

Mathematics for Elementary Education

	BCC	BSC	CCCC	MCC	UMD
Courses	(1) Math 21 – Mathematics for Elementary School Teachers I (2) Math 22 – Mathematics for Elementary Teachers II	(1) MATH 112 – Mathematics for Elementary Teachers I (2) MATH 113 – Mathematics for Elementary Teachers II (3) MATH 114 – Mathematics for Elementary Teachers III		(1) MATH 123 – Principles of Mathematics I (2) MATH 124 – Principles of Mathematics II	
Placement Criteria	Accuplacer Score Algebra score ≥ 72 and C- or better in high school Algebra I and Geometry	Accuplacer Score Algebra score ≥ 72		Accuplacer Score Algebra score ≥ 72	
Target Audience	Elementary Education Majors	Elementary, Special, & Early Childhood Education Majors		Elementary Education Majors	
Prerequisites	MTH - C- in Math 4N (Algebra & Essential Geometry) MTH 22 – MTH 21	MATH 112 – placement MATH 113 – MATH 112 MATH 114 – MATH 112		MATH 112 – Intermediate Algebra and Trigonometry	
Technology	Manipulatives (at the instructor’s discretion)	Manipulatives MyMathLab (both at the instructor’s discretion)		Manipulatives	
Text	<i>Mathematical Reasoning for Elementary Teachers, 5th Edition</i> By Long, DeTemple, & Millman Pearson Publishing	<i>Mathematical Reasoning for Elementary Teachers, 5th Edition</i> By Long, DeTemple, & Millman Pearson Publishing <i>Mathematics Activities for Elementary Teachers</i> (to		<i>Mathematics for Elementary Teachers, 6th Edition</i> By Bennett and Nelson McGraw Hill	

		accompany <i>Mathematical Reasoning for Elementary Teachers</i>) By Dolan, Williamson, & Muri Pearson Publishing			
Course Learning Outcomes	See Course Learning Outcomes Grid	See Course Learning Outcomes Grid		See Course Learning Outcomes Grid	
Topics	See Topics Grid	See Topics Grid		See Topics Grid	
Instructor Profile	Mostly full-time, some adjuncts	Few full-time, mostly adjuncts		Full-time	
Materials Given to Instructors	List of Topics	(1) Basic syllabus with list of topics (2) Text & Activities Manuel (3) Access to MyMathLab (4) <i>Connecting Mathematics for Elementary Teachers</i> , by Feikes, Schwingendorf, Gregg (Pearson Publishing) (5) <i>IMAP: Integrating Mathematics and Pedagogy to Illustrate Children's Reasoning</i> (Video), by Phillip & Cabral (Pearson Publishing)		(1) Basic syllabus with list of topics (2) List of course outcomes (3) Text with manipulatives and Activity workbook	
Assessment	Exams, presentations, group work	Exams, presentations, group work		Exams, presentations, portfolio, demonstration	
Duration	2 semesters	2 or 3 semesters – MATH 113 & MATH 114 can be taken during the same semester		2 semesters, Math 123 and Math 124 can be taken the same semester	
Course Description	(1) MTH 21 – This course provides prospective elementary	(1) MATH 112 – Develops understanding of the mathematical content of		(1) MATH 123 – This course provides a conceptually based, comprehensive study	

	<p>school teachers with a background in mathematics so they can teach elementary school mathematics confidently and knowledgeably. Topics include critical thinking, sets and whole numbers, numeration and computation, number theory, integers, fractions and rational numbers, decimals and real numbers.</p> <p>(2) MTH 22 – This course is a continuation of MTH 21. Topics include algebraic reasoning and representation, statistics, probability, geometry, and measurement.</p>	<p>number and operations at the deep level required for successful elementary school teaching in ways that are meaningful to elementary teachers. Topics include: Place value and Arithmetic Models; Mental Math; Algorithms: Prealgebra Factors and Prime Numbers; Fractions and Decimals; Ratio; Percentage and Rates; Integers; Decimals; Elementary Number Theory.</p> <p>(2) MATH 113 – Develops understanding of mathematical content of geometry, measurement, probability, and statistics at the deep level required for successful elementary school teaching in ways that are meaningful to pre-service elementary teachers. Topics include: Two- and