

## CTC Mathematics Placement Grid via WA High School Transcripts

Within two years of graduating from a Washington high school, students may use **either** the **letter grade earned in the second term of a high school mathematics course** or their **overall cumulative high school GPA** to determine their mathematics placement at any of the Washington Community and Technical Colleges (CTCs) piloting this agreement. The placement options outlined below set a *minimum* guaranteed placement; individual CTCs may use their own locally determined processes to place a student into a higher level mathematics course.

High School Transcript	Grade Range	Recommended Minimum Placement at WA CTCs
<b>Algebra II (2056)</b> OR <b>Integrated Math III (2064)</b>	B or higher	MATH& 107 Math in Society MATH& 141 Precalculus I MATH& 146 Introduction to Statistics
	C or higher	MATH& 107 Math in Society MATH& 146 Introduction to Statistics
<b>Bridge to College Math (WA0003)</b> OR <b>Statistics (2203)</b>	B or higher	MATH& 107 Math in Society MATH& 146 Introduction to Statistics
<b>Precalculus (2110)</b> OR <b>Math Analysis (2104)</b>	B or higher	MATH& 142 Precalculus II
	C or higher	MATH& 107 Math in Society MATH& 141 Precalculus I MATH& 146 Introduction to Statistics
<b>Calculus (2121)</b>	C or higher	MATH& 151 Calculus I
<b>Cumulative GPA</b> (HS Graduates)	GPA $\geq$ 3.0	MATH& 107 Math in Society MATH& 146 Introduction to Statistics

### Notes:

- Second term grades are required for placement, but first term grades *could* be used for “preliminary” or “provisional” placement.
- For any course, grade, or GPA not covered above, mathematics placement is determined by the CTC.
- As needed, colleges may substitute an equivalent course in order to fulfill the placement recommendations outlined above.
- See subsequent pages for state course codes, names, and descriptions of high school courses identified as having equivalent placement to Algebra II, Bridge to College Math, Precalculus, and Calculus. This “equivalence” is for placement purposes only and does not imply the courses themselves contain equivalent content.
- For a student who has not yet graduated, placement should be determined based on the math completed in the previous year. Placement via cumulative GPA is only available for students who have graduated from high school.
- **2024-2025 Pilot Colleges:**

## High School Courses with EQUIVALENT PLACEMENT to Algebra 2

Code	Name	Description
2056	Algebra II	Algebra II course topics typically include developing an understanding of the relationships between the symbolic, graphic, tabular and verbal representations of functions; utilizing the various representations to interpret function behavior and solve equations; operations with rational and irrational expressions; factoring of rational expressions; in-depth study of linear equations and inequalities; quadratic equations; solving systems of linear and quadratic equations; graphing of constant, linear, and quadratic equations; properties of higher-degree equations; exponential functions; inverse functions; statistical modeling; modeling linear and quadratic data; and operations with rational and irrational exponents.
2057	Algebra III	Algebra III courses review and extend algebraic concepts for students who have already taken Algebra II. Course topics include (but are not limited to) applying an understanding of the relationships between the symbolic, graphic, tabular and verbal representations of functions to additional families of functions; utilizing the various representations to interpret function behavior, solve equations and understand compositions of functions; operations with rational and irrational expressions, factoring of rational expressions, linear equations and inequalities, quadratic equations, solving systems of linear and quadratic equations, properties of higher-degree equations, and operations with rational and irrational exponents. The courses may introduce topics in discrete mathematics, elementary probability and statistics; matrices and determinants; logarithmic and exponential functions; inverse functions; step functions; piecewise defined functions; statistical modeling; creating functions to model apparent trends in data; modeling linear, quadratic and exponential data; and sequences and series.
2064	Integrated Mathematics III	Integrated Mathematics III courses emphasize proficiency in skills involving numbers and operations, algebra, geometry, statistics, mathematical modeling, and probability. These courses are offered as the third course in a 3- or 4-year sequence of college-preparatory mathematics courses that replace traditional Algebra 1, Geometry, and Algebra 2 courses.
2112	Linear Programming	Linear Programming courses include a study of mathematical modeling and the simplex method to solve linear inequalities and are typically intended for students who have attained pre-calculus objectives.
2137	Mathematical Modeling	Mathematical Modeling courses build upon students' knowledge of algebra and geometry to analyze information and make sense of data using statistical methods and probability, simulate change using mathematical relationships and spatial and geometric modeling, and critically assess and make decisions or solve problems based on quantitative data and logical reasoning.

