a-g	Course Code	Title	Credits
	M050	Mathematics Bridging	5

This is an academic bridging course for students who have been identified as below grade level in mathematical skills. This course will emphasize development in the use of integers, fractions, decimals, exponents, equations, graphs and geometry/measurement. This bridging course may be taken concurrently with other Mathematics courses and is offered for elective credit only.

M132	Mathematics 1	5
M133	Mathematics 2	5

This is a two-semester sequential course covering general mathematics skill for the vocationally oriented student. The course is also of value to students who seek a college degree but whose math skills are not yet strong enough to master an algebra course. Course content includes a review of common and decimal fractions, percent, an introduction to the metric system, English-metric measurement, ratio and proportion, probability, graphing, statistics, basic algebra and geometric concepts.

M131	Mathematics 1, Bilingual	5
M139	Mathematics 2, Bilingual	5
M148	Mathematics 1, Sheltered	5
M149	Mathematics 2, Sheltered	5

Equivalent to Mathematics 1, 2 (M132 and M133)

M150	Consumer Mathematics 1	5

This one year course emphasizes the mathematical knowledge and skills needed to function in today's society. This course provides the student who has mastered general math skills with the methods of mathematics to solve real-life problems. This course can be taken concurrently with Consumer Mathematics 2. Course content includes units of payroll, checking and savings accounts, credit, housing, inflation and budgets. Prerequisite: Mathematics 1, 2.

M155	Consumer Mathematics 2	5

This one year course that emphasizes the mathematical knowledge and skills needed to function in today's society. This course provides the student who has mastered general math skills with the methods of mathematics to solve real-life problems. This course can be taken concurrently with Consumer Mathematics 1. Course content includes units on buying, transportation, personal and property insurance, Federal and State income tax, savings and investments, and financial planning. Prerequisite: Mathematics 1, 2.

M245	Math A 1	5
M246	Math A 2	5

a-g	Course Code	Title	Credits
	M251	Math A 1, Sheltered	5
	M252	Math A 2, Sheltered	5

The course contents include number theory, patterns and functions, basic algebra concepts, basic geometric concepts, measurement, logic, statistics and probability. The course is designed to implement various teaching strategies such as cooperative learning, integrated instruction, projects and investigations, and use of manipulatives. Prerequisite: Satisfactory completion of Math 1, 2, or teacher recommendation.

	M247	Math B 1	5
	M248	Math B 2	5

Math B is the second course in the sequence “Math A, Math B@ as described in the 1985/1991 California Mathematics Framework (CMF). Math B uses varied teaching techniques and strategies stressing the student as worker and the teacher as facilitator. The major mathematical strands in Math B as described in the 1991 CMF are Logic & Language, Geometry, Functions, Discrete Mathematics, Measurement, Number, Statistics & Probability, and Algebra. The major emphasis in Math B is numerical relations and number sense, proportionality, functions & graphs, conjecture and justification, and geometric connections. Prerequisite: Completion of Math A or higher

	M270	Foundations for Algebra 1	5
	M275	Foundations for Algebra 2	5

This is a two-semester course that emphasizes the mathematics and study skills needed to be successful in an Algebra 1 curriculum (either basic algebra or algebra 1C). The course content includes the Number Sense strand standards of computation involving the rational number system and percents, 2-dimensional Geometry strand standards of area, perimeter and the Pythagorean theorem, some Statistics and Probability strand standards, and algebra strand standards involving evaluation, simplification, solving one and two-step equations and limited graphing. Course instruction will include note taking, test taking and mathematics study skills. Students taking this course will be required to pass all benchmark exams with a 70% level of mastery in order to receive credit.

	M280	Algebra Intervention 1	5
	M281	Algebra Intervention 2	5

This year-long course is designed to assist students who are identified as needing to develop the basic skills necessary for success in Algebra 1C. Students taking this course are typically concurrently enrolled in Algebra 1C. Course content includes, but is not limited to: solving, graphing and writing linear equations, solving, graphing linear inequalities, systems of equations, powers and exponents, quadratic equations, factoring, proportions, rational equations, functions, and radicals. The class curriculum is intended to help make and strengthen connections with the

a-g	Course Code	Title	Credits

skills learned in previous mathematics courses to those required for success in Algebra. Class may be repeated for credit not to exceed 5 elective credits toward graduation each semester for a maximum credit of 10.

