Subject Area - Mathematics

Subject Area	Subject Definition	Suggested Subj Area for Credit	Certificate Type	Certificate Code	Certificate Grade Levels	License Type	License Code	License Grade Levels
Mathematics K-3 110003	Instruction provided by a teacher to multiple groups of students rather than in a self-contained classroom setting. Includes content in the preK-3 portion of Ohio's academic content standards for mathematics.	N/A	EL - Elementary (1-8)		1 - 8	EC - Early Childhood (PS-3)		P - 3
			EL - Elementary (1-8)	180106-Kindergarten-Elementary	K - 8			
			KE - Kindergarten-Elementary (K-8)		K - 8			
			KP - Kindergarten-Primary (K-3)		K - 3			
Mathematics 4-6 110150	Includes content in the 4-6 portion of Ohio's academic content standards for mathematics.	N/A	EL - Elementary (1-8)		1 - 8	MC - Middle Childhood (4-9)	110100-Mathematics (4-9)	4 - 9
			KE - Kindergarten-Elementary (K-8)		K - 8	MC - Middle Childhood (4-9)	110155-Middle Childhood Generalist Mathematics 4-6	4 - 6
			KP - Kindergarten-Primary (K-3)	180100-Elementary	K - 8			
			KP - Kindergarten-Primary (K-3)	180106-Kindergarten-Elementary	K - 8			
			MS - Middle School (4-9)	110100-Mathematics (4-9)	4 - 9			
			MS - Middle School (4-9)	110155-Middle Childhood Generalist Mathematics 4-6	4 - 6			
Mathematics 7-8 110175	Includes content in the 7-8 portion of Ohio's academic content standards for mathematics.	N/A	EL - Elementary (1-8)		1 - 8	AD - Adolescence to Young Adult	110000-Mathematics	7 - 12
			HS - High School (7-12)	110000-Mathematics	7 - 12	AD - Adolescence to Young Adult	110094-Integrated Mathematics	7 - 12
			KE - Kindergarten-Elementary (K-8)		K - 8	MC - Middle Childhood (4-9)	110100-Mathematics (4-9)	4 - 9
			KP - Kindergarten-Primary (K-3)	180100-Elementary	K - 8			
			KP - Kindergarten-Primary (K-3)	180106-Kindergarten-Elementary	K - 8			
			MS - Middle School (4-9)	110100-Mathematics (4-9)	4 - 9			
Advanced Mathematics/Pre-Algebra 6-8 110050	(not for high school credit) Optional program that accelerates completion of the K-8 program and prepares students to enroll in high school level courses prior to grade 9.	N/A	EL - Elementary (1-8)		1 - 8	AD - Adolescence to Young Adult	110000-Mathematics	7 - 12
			HS - High School (7-12)	110000-Mathematics	7 - 12	AD - Adolescence to Young Adult	110094-Integrated Mathematics	7 - 12
			KE - Kindergarten-Elementary (K-8)		K - 8	MC - Middle Childhood (4-9)	110100-Mathematics (4-9)	4 - 9
			KP - Kindergarten-Primary (K-3)	180100-Elementary	1 - 8	MC - Middle Childhood (4-9)	110155-Middle Childhood Generalist Mathematics 4-6	4 - 6
			KP - Kindergarten-Primary (K-3)	180106-Kindergarten-Elementary	K - 8			
			MS - Middle School (4-9)	110100-Mathematics (4-9)	4 - 9			
			MS - Middle School (4-9)	110155-Middle Childhood Generalist Mathematics 4-6	4 - 6			
Algebra I 110301	In-depth study of algebraic concepts and processes to represent and solve problems that involve variable quantities. Includes using and relating graphical and symbolic representations and techniques.	MTH	HS - High School (7-12)	110000-Mathematics	7 - 12	AD - Adolescence to Young Adult	110000-Mathematics	7 - 12
			MS - Middle School (4-9)	110100-Mathematics (4-9)	4 - 9	AD - Adolescence to Young Adult	110094-Integrated Mathematics	7 - 12
						MC - Middle Childhood (4-9)	110100-Mathematics (4-9)	4 - 9
Geometry 111200	In-depth study of two and three-dimensional geometry including representing problem situations using geometric models, deductive reasoning, and geometry from an algebraic perspective.	MTH	HS - High School (7-12)	110000-Mathematics	7 - 12	AD - Adolescence to Young Adult	110000-Mathematics	7 - 12
						AD - Adolescence to Young Adult	110094-Integrated Mathematics	7 - 12
Algebra II 110302	Further study of algebraic concepts and processes such as matrices, vectors, and logarithmic and trigonometric functions.	MTH	HS - High School (7-12)	110000-Mathematics	7 - 12	AD - Adolescence to Young Adult	110000-Mathematics	7 - 12
						AD - Adolescence to Young Adult	110094-Integrated Mathematics	7 - 12
Advanced Mathematics 110099	The study of advanced topics in functions, algebra, geometry, and data analysis including the conceptual underpinnings of calculus.	MTH	HS - High School (7-12)	110000-Mathematics	7 - 12	AD - Adolescence to Young Adult	110000-Mathematics	7 - 12
						AD - Adolescence to Young Adult	110094-Integrated Mathematics	7 - 12