## High School Courses with EQUIVALENT PLACEMENT to Bridge to College Math

Code	Name	Description
2138	College Mathematics Preparation	College Mathematics Preparations courses solidify quantitative literacy through the use and extension of algebraic, geometric, and statistical concepts. These courses prepare students for postsecondary liberal studies mathematics coursework; they are not intended to serve as remedial mathematics courses. Course content typically includes algebraic operations, solutions of equations and inequalities, number sets, coordinate geometry, functions and graphs, probability and statistics, and data representation.
2201	Probability and Statistics	Probability and Statistics courses introduce the study of likely events and the analysis, interpretation, and presentation of quantitative data. Course topics generally include basic probability and statistics: discrete probability theory, odds and probabilities, probability trees, populations and samples, frequency tables, measures of central tendency and variation, and presentation of data (including graphs). Course topics may also include normal distribution and measures of variability.
2202	Inferential Probability and Statistics	Probability and Statistics courses focus on descriptive statistics, with an introduction to inferential statistics. Topics typically include event probability, normal probability distribution, collection and description of data, frequency tables and graphs, measures of central tendency and variability, random variables, and random sampling. Course topics may also include covariance and correlation, central limit theorem, confidence intervals, and hypothesis testing.
2204	Particular Topics in Probability and Statistics	These courses examine particular topics in Probability and Statistics, such as regression or hierarchical linear modeling, rather than provide a general overview.
2205	Statistics	Statistics courses involve the major concepts and methods used to collect, analyze, and draw conclusions from data. Topics typically include populations and samples, measures of central tendency and variability, hypothesis testing, presentation, and making statistical inferences.
WA0003	Bridge to College Mathematics	The Bridge to College Mathematics course is a math course for Seniors who have completed Algebra II. The course curriculum emphasizes modeling with mathematics and the CCSS Standards for Mathematical Practice. Topics include building and interpreting functions (linear, quadratic & exponential), writing, solving and reasoning with equations and inequalities, and summarizing, representing, and interpreting data. This course must be taught using the Bridge to College Mathematics curriculum.
2205	AP Statistics	Following the College Board's suggested curriculum designed to parallel college-level statistics courses, AP Statistics courses introduce students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Students are exposed to four broad conceptual themes: exploring data, sampling and experimentation, anticipating patterns, and statistical inference.
2207	Probability and Statistics - Independent Study	Probability and Statistics—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest related to probability and statistics. These courses may be offered in conjunction with other rigorous math courses, or may serve as an opportunity to explore a topic of special interest. They may also serve as an opportunity to prepare for AP exams if the school does not offer specific courses for that endeavor.
2209	Probability and Statistics - Other	Other Probability and Statistics courses

## High School Courses with EQUIVALENT PLACEMENT to Precalculus

Code	Name	Description
2065	Integrated Mathematics IV	Integrated Mathematics IV courses emphasize proficiency in skills involving numbers and operations, algebra, geometry, statistics, mathematical modeling, and probability. These courses are offered as the fourth course in a 4-year sequence of college-preparatory mathematics courses that replace traditional Algebra 1, Geometry, and Algebra 2 courses.
2073	Analytic Geometry	Analytic Geometry courses include the study of the nature and intersection of lines and planes in space, including vectors, the polar coordinate system, equations and graphs of conic sections, rotations and transformations, and parametric equations.
2103	Trigonometry	Trigonometry courses prepare students for eventual work in calculus and typically include the following topics: trigonometric and circular functions; their inverses and graphs; relations among the parts of a triangle; trigonometric identities and equations; solutions of right and oblique triangles; the use of the unit circle; modeling trigonometric data; and complex numbers.
2104	Math Analysis	Math Analysis courses include the study of polynomial, logarithmic, exponential, and rational functions and their graphs; vectors; set theory; Boolean algebra and symbolic logic; mathematical induction; matrix algebra; sequences and series; and limits and continuity. They may also include some study of trigonometry and/or pre-calculus topics.
2105	Trigonometry / Math Analysis	Covering topics of both Trigonometry and Math Analysis, these courses prepare students for eventual work in calculus. Topics typically include the study of trigonometric and circular functions, inverses, and graphs; trigonometric identities and equations; solutions of right and oblique triangles; complex numbers; numerical tables; polynomial, logarithmic, exponential, and rational functions and their graphs; vectors; set theory; Boolean algebra and symbolic logic; mathematical induction; matrix algebra; sequences and series; modeling linear, quadratic, exponential, and trigonometric data; and limits and continuity.
2106	Trigonometry/Algebra	Trigonometry/Algebra courses combine trigonometry and advanced algebra topics, and are usually intended for students who have attained Algebra I and Geometry objectives. Topics typically include trigonometric and circular functions, inverses, and graphs; trigonometric identities and equations; solutions of right and oblique triangles; complex numbers; numerical tables; field properties and theorems; set theory; operations with rational and irrational expressions; factoring of rational expressions; in-depth study of linear equations and inequalities; quadratic equations; solving systems of linear and quadratic equations; graphing of constant, linear, and quadratic equations; modeling linear, quadratic, exponential, and trigonometric data; and properties of higher-degree equations.
2107	Trigonometry / Analytic Geometry	Covering topics of both Trigonometry and Analytic Geometry, these courses prepare students for eventual work in calculus. Topics typically include the study of trigonometric and circular functions, inverses, and graphs; trigonometric identities and equations; solutions of right and oblique triangles; complex numbers; numerical tables; vectors; the polar coordinate system; equations and graphs of conic sections; transformations; and parametric equations.
2108	Math Analysis / Analytic Geometry	Covering topics from both Math Analysis and Analytic Geometry, these courses prepare students for eventual work in calculus. Topics include the study of polynomial, logarithmic, exponential, and rational functions and their graphs; vectors; set theory; Boolean algebra and symbolic logic; mathematical induction; matrix algebra; sequences and series; and limits and continuity; the polar coordinate system; equations and graphs of conic sections; transformations; and parametric equations.

