

ALGEBRA 2 READINESS (4029)
MATHEMATICS: SITE-ADOPTED COURSE

Grades 9–10. This year course is designed for students who need additional practice and instruction in the concepts taught in Algebra 2 in order to pass the required mathematics courses for high-school graduation. This course covers the same material as Algebra 2, but stretches the teaching over the course of a year rather than a semester. This extra instructional time allows for individual student pacing and helps students develop a deeper understanding of the algebraic concepts the course encompasses.

Credit for this course counts towards the elective credits required for high school graduation.

Approved site: La Jolla High School. No other site may offer this course.



ALGEBRA EXPLORATION ADVANCEMENT ACADEMY 1,2 (4128, 4129)
MATHEMATICS: PILOT COURSE

Grade 9. Algebra Exploration Advancement Academy 1,2 is a one- or two-semester elective course that provides additional support for students who are enrolled in Algebra Exploration 9th 1–2 (4032, 4033) and are functioning below grade level. Students are enrolled in this course in addition to, not instead of, Algebra Exploration 9th.

Credit for this course counts towards the elective credits required for high school graduation.

Pilot site: This is a districtwide pilot.



ALGEBRA READINESS MS (4080)
MATHEMATICS: SITE-ADOPTED COURSE

Grade 8. Note: This course does **not** meet a high school graduation requirement. Students who take this course go on to take Algebra Exploration 9th in the ninth grade.

This course is designed for grade 8 students who need additional time and support to build the foundational skills necessary for success in algebra. It reinforces arithmetic and number skills in the context of meaningful problems, with an emphasis on the following topics: probability; ratio, proportion, and percentages; variables and patterns; linear relationships, exponential relationships, Pythagorean theorem, and three-dimensional measurement. It also focuses on mathematical reasoning and communication.

Approved sites: Challenger, CPMA, Kroc, Marshall, Marston, Montgomery, Muirlands, Pacific Beach, Roosevelt, Standley, De Portola, Wangenheim, Mann, and Wilson Middle Schools. No other sites may offer this course.



ALGEBRA READINESS MS ADVANCEMENT ACADEMY (4060)
MATHEMATICS: SITE-ADOPTED COURSE

Grade 8. This course is designed to provide additional support to students who are below grade level in their regular Algebra Readiness MS course (4080), and is intended to parallel and extend the learning already taking place in that course. The additional time provided by this course allows students to more fully explore mathematical concepts, develop strategies to solve problems, and develop and practice strategies that enhance their computational fluency and number sense.

Approved sites: Challenger, CPMA, Kroc, Marshall, Marston, Montgomery, Muirlands, Pacific Beach, Roosevelt, Standley, De Portola, Wangenheim, Mann, and Wilson Middle Schools. No other sites may offer this course.



CAHSEE MATH PREP SUMMER SCHOOL (4091)
MATHEMATICS: SUMMER-SCHOOL COURSE

Grades 10–12. This is a six-week summer-school course designed for students who need additional support to pass the Mathematics portion of the California High School Exit Exam (CAHSEE). The course will familiarize students with the structure of the examination and help them develop the test-taking skills they need in order to pass it. Frequent practice tests will be given to gauge students' knowledge and understanding of the mathematics content standards that assessed by the CAHSEE.

Credit: This course awards 0.66 units of elective credit towards high school graduation

Approved sites: This course is offered as part of the summer-school curriculum at district high schools; sites vary from year to year.



CALCULUS BC 1–2 AP (4197, 4198)
MATHEMATICS: SITE-ADOPTED COURSE

Grades 11–12 (HP). This course offers students a full academic year of work in calculus comparable to a college-level course in the subject. It is designed to be taught concurrently with Calculus AB 1–2 AP and provides students with additional experience in the methods and applications covered in that course. The course takes a multirepresentational approach to calculus, expressing concepts, problems, and results geometrically, numerically, analytically and verbally. Students who enroll in this course are expected to take the AP Calculus BC exam.