Integrated Mathematics I 110010	The first course in a four-year sequence which addresses the grades 9-12 portion of Ohio's academic content standards for mathematics using an integrated approach.	MTH	HS - High School (7-12)	110000-Mathematics	7 - 12	AD - Adolescence to Young Adult	110000-Mathematics	7 - 12
			MS - Middle School (4-9)	110100-Mathematics (4-9)	4 - 9	AD - Adolescence to Young Adult	110094-Integrated Mathematics	7 - 12
						MC - Middle Childhood (4-9)	110100-Mathematics (4-9)	4 - 9
Integrated Mathematics II 110020	The second course in a four-year sequence that extends understanding of and addresses new content in algebra, geometry, data analysis, and probability.	MTH	HS - High School (7-12)	110000-Mathematics	7 - 12	AD - Adolescence to Young Adult	110000-Mathematics	7 - 12
						AD - Adolescence to Young Adult	110094-Integrated Mathematics	7 - 12

Subject Area - Mathematics

Subject Area	Subject Definition	Suggested Subj Area for Credit	Certificate Type	Certificate Code	Certificate Grade Levels	License Type	License Code	License Grade Levels
Integrated Mathematics III 110030	The third course in a four-year sequence that expands the study of algebra, geometry, data analysis, probability, and/or discrete mathematics to include greater depth of understanding and application.	MTH	HS - High School (7-12)	110000-Mathematics	7 - 12	AD - Adolescence to Young Adult	110000-Mathematics	7 - 12
						AD - Adolescence to Young Adult	110094-Integrated Mathematics	7 - 12
Integrated Mathematics IV 110040	The fourth course in a four-year sequence that addresses advanced content in algebra, geometry, data analysis, probability, discrete mathematics, and/or conceptual underpinnings of calculus.	MTH	HS - High School (7-12)	110000-Mathematics	7 - 12	AD - Adolescence to Young Adult	110000-Mathematics	7 - 12
						AD - Adolescence to Young Adult	110094-Integrated Mathematics	7 - 12
Basic Algebra 110480	Includes courses with an algebra focus such as Basic Algebra, Informal Algebra, or Applied Algebra. This code should be used for the first year of a two-year Algebra I course and 110301 Algebra I should be used for the second year.	MTH	HS - High School (7-12)	110000-Mathematics	7 - 12	AD - Adolescence to Young Adult	110000-Mathematics	7 - 12
			MS - Middle School (4-9)	110100-Mathematics (4-9)	4 - 9	AD - Adolescence to Young Adult	110094-Integrated Mathematics	7 - 12
						MC - Middle Childhood (4-9)	110100-Mathematics (4-9)	4 - 9
Basic Geometry 110490	Includes courses with a geometry focus such as Basic Geometry, Informal Geometry, or Applied Geometry.	MTH	HS - High School (7-12)	110000-Mathematics	7 - 12	AD - Adolescence to Young Adult	110000-Mathematics	7 - 12
						AD - Adolescence to Young Adult	110094-Integrated Mathematics	7 - 12
Applied Mathematics 110500	Includes new, high school level content and extends understanding of mathematics drawn from topics such as algebra, geometry, data analysis, probability, and/or discrete mathematics with an emphasis on application.	MTH	HS - High School (7-12)	110000-Mathematics	7 - 12	AD - Adolescence to Young Adult	110000-Mathematics	7 - 12
						AD - Adolescence to Young Adult	110094-Integrated Mathematics	7 - 12
Intervention Mathematics 111950	(high school credit optional in grades 9-12, not for high school credit below grade 9) Course designed specifically as intervention for students who have taken and not yet reached the proficient standards on the 9th grade proficiency test or the Ohio Graduation Test for mathematics. Prepares students to retake the test, includes little or no new significant content, and is remedial in nature.	MTH	HS - High School (7-12)	110000-Mathematics	7 - 12	AD - Adolescence to Young Adult	110000-Mathematics	7 - 12
			MS - Middle School (4-9)	110100-Mathematics (4-9)	4 - 9	AD - Adolescence to Young Adult	110094-Integrated Mathematics	7 - 12
						MC - Middle Childhood (4-9)	110100-Mathematics (4-9)	4 - 9
Transition to High School Mathematics 110190	(high school credit optional in grades 9-12, not for high school credit below grade 9): Course designed specifically as intervention for students who enter grade 9 not ready for high school level mathematics courses. Use this code for courses that contain little or no new high school level content, such as pre-algebra, general mathematics, business mathematics and consumer mathematics courses based on the benchmarks and indicators found in the grades 6-8 portion of the Ohio Academic Content Standards.	MTH	HS - High School (7-12)	110000-Mathematics	7 - 12	AD - Adolescence to Young Adult	110000-Mathematics	7 - 12
			MS - Middle School (4-9)	110100-Mathematics (4-9)	4 - 9	AD - Adolescence to Young Adult	110094-Integrated Mathematics	7 - 12
						MC - Middle Childhood (4-9)	110100-Mathematics (4-9)	4 - 9

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Subject Area	Subject Definition	Suggested Subj Area for Credit	Certificate Type	Certificate Code	Certificate Grade Levels	License Type	License Code	License Grade Levels
Discrete Mathematics 111300	The study of mathematical properties of sets and systems that have a countable number of elements including applications of systematic counting techniques and algorithmic thinking to represent, analyze, and solve problems.	MTH	HS - High School (7-12)	110000-Mathematics	7 - 12	AD - Adolescence to Young Adult	110000-Mathematics	7 - 12
						AD - Adolescence to Young Adult	110094-Integrated Mathematics	7 - 12
Trigonometry 111600	In-depth study of trigonometric and circular functions including modeling, graphing, and connecting to polar coordinates, complex numbers, and series.	MTH	HS - High School (7-12)	110000-Mathematics	7 - 12	AD - Adolescence to Young Adult	110000-Mathematics	7 - 12
						AD - Adolescence to Young Adult	110094-Integrated Mathematics	7 - 12
Transition to College Mathematics 111850	A course designed for students in grades 11-12 making a transition to a college preparatory program. Content includes new topics and revisits some previously addressed topics with increased emphasis on symbol manipulation and mathematical structure.	MTH	HS - High School (7-12)	110000-Mathematics	7 - 12	AD - Adolescence to Young Adult	110000-Mathematics	7 - 12
						AD - Adolescence to Young Adult	110094-Integrated Mathematics	7 - 12
Probability and Statistics 111500	In-depth study of probability, data analysis, and statistics including applying the concept of random variables to generate and interpret probability distributions, transforming data to aid in interpretation and prediction, and testing hypotheses using appropriate statistics.	MTH	HS - High School (7-12)	110000-Mathematics	7 - 12	AD - Adolescence to Young Adult	110000-Mathematics	7 - 12
						AD - Adolescence to Young Adult	110094-Integrated Mathematics	7 - 12
AP Statistics 119550	Based upon most current Advanced Placement program syllabus and prepares students for Advanced Placement examination.	MTH	HS - High School (7-12)	110000-Mathematics	7 - 12	AD - Adolescence to Young Adult	110000-Mathematics	7 - 12
						AD - Adolescence to Young Adult	110094-Integrated Mathematics	7 - 12
Calculus 110600	A formal study of topics from calculus that is not associated with the Advanced Placement Program. Includes the study of limit, series, and differentiation and integration.	MTH	HS - High School (7-12)	110000-Mathematics	7 - 12	AD - Adolescence to Young Adult	110000-Mathematics	7 - 12
						AD - Adolescence to Young Adult	110094-Integrated Mathematics	7 - 12
AP Calculus AB 119930	Based upon most current Advanced Placement program syllabus for Calculus AB and prepares students for Advanced Placement examination.	MTH	HS - High School (7-12)	110000-Mathematics	7 - 12	AD - Adolescence to Young Adult	110000-Mathematics	7 - 12
						AD - Adolescence to Young Adult	110094-Integrated Mathematics	7 - 12
AP Calculus BC 119960	Based upon most current Advanced Placement program syllabus for Calculus BC and prepares students for Advanced Placement examination.	MTH	HS - High School (7-12)	110000-Mathematics	7 - 12	AD - Adolescence to Young Adult	110000-Mathematics	7 - 12
						AD - Adolescence to Young Adult	110094-Integrated Mathematics	7 - 12
Other Mathematics Course 119999	High school level elective course that addresses advanced mathematical topics. Course Other mathematics course for which high school credit can be earned that is different in scope from any of the other SUBJECT CODES described above. Course that address concepts and skills below the 9-12 portion of Ohio's academic content standards for mathematics should be coded as 119950 Intervention Mathematics.	MTH	HS - High School (7-12)	110000-Mathematics	7 - 12	AD - Adolescence to Young Adult	110000-Mathematics	7 - 12
						AD - Adolescence to Young Adult	110094-Integrated Mathematics	7 - 12