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## High School Courses with EQUIVALENT PLACEMENT to Precalculus

Code	Name	Description
2109	Elementary Functions	Elementary Functions courses, while preparing students for eventual work in calculus, include the study of relations and functions, including polynomial, logarithmic, exponential, rational, trigonometric, and circular functions, and their inverses, graphs, and applications.
2110	Pre-Calculus	Pre-Calculus courses combine the study of Trigonometry, Elementary Functions, Analytic Geometry, and Math Analysis topics as preparation for calculus. Topics typically include the study of complex numbers; polynomial, logarithmic, exponential, rational, trigonometric, and circular functions, and their relations, inverses and graphs; trigonometric identities and equations; solutions of right and oblique triangles; vectors; the polar coordinate system; conic sections; Boolean algebra and symbolic logic; mathematical induction; matrix algebra; sequences and series; modeling linear, quadratic, exponential, and trigonometric data; and limits and continuity.
2136	Finite Mathematics	Finite Mathematics acquaints students with a variety of non calculus mathematical topics including linear functions and programming, methods to solve linear and quadratic equations and inequalities, matrices, set theory, counting techniques, and basic concepts of probability and statistics (including measures of central tendency and variation).
2139	IB Mathematics: Applications and Interpretation	IB Mathematics: Applications and Interpretation courses prepare students to take the International Baccalaureate Mathematics: Applications and Interpretation exams. Intended to provide students with an understanding of the role of mathematics in an increasing technological world, these courses focus on mathematical concepts used as applications and in mathematical modeling. Course topics include numbers and algebra, functions, geometry and trigonometry, statistics and probability, and calculus.
2140	IB Mathematics: Analysis and Approaches	IB Mathematics: Analysis and Approaches courses prepare students to take the International Baccalaureate Mathematics: Analysis and Approaches exams. These courses prepare students to use analytical concepts within mathematics to solve abstract problems in a variety of contexts. These concepts are applied to course topics such as numbers and algebra, functions, geometry and trigonometry, statistics and probability, and calculus.

## High School Courses with EQUIVALENT PLACEMENT to Calculus

Code	Name	Description
2121	Calculus	Calculus courses include the study of derivatives, differentiation, integration, the definite and indefinite integral, and applications of calculus. Typically, students have previously attained knowledge of pre-calculus topics (some combination of trigonometry, elementary functions, analytic geometry, and mathematic analysis).
2123	Differential Calculus	Differential Calculus courses include the study of elementary differential equations including first- and higher-order differential equations, partial differential equations, linear equations, systems of linear equations, transformations, series solutions, numerical methods, boundary value problems, and existence theorems.
2124	AP Calculus AB	Following the College Board's suggested curriculum designed to parallel college-level calculus courses, AP Calculus AB provides students with an understanding of the concepts of calculus and experience with its methods and applications. These courses introduce calculus and include the following topics: functions, graphs, limits, and continuity; differential calculus (including definition, application, and computation of the derivative; derivative at a point; derivative as a function; and second derivatives); and integral calculus (including definite integrals and antidifferentiation).
2125	AP Calculus BC	Following the College Board's suggested curriculum designed to parallel college-level calculus courses, AP Calculus BC courses provide students with an understanding of the concepts of calculus and experience with its methods and applications. These courses cover all of the calculus topics in AP Calculus AB as well as the following topics: parametric, polar, and vector functions; applications of integrals; and polynomial approximations and series, including series of constants and Taylor series. See SCED Code 02124 for more details.
2126	Particular Topics in Calculus	These courses examine specific topics in calculus (such as integral calculus, special functions or series, or the applications of calculus to mathematical modeling), rather than provide a general overview of calculus.