	M347	Transitional Geometry with Algebra 1C-1	5
	M348	Transitional Geometry with Algebra 1C-2	5

(Replaces M345, M346, Integrated Math, Algebra with Geometry 1C,2C)

This two-semester course is designed to incorporate algebraic and geometric studies from the Common Core Math I and II. Designed for non-freshman students who need to spend additional time mastering Algebra 1 before beginning Geometry. Content includes the foundations of algebra and geometry, equations and inequalities, linear functions, systems of equations and inequalities, parallel and perpendicular lines, properties and attributes of triangles, properties and attributes of polygons and quadrilaterals, developing and applying geometric formulas, spatial reasoning, exponents and polynomials, factoring polynomials, quadratic functions and equations. Students will follow the math practices from the Common Core as well as prepare to pass the California High School Exit Exam (if needed), Prerequisite: Algebra 1-2C (Completion of Algebra 1 and the passing of this course will meet the M2 graduation requirement.)

	M355	Introduction to Programming Graphing Calculators 1	5
	M356	Introduction to Programming Graphing Calculators 2	5

This course is a full year course that will focus on refining and extending the mathematics curriculum standards through technology. The primary tool used will be the TI-83 graphing calculator. Students will create programs based on algorithms to perform mathematical calculations (see attached course outline) and compile these programs along with reflection pieces and flow charts in a portfolio. Evaluation will be entirely project-based. Prerequisite: Algebra 1C or Basic Algebra 1, 2 and 3, 4

	M390	Algebra Enrichment IH	5

This one-semester course is for accelerated students who have completed a year of algebra in eighth grade. This course is designed to expand their knowledge of algebra and to allow for a smooth transition into an accelerated high school mathematics program. Course content includes fractional expressions, exponents and radicals, the quadratic function and the quadratic formula. Prerequisite: Identified gifted and/or talented, or with permission of an instructor.

c,g	M400	Algebra IC-1	5
c,g	M405	Algebra IC-2	5

This is a two-semester course for the college bound student. This is a rigorous elementary algebra course. Course content includes the vocabulary of the algebra sets, and set operations, basic

a-g	Course Code	Title	Credits

properties of the real number system, positive and negative numbers, polynomials, rational expressions, exponents and radicals, simple functions and relations, graphing, solving linear equations and inequalities, linear systems and quadratic equations. Prerequisite for this course is an above average proficiency in mathematics. This course meets the University of California "c" mathematics requirement.

c,g	M406	Algebra IC-1, Bilingual	5
c,g	M407	Algebra IC-2, Bilingual	5
c,g	M408	Algebra IC-1, Sheltered	5
c,g	M409	Algebra IC-2, Sheltered	5

Equivalent to Algebra IC-1, IC-2 (M400 and M405) with instruction provided using English.. This course meets the University of California "c" mathematics requirement.

c,g	M410	Algebra IH-1	5
c,g	M415	Algebra IH-2	5

A two-semester course for accelerated students who are college bound. This is a rigorous elementary algebra course. Material is covered much more extensively than in Algebra IC-1, 2. Additional topics of advanced algebra are considered as time permits. Course content includes the vocabulary of algebra, sets and set operations, basic properties of the real number system, positive and negative numbers, polynomials, rational expressions, exponents and radicals, simple functions and relations, graphing, solving linear equations and inequalities, linear systems and quadratic equations. Prerequisite: Identified gifted and/or talented or with permission of an instructor. This course meets the University of California "c" mathematics requirement.

c,g	M420	Geometry, Plane & Solid IC-1	5
c,g	M425	Geometry, Plane & Solid IC-2	5

This is a two-semester course for the college-bound student. This is a rigorous, traditional Euclidean geometry course. Course content includes inductive and deductive reasoning, and the nature of proof, the relationships and properties of angles, parallel and perpendicular lines, congruence and similarity of triangles, polygons and circles, constructions, coordinate geometry, areas of polygons, circles and solids, and volumes of solids. Prerequisite: Algebra IC-1, 2. This course meets the University of California "c" mathematics requirement.

c,g	M421	Geometry, Plane & Solid IC-1, Bilingual	5
c,g	M422	Geometry, Plane & Solid LC-1, Sheltered	5
c,g	M426	Geometry, Plane & Solid IC-2, Bilingual	5
c,g	M427	Geometry, Plane & Solid IC-2, Sheltered	5

This course is equivalent to Geometry, Plane & Solid IC-1 (M420) with instruction provided through English and the student's primary language. This course meets the University of California "c" mathematics requirement.

c,g	M430	Geometry, Plane & Solid IH-1	5

a-g	Course Code	Title	Credits
c,g	M435	Geometry, Plane & Solid IH-2	5

A two-semester course for accelerated students who are college bound. This is a rigorous, traditional Euclidean geometry course. Material is covered much more extensively than presented in Geometry, Plane & Solid IC-1, 2. Additional topics of advanced algebra and geometry are considered as time permits. Course content includes inductive and deductive reasoning, and the nature of proof, the relationships and properties of angles, parallel and perpendicular lines, congruence and similarity of triangles, polygons and circles, constructions, coordinate geometry, areas of polygons, circles and solids, and volumes of solids. Prerequisite: Algebra IH-1, 2 or a full year of algebra in the eighth grade and identified as gifted and/or talented or with permission of an instructor. This course meets the University of California "c" mathematics requirement.

c,g	M437	Intermediate Algebra 1C	5
c,g	M438	Intermediate Algebra 2C	5

This course is designed for students who do not intend to major in math or science. The course does not meet the requirement for entry into PRE-CALCULUS. It is similar to Algebra 2 but does not include trigonometry. The course provides students with the necessary background needed for a successful level of achievement on college level entrance exams. The course includes such topics as rational & radical expressions, quadratic equations, set & function notation, logarithms and complex numbers. This course meets the University of California "c" mathematics requirement. Prerequisite: Algebra 1C & Geometry 1C.

c,g	M440	Algebra IIC-1	5
c,g	M445	Algebra IIC-2	5

This is a two-semester course for the college-bound student. This is a rigorous intermediate algebra course. Course content includes sets and set operations, the properties of the real number system, linear functions and relations, graphing, systems of linear and quadratic equations, polynomials, rational expressions, fractional equations, exponents and radicals, quadratic functions and relations, exponential functions and logarithms. Prerequisite: Geometry, Plane & Solid IC-1, 2. This course meets the University of California "c" mathematics requirement.

c,g	M441	Algebra IIC-1, Bilingual	5
c,g	M442	Algebra IIC-1, Sheltered	5
c,g	M446	Algebra IIC-2, Bilingual	5
c,g	M447	Algebra IIC-2, Sheltered	5

This course is equivalent to Algebra IIC-1 and IIC-2 (M440 and M445) with instruction provided through English. This course meets the University of California "c" mathematics requirement.

c,g	M450	Algebra IIH-1	5
c,g	M455	Algebra IIH-2	5

A two-semester course for accelerated students who are college bound. This is a rigorous intermediate algebra course. Material is covered much more extensively than presented in

a-g	Course Code	Title	Credits

Algebra IIC-1, 2. Additional topics of advanced algebra are considered as time permits. Course content includes sets and set operations, the properties of the real number system, linear functions and relations, graphing, systems of linear and quadratic equations, polynomials, rational expressions, fractional equations, exponents and radicals, quadratic functions and relations, exponential functions and logarithms. Geometry, Plane & Solid IH -1, 2 or identified gifted and/or talented, or with permission of an instructor are prerequisites for this course. This course meets the University of California "c" mathematics requirement.

c, g	M500	Algebra IIIC-1	5
c, g	M505	Algebra IIIC-2	5

This is a two-semester advanced mathematics course for students who are college bound. This course is designed primarily for students who are preparing for non-math, non-science majors in college, but who will need some college mathematics for a degree. Course content includes statistics, logic and probability, a review of intermediate algebra and analytic geometry, and trigonometric and circular functions. Prerequisite: Algebra IIC-1, 2. This course meets the University of California "c" mathematics and "g" elective requirements.

c, g	M512	Precalculus Mathematics IC-1	5
c, g	M517	Precalculus Mathematics IC-2	5

This is a two-semester advanced mathematics course for students who are college bound. This course is designed primarily to extend the student's knowledge and skills in advanced algebra prior to taking more advanced work in calculus and modern algebra. Course content includes polynomial, exponential, logarithmic, and circular and trigonometric functions, sequences and series, limits and continuity, induction, the binomial theorem, matrices and logic. Prerequisite: Algebra IIC-1, 2 or Algebra IIH-1, 2. This course meets the University of California "c" mathematics and "g" elective requirements.

c, g	M513	Precalculus Mathematics IC-1, Bilingual	5
c, g	M514	Precalculus Mathematics IC-1, Sheltered	5
c, g	M518	Precalculus Mathematics IC-2, Bilingual	5
c, g	M519	Precalculus Mathematics IC-2, Sheltered	5

This course is equivalent to Precalculus Mathematics IC-1, 1C-2, (M512, M517) with instruction provided through English and the student's primary language. This course meets the University of California "c" mathematics and "g" elective requirements.

c, g	M520	Precalculus Mathematics IH-1	5
c, g	M525	Precalculus Mathematics IH-2	5

A two-semester course for accelerated students who are college bound. This is a rigorous advanced algebra course. Material is covered much more extensively than presented in

a-g	Course Code	Title	Credits

Precalculus Mathematics IC-1, 2. Additional topics of advanced algebra and calculus are considered as time permits. Course content includes polynomial, exponential, logarithmic, and circular and trigonometric functions, sequences and series, limits and continuity, induction, the binomial theorem, matrices and logic. Prerequisite: Algebra IIH-1, 2, or identified gifted and/or talented, or with permission of an instructor. This course meets the University of California "c" mathematics and "g" elective requirements.

c, g	M521	Calculus IC-1, Sheltered	5
c, g	M522	Calculus IC-2, Sheltered	5
c, g	M526	Calculus IC-1, Bilingual	5
c, g	M529	Calculus IC-2, Bilingual	5

This course is equivalent to Calculus IC-1, IC-2 (M527, M528) with instruction provided through English and the student's primary language. This course meets the University of California "c" mathematics and "g" elective requirements.

c, g	M527	Calculus IC-1	5
c, g	M528	Calculus IC-2	5

A two-semester course designed for college preparatory students. This is a "non traditional" calculus course designed for students who intend to be Business or Life Science majors. This course does not fully prepare the student for the Advanced Placement Examination. The course content includes, but is not limited to, analytic geometry, graphing techniques, limits and continuity, the derivative, differentiation and antidifferentiation, and the definite integral. Prerequisite: Precalculus Mathematics IC-1, 2 or Precalculus Mathematics IH-1, 2. This course meets the University of California "c" mathematics and "g" elective requirements.

c, g	M530	Calculus IH-1	5
c, g	M535	Calculus IH-2	5

A course for accelerated students who are college bound. This is a rigorous, "traditional" first semester of college calculus, including analytic geometry. This course prepares the student for the advanced placement examination in mathematics. Course content includes analytic geometry, limits and continuity, the derivative, differentiation and antidifferentiation, and the definite integral. Prerequisites include Pre-Calculus Mathematics IH -1, 2 or identified gifted and/or talented or with permission of an instructor. This course meets the University of California "c" mathematics and "g" elective requirements.

c, g	M550	Advanced Placement Calculus AB IH-1	5
c, g	M551	Advanced Placement Calculus AB IH-2	5

a-g	Course Code	Title	Credits

This is a two-semester introductory course in calculus and elementary functions, equivalent to one semester of college-level calculus. This course meets the University of California "c" mathematics and "g" elective requirements.

c, g	M560	Advanced Placement Calculus BC IH-1	5
c, g	M561	Advanced Placement Calculus BC IH-2	5

This two-semester course in calculus incorporates all topics covered in Advanced Placement Calculus AB IH-1, 2 and additional topics. The course is equivalent to a full year of college-level calculus. This course meets the University of California "c" mathematics and "g" elective requirements.

c, g	M565	College Prep Statistics 1	5
c, g	M566	College Prep Statistics 2	5

This course is designed to introduce students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Students are exposed to four broad conceptual themes: (1) Exploring Data: observing patterns and departures from patterns; (2) Planning A Study: deciding what and how to measure; (3) Anticipating Patterns in Advance: producing models using probability and simulation; and (4) Statistical Inference: confirming models. Prerequisite: Algebra II. This course meets the University of California "c" mathematics and "g" elective requirements.

c, g	M570	Advanced Placement Statistics 1	5
c, g	M571	Advanced Placement Statistics 2	5

The Advanced Placement Program offers a course description and examination in statistics to students who wish to complete studies in secondary school equivalent to one-semester in, introductory, non calculus-based, college course in statistics. In colleges and universities, the number of students who take a statistics course is almost as large as the number of students who take a calculus course. At least one statistics course is typically required for majors such as engineering, psychology, sociology, health science, and business. Every semester about 20,000 students take their first statistics course from the mathematics or statistics department at their college or university. The vast majority of these students take a non-calculus based introductory course that is equivalent to the AP Statistics course. A large number of other students take a similar introductory course from other departments who teach their own statistics course. AP Statistics will be effective preparation for Science, engineering, business, and mathematics majors who usually take an upper division calculus-based course in statistics. This course meets the University of California "c" mathematics and "g" elective requirements.

c, g	M580	Mathematical Studies 1 International Baccalaureate SL	5
c, g	M581	Mathematical Studies 2 International Baccalaureate SL	5

a-g	Course Code	Title	Credits

This year long course provides the students with the ability to apply mathematical applications make decisions based on data presented by graphs, functions, tables, charts, etc. and communicate information in a clear and logical manner. The objectives for this course will be met in geometry, algebra 2, and precalculus courses for students who will be demonstrating the applications of mathematics to life in a technical society. This course is for students with varied abilities to gain confidence and appreciation for mathematics in their future studies. This course meets the University of California "c" mathematics and "g" elective requirements.

c, g	M582	Mathematics 1 International Baccalaureate SL	5
c, g	M583	Mathematics 2 International Baccalaureate SL	5

This yearlong course will provide a sound mathematical basis in preparation for further studies in mathematically related fields such as chemistry, economics, geography and business administration. This course is a demanding program containing a variety of topics that requires some background knowledge in math and an ability to apply various mathematical methods of reasoning and thought in many situations. The objectives for this course will be met in pre-calculus, calculus and statistics courses for students who need a moderate background of mathematical thought for other technical studies. Students who are considering further studies in the biological sciences, chemical sciences, economics, and psychology should consider taking this course. This course meets the University of California "c" mathematics and "g" elective requirements.

c,g	M600	Integrated Math IC-1	5
c,g	M605	Integrated Math IC-2	5

This course is the first of an integrated and investigative mathematics program to use patterns, modeling, and conjectures to build student understanding and competency in mathematics. The students will be expected to learn through collaboration, collection of data, experimentation, and conjectures using technology as well as traditional tools to develop a robust understanding of the mathematical principles involved. The students will learn mathematical sense making, make and test conjectures and justify conclusions, use mathematical models to represent real-world data, be able to provide clear and concise answers, and have computational and symbolic fluency. Prerequisite: None. This course meets the University of California "c" mathematics and "g" elective requirements.

c,g	M620	Integrated Math IIC-1	5
c,g	M625	Integrated Math IIC-2	5

This course is the second of an integrated and investigative mathematics program designed to use patterns, modeling, and conjectures to build students understanding and competency in mathematics. The students will be expected to learn through collaboration, collection of data,

a-g	Course Code	Title	Credits

experimentation, and conjectures using technology as well as traditional tools to develop a robust understanding of the mathematical principles involved. The students will learn mathematical sense making, make and test conjectures and justify conclusions, use mathematical models to represent real-world data, be able to provide clear and concise answers, and have computational and symbolic fluency. Prerequisite: Integrated Math I or Algebra I. This course meets the University of California “c” mathematics and “g” elective requirements.

M640	Integrated Math III 1C	5
M645	Integrated Math III 2C	5

This course is the third of an integrated and investigative mathematics program designed to use patterns, modeling, and conjectures to build student understanding and competency in mathematics. The students will be expected to learn through collaboration, collection of data, experimentation, and conjectures using technology as well as traditional tools to develop a robust understanding of the mathematical principles involved. The students will learn mathematical sense making, make and test conjectures and justify conclusions, use mathematical models to represent real-world data, be able to provide clear and concise answers, and have computational and symbolic fluency.

M750	Math Competency SS	5

This is a summer school course designed to help 9th - 12th grade students improve math skills required for graduation and included in the District proficiency requirement. Elective credit will be granted, but credit may not be used toward the math requirement for graduation. This is a credit/no credit class.

M760	Math Proficiency SS	5

This is a summer school course or Learning Center course designed to help incoming 9th grade and credit recovery students improve math skills. Elective credit will be granted but credit may not be used toward the math requirement for graduation. This is a credit/no credit class.

M850	Transfer Course	5

This course is for a student who has been attending a school outside the Grossmont District. The subject matter field has been identified, however, the course description or title is not readily matched with a course in the Grossmont District Master Course Title Book. Elective credit has been granted.

M851	Transfer Course	5

a-g	Course Code	Title	Credits

This is a second semester transfer course. In cases where students remain in the same subject matter field during the second semester, using this course identification will allow a more accurate recognition of the course work.

M852	Transfer Course Basic Algebra 1	5
M853	Transfer Course Basic Algebra 2	5

For **first-time transfer students into the GUHSD** with a "Basic Algebra or Pre-Algebra" course on transfer transcript. Course fulfills the M1 Algebra math credit up to 1.5 years. An additional 5 units of credits may be applied to M0 if warranted on transfer transcript. Student must still enroll in and take an Algebra I course to fulfill the GUHSD math graduation requirement.