems. *(NJSLS.8.EE.5)*

- Students will rewrite decimals and fractions as percent and vice versa; solve percentage equations and use proportions to find rate, base, and percentage. Students will also apply their knowledge to solving a variety of real-world application problems. *(NJSLS.7.NS.1, 2)*

- Students will learn about customary and metric units, use a ruler to measure, convert between units, and solve for area, volume, capacity, and mass in a variety of units. *(MA.9-12.G-GMD.1,3)*

- Students will learn about ways to compute central tendency, and methods of representing data through pictographs, circle, bar, and line graphs. Students will also create and analyze histograms and frequency distribution. *(MA.9-12.S.ID.1,2,3)*

- Students will learn about the real number line. They will add, subtract, multiply, and divide real numbers, and use the order of operations. *(MA.9-12.A-SSE.1; A.CED.1; A.REI.3)*

- Students will translate algebraic expressions. Also, they will perform operations with positive and negative numbers. Then they will simplify and evaluate expressions. *(MA.9-12.A-SSE.1,2,3)*

- Students will solve linear equations and linear inequalities. They will also solve literal equations. They will also find ways to apply these skills to solving real world problems. *(MA.9-12.A.CED.1,4; A.REI.3)*

- Students will use properties of exponents to simplify expressions. They will classify polynomials using several criteria. They will also add, subtract, multiply, and divide with polynomials. *(MA.9-12.A.SSE.3c; A.APR.1; F.IF.7c)*

- Students will factor out a GCF from polynomials. They will also factor different polynomials by various methods. And they will solve equations using factoring. *(MA.9-12.A.APR.1; A.SSE.2)*

- Students will learn to perform basic operations with algebraic fractions and solve equations involving fractions. *(MA.9-12.A.CED.1,4; A.REI.3)*

- Students will learn how to find solutions to equations with two variables, to represent individual solutions on a coordinate plane and graph linear equations. *(MA.9-12.A-REI.10)*

- Student will learn how to recognize function notation; substitute values into a function, simplify expressions and find the value of that function. They will also be able to read a graph of a linear equation and write the corresponding equation. *(MA.9-12.F.IF.1, 2)*

- Students will learn how to solve systems of linear equations by graphing them, the addition method, and by using a substitution method. They will also solve real world applications involving systems of linear equations. *(MA.9-12.A.CED.2,3;A.REI.5,6)*

- Students will learn how to simplify radicals, add, subtract, and multiply radicals. *(MA.9-12.N.RN.2; A.REI.2, 11)*

Assessment Strategies: Each unit begins with a preview lesson, which models and explains the types of problem students will encounter in the unit. Each unit ends with a review of the unit concepts. A variety of problem types and activities are used to sharpen critical thinking skills throughout the course. Benchmark assessments will be administered at the conclusion of each unit. Teacher developed projects for each unit will be developed to allow for alternative demonstration of concepts for students. Students would also create a portfolio of placement exam questions and answers to demonstrate their level of ability. iXL would be used to remediate for students and/or provide enrichment throughout the course.

Textbook and Materials:

Algebra I, Holt McDougal

Geometry, Holt McDougal

iXL (intervention program for individual students) www.ixl.com