Credit for this course is honors-weighted and counts toward the mathematics credits required for high-school graduation. The course also meets the mathematics ('c') subject-area requirement for UC/CSU admission.

Approved sites: La Jolla and Mira Mesa High Schools, and San Diego School for Creative and Performing Arts (SCPA). No other sites may offer this course.



EXTENDED MATH 1–2 (4069, 4070)
MATHEMATICS: PILOT COURSE

Grades 9–12. This course is intended for 4x4 schools that want to extend instruction in algebra and geometry over the course of a whole year instead of a single semester. It can only be offered in conjunction with one of those two courses. It essentially allows schools to teach these courses at a slower pace, and is intended to serve as a temporary solution until a more permanent plan to address the problem can be devised.

Credit for this course counts towards the elective credits required for high school graduation.

Pilot sites: This pilot is approved for all schools operating on a 4x4 schedule; however, schools that want to offer it must first obtain permission from the mathematics department of the Curriculum and Instruction Office. The sites that have permission to pilot the course in the 2008-09 school year are Mission Bay High School and Crawford MVAS.



FUNCTIONS ANALYSIS 1–2 (4183, 4184)
MATHEMATICS: SITE-ADOPTED COURSE

Grades 11–12 (P). **Prerequisite:** Intermediate Algebra 1–2.

This year course is designed for students who have completed Intermediate Algebra but who are not yet ready for the rigors of precalculus. The purpose of this course is to take skills learned in Intermediate Algebra and apply them to real-world situations through modeling in order to strengthen students' understanding of applied mathematics. Mathematical modeling (including the processes of data collection, representation, interpretation, predication, and simulation), technology (including the programming/link capabilities of the graphing calculator), and active learning through collaborative, small-group investigations will be the focus of the course. Students who successfully complete this course will be prepared to continue their mathematical studies in high school precalculus.

Credit for this course counts toward the elective credits required for high school graduation. The course also meets the mathematics ('c') subject-area requirement for UC/CSU admission.

Approved site: Mira Mesa High School.



GEOMETRY 2 READINESS (4140)
MATHEMATICS: SITE-ADOPTED COURSE

Grades 9–11. This year course is designed for students who need additional practice and instruction in Geometry 2 concepts to pass the required mathematics courses for high-school graduation. This course covers the same material as Geometry 2, but stretches instruction over the course of a full year rather than a single semester. The extra instructional time allows for individual student pacing and to helps students develop a deeper understanding of the mathematical concepts encompassed in the course.

Credit for this course counts toward the elective credits required for high school graduation.

Approved site: La Jolla High School. No other site may offer this course.



INTERACTIVE MATH—YEAR 1 1–2 (4105, 4106)
MATHEMATICS: SITE-ADOPTED COURSE

Grade 9 (P). Interactive Math—Year 1 is the required mathematics course for all ninth-grade students at the School of Multimedia and Visual Arts at the Crawford High Educational Complex. It is the first in a four-year series of integrated mathematics courses that uses project-based curriculum from the Interactive Math Project to teach challenging concepts and mathematical reasoning. The curriculum builds crucial algebra content over Years 1 and 2 of the program, giving students a chance to develop meaningful understanding of key concepts so that they may apply them to problems in geometry and probability and statistics they will encounter later on.

Credit for this course counts towards the mathematics (algebra) credits required for high school graduation. The course also meets the mathematics ('c') subject-area requirement for UC/CSU admission.

Approved site: Crawford MVAS. No other site may offer this course.



INTERACTIVE MATH—YEAR 2 1–2 (4073, 4074)
MATHEMATICS: SITE-ADOPTED COURSE

Grade 10 (P). Prerequisite: Interactive Math—Year 1.

Interactive Math—Year 2 is the required mathematics course for all tenth-grade students at the School of Multimedia and Visual Arts at the Crawford High Educational Complex. It is the second course in a four-year series of integrated mathematics courses that uses project-based curriculum from the Interactive Math Project. The second-year curriculum continues the process begun in Year 1 of building crucial algebra content so that students may acquire meaningful understanding of key concepts and apply them to problems of geometry, probability and statistics, and trigonometry.

Credit for this course counts towards the mathematics (geometry) credits required for high school graduation. The course also meets the mathematics ('c') subject-area requirement for UC/CSU admission.

Approved site: Crawford MVAS. No other site may offer this course.



INTERACTIVE MATH—YEAR 3 1–2 (4075, 4076)
MATHEMATICS: PILOT COURSE

Grade 11 (P). Prerequisite: Interactive Math—Year 2. **Note:** This course is in its second pilot year (2008-09).

Interactive Math—Year 3 is the required mathematics course for all eleventh-grade students at the School of Multimedia and Visual Arts at the Crawford High Educational Complex. It is the third course in a four-year series of integrated mathematics courses that use project-based curriculum from the Interactive Math Project. The third-year course builds on content taught in Years 1 and 2 of the program, and provides students the opportunity to build meaningful understanding of key concepts in geometry and probability and statistics.

Credit for this course counts towards the mathematics (intermediate algebra) credits required for high school graduation. The course also meets the mathematics ('c') subject-area requirement for UC/CSU admission.

Approved site: Crawford MVAS. No other site may offer this course.



**INTERACTIVE MATH—YEAR 4 1–2 (4077, 4078)
MATHEMATICS: PILOT COURSE**

Grade 12 (P). Prerequisite: Interactive Math—Year 3.

Interactive Math—Year 4 provides students with a fourth-year elective option in mathematics using the integrated mathematics course model. The fourth-year curriculum builds on content taught in Years 1–3, and focuses on key concepts in analytic and coordinate geometry, trigonometry, precalculus, and advanced probability and statistics.

Credit for this course counts towards the elective credits required for high school graduation. The course also meets the mathematics ('c') subject-area requirement for UC/CSU admission.

Approved site: Crawford MVAS. No other site may offer this course.



**MATH DEVELOPMENT 9–12 (7315)
MATHEMATICS (SPECIAL EDUCATION): PILOT COURSE**

Grades 9–12. Note: This course is in its second pilot year (2008-09).

Math Development 9–12 provides support for special education students experiencing difficulties with the fundamental math concepts that are the foundation of general education math courses. Students in this course will learn foundational math concepts using hands-on models, multiple representations of numbers and concepts, fluency building activities, and investigations in order to access the general education curriculum. This course is intended to supplement existing math courses offered for graduation credit and will explicitly connect foundational math skills with grade-level curriculum.

Credit for this course counts towards the elective credits required for high school graduation.

Pilot sites: This is a districtwide pilot. Active pilot sites for 2008-09 are: Claremont, Henry, Hoover, Lincoln, La Jolla, Madison, Mira Mesa, Mission Bay, Morse, Point Loma, Serra, SCPA, Scripps Ranch, and University City High Schools; and all schools in the Crawford, Kearny, and San Diego High School Educational Complexes.



**MATHEMATICAL STUDIES SL 1,2 IB (4291, 4292)
MATHEMATICS: SITE-ADOPTED COURSE**

Grades 11–12 (P). This two-semester Standard Level (SL) mathematics course supports the International Baccalaureate magnet programs at Mission Bay High School and the School of International Studies at the San Diego High Educational Complex. It emphasizes problem solving and the application of mathematics skills to real-world problems. The course prepares students to take the IB Mathematical Studies SL exam, and satisfies the Group 5 (Mathematics) requirement for the International Baccalaureate diploma.

Credit for this course counts toward the mathematics credits required for high school graduation. The course also meets the mathematics ('c') subject-area requirement for UC/CSU admission.

Approved sites: San Diego International Studies (originating site) and Mission Bay High School. This course is specific to the International Baccalaureate magnet program at these schools and is not available to other sites.



MATHEMATICS 5TH (4004)
MATHEMATICS: SITE-ADOPTED COURSE

Grade 5. Mathematics 5th is a yearlong, single-period course designed for middle schools that include a fifth-grade level. The course provides students with a standards-based curriculum designed to increase their facility with the four basic arithmetic operations as applied to fractions, decimals, and positive and negative numbers. Grade 5 students are expected to know and use common measuring units to determine length and area, and know and use formulas to determine the volume of simple geometric figures. They work with angle measurements and use a protractor and compass to solve problems, and use grids, tables, graphs, and charts to record and analyze data. Students make decisions about how to approach problems, and use strategies, skills, and concepts to find solutions.

Approved site: Dana Middle School. No other site may offer this course.



MATHEMATICS 5TH INTENSIVE (4003)
MATHEMATICS: SITE-ADOPTED SUMMER SCHOOL COURSE

Grade 5. This one-hour-a-day summer-school course is designed for middle schools that include a fifth-grade level. The program reflects the arithmetic emphasized in Grade 5 and is targeted at incoming fifth-grade students who need extra time to understand the basic arithmetic operations required for Grade 5 course work. The focus is on developing an understanding of fractions, percentages, and decimal equivalencies, and on solving problems that involve amounts less than one. Students explore multiple representations of mathematical concepts, using tools and concrete aids when appropriate. They also participate in routines, whole-class lessons, work cooperatively in pairs or small groups, and complete individual assignments. Writing is incorporated as an integral part of the mathematics learning. The suggested curriculum is *Name That Portion* from *Investigations in Number, Data, and Space* (TERC).

Approved site: Dana Middle School. This course is offered as part of the school's annual summer-school curriculum.



MATHEMATICS 6TH–8TH SUMMER (4083)
MATHEMATICS: SUMMER SCHOOL COURSE

Grades 6–8. This two-hour daily summer-school program in mathematics reflects the arithmetic emphasized in grades 6 through 8. Students participate in routines, whole-class lessons, work cooperatively in pairs or small groups, and complete individual assignments. Students calculate mentally and with pencil and paper, and work with concrete materials to make sense of what they are learning appropriate. Each grade level has a different focus: incoming sixth-grade students focus is on developing an understanding of fractions, percentages, and decimal equivalencies; incoming seventh-graders are introduced to algebraic concepts through the study of variables and patterns; and incoming eighth-grade students focus on developing number sense through reasoning with quantities and measures used in everyday life.

Suggested curriculum for Grade 6 is *Name That Portion* from *Investigations in Number, Data, and Space* (TERC); Grade 7, *Variables and Patterns* from Connected Math; and Grade 8, *Data Around Us* and *Looking for Pythagoras* from Connected Math.

Approved site: Districtwide summer-school course for middle schools.



MATHEMATICS 9TH BRIDGING (4017)
MATHEMATICS: SUMMER SCHOOL COURSE

Grade 9. This is a two-hour-a-day summer-school course designed for transitioning eighth-grade students who need additional support and practice in foundational algebra skills in preparation for taking Algebra Exploration 9th in the fall. The course reinforces number sense through reasoning, using real-world problems. Students develop an understanding of integers and rational numbers in context, and use the Pythagorean theorem to develop an understanding of radicals through problem solving. Curriculum materials used include Connected Math's *Data Around Us*, *Looking for Pythagoras* and *Discovering Algebra, Chapter 0*, from Prentice Hall.

Credit: This course earns one elective credit towards high school graduation.

Approved site: Districtwide high school summer-school course for incoming grade 9 students.



MATHEMATICS 9TH BRIDGING (4017Z)
MATHEMATICS: SUMMER SCHOOL COURSE

Grade 9. This is a four-week version of the six-week high school summer-school course described previously. It is designed to be offered in a middle-school setting to transitioning eighth-grade students in need additional support and practice in foundational algebra skills in preparation for taking Algebra Exploration 9th in the fall. The course reinforces number sense through reasoning, using real-world problems. Students develop an understanding of integers and rational numbers in context, and use the Pythagorean theorem to develop an understanding of radicals through problem solving. Curriculum materials used include Connected Math's *Data Around Us*, *Looking for Pythagoras* and *Discovering Algebra, Chapter 0*, from Prentice Hall.

Credit: This course grants 0.66 units of elective credit towards high school graduation.

Approved site: Districtwide summer-school course for transitioning middle school (grade 8) students.



MATHEMATICS ADVANCEMENT ACADEMY 5TH (4052)
MATHEMATICS: SITE-ADOPTED COURSE

Grade 5. This course is designed to provide additional support to students who are below grade level in mathematics in grade 5. Instruction will parallel students' regular mathematics class. The course is designed to provide students with additional opportunities to explore mathematical concepts, while developing fluency in basic mathematical skills. It will assist them in understanding the fundamentals of problem solving and prepare them for the demands of future mathematics classes.

Approved site: Dana Middle School. No other site may offer this course.



MATHEMATICS HL1 IB 1–2 (4195, 4196)
MATHEMATICS: SITE-ADOPTED COURSE

Grades 11–12 (P). Mathematics HL1 IB is the first course in a two-year course of study that prepares students to take the IB Higher Level (HL) exam in mathematics and satisfies the Group 5 (Mathematics) requirement for the International Baccalaureate diploma. It includes instruction in seven core topics—algebra, functions and equations, circular functions and trigonometry, matrices, vectors, statistics and probability, and calculus—and one option topic (series and differential equations).

Credit for this course counts toward the mathematics credits required for high school graduation. The course also meets the mathematics ('c') subject-area requirement for UC/CSU admission.

Approved site: San Diego International Studies. This course is specific to the school's International Baccalaureate magnet program and is not available to other sites.



MATHEMATICS HL2 IB 1–2 (4173, 4174)
MATHEMATICS: SITE-ADOPTED COURSE

Grades 11–12 (HP). Prerequisites: Grade of B or better in Precalculus Honors (4181, 4182) and successful completion of Mathematics HL1 IB 1–2 (4195, 4196).

This course represents the second year of a two-year course of study that prepares students to take the IB Higher Level (HL) exam in mathematics and satisfies the Group 5 (Mathematics) requirement for the International Baccalaureate diploma. This course continues instruction begun in Mathematics HL1 IB on seven core topics (algebra, functions and equations, circular functions and trigonometry, matrices, vectors, statistics and probability, and calculus) and one option topic (series and differential equations), and includes preparation of the IB-required portfolio of two pieces of work: an investigation and a mathematical modeling assignment.

Credit for this course is honors-weighted and counts toward the mathematics credits required for high school graduation. The course also meets the mathematics ('c') subject-area requirement for UC/CSU admission.

Approved site: San Diego International Studies. This course is specific to the school's International Baccalaureate magnet program and is not available to other sites.



MATHEMATICS PARALLEL (4027)
MATHEMATICS: SITE-ADOPTED COURSE

Grades 9–12. Mathematics Parallel is a mathematics remediation course designed to help students attain grade-level proficiencies through additional practice and instruction. The instructional content cuts across all strands of the math curriculum, with topics addressed thematically. The course may be offered as a single-semester course, or taught over the course of a year.

Credit for this course counts toward the elective credits required for graduation and it may be taken more than once for credit.

Approved site: La Jolla High School. No other site may offer this course.



MATHEMATICS SL IB 1–2 (4295, 4296)
MATHEMATICS: SITE-ADOPTED COURSE

Grades 11–12 (P). This one-year course in integrated mathematics supports the International Baccalaureate Diploma Programme at Mission Bay High School and the School of International Studies at the San Diego High Educational Complex. The course focuses on calculus, with additional instruction in probability and matrices. The course prepares students to take the IB Standard Level (SL) exam in mathematics, and satisfies the Group 5 (Mathematics) requirement for the International Baccalaureate diploma.

Credit for this course counts toward the mathematics credits required for high school graduation. The course also meets a mathematics ('c') subject-area requirement for UC/CSU admission.

Approved sites: San Diego International Studies and Mission Bay High School. This course is specific to the International Baccalaureate magnet program at these schools and is not available to other sites.



SUMMER ACADEMY MATH (4317) (4317Q)
MATHEMATICS: PILOT/SUMMER SCHOOL COURSE

Grade 9. Summer Academy Math is a six-week course designed to allow GEAR UP (Gaining Early Awareness and Readiness for Undergraduate Programs) high schools to use the summer prior to ninth grade as an intervention paradigm that prepares students to succeed in future mathematics courses, while engaging them in a college-going culture. Students spend 16 hours a week studying math concepts designed to support their transition into a yearlong Algebra I course, and 4 hours a week attending College Readiness seminars. (At Lincoln High School, this course is taught for two hours a day for six weeks and earns one-half of a unit of credit.) Students at all sites spend two days touring college campuses as part of the course curriculum. The course is a joint undertaking with UCSD, which administers the GEAR UP program.

Credit: This course earns one unit of elective credit towards high school graduation at all pilot sites except the Center for Social Justice at Lincoln, where it earns one-half (0.5) of a unit of credit.

Pilot sites: Clairemont, Mission Bay, and Morse High Schools (4317); and the Center for Social Justice at Lincoln High School (4317Q).



UCCP ALGEBRA I 1–2 (4201, 4202)
MATHEMATICS: PILOT COURSE

Grade 9 (P). Note: This course is in its second pilot year (2008-09).

This course is part of the University of California College Prep (UCCP) Online program. First semester topics include formulas, integers, fundamental operations, functions, equations in one and two variables, simultaneous equations, graphs of equations and exponents. The second semester covers polynomials, factoring, algebraic fractions, square roots, quadratic and fractional equations, the number system and inequalities.

Credit for this course counts towards the math credits required for high school graduation. The course also meets a mathematics ('c') subject-area requirement for UC/CSU admission.

Pilot sites: Garfield, Mission Bay, Muir, and Twain High Schools; ALBA, SCPA, and all schools in the Crawford, Kearny, and San Diego High Educational Complexes.



UCCP AP CALCULUS AB 1–2 (4208, 4209)
MATHEMATICS: PILOT COURSE

Grades 11–12 (HP). Prerequisites: Precalculus 1–2, or Precalculus 1-2 Honors. **Note:** A TI-83 (or better) graphing calculator is needed for this course. This course is in its second pilot year (2008-09).

This course is part of the University of California College Prep (UCCP) Online program. Students in this course will learn to represent functions in a variety of ways: graphical, numerical, analytical and verbal. They will learn the meaning of the derivative in terms of a rate of change and local approximation and the integral both as a limit of Riemann sums and as the net accumulation of change. Students will understand the Fundamental Theorem of Calculus as the relationship between the derivative and the definite integral, and will solve a variety of problems that apply the core concepts of calculus.

Credit for this course is honors-weighted and counts towards the math credits required for high school graduation. The course also meets a mathematics ('c') subject-area requirement for UC/CSU admission.

Pilot sites: Garfield, Mission Bay, Muir, and Twain High Schools; ALBA, SCPA, and all schools in the Crawford, Kearny, and San Diego High Educational Complexes.



UCCP AP CALCULUS BC 1–2 (4210, 4211)
MATHEMATICS: PILOT COURSE

Grades 11–12 (HP). Prerequisites: Successful completion of, or concurrent enrollment in AP Calculus AB 1–2. **Note:** A TI-83 (or better) graphing calculator is needed for this course. This course is in its second pilot year (2008-09).

This course is part of the University of California College Prep (UCCP) Online program. Students in this course will learn to represent functions in a variety of ways: graphical, numerical, analytical, or verbal. They will learn the meaning of the derivative in terms of a rate of change and local linear approximation and integral both as a limit of Riemann sums and as the net accumulation of change. Students will learn to model a written description of a physical situation with a function, a differential equation, or an integral and will use technology to help solve problems, experiment, interpret results, and verify conclusions.

Credit for this course is honors-weighted and counts towards the math credits required for high school graduation. The course also meets a mathematics ('c') subject-area requirement for UC/CSU admission.

Pilot sites: Clairemont, Garfield, Mission Bay, Muir, and Twain High Schools; ALBA, SCPA, and all schools in the Crawford, Kearny, and San Diego High Educational Complexes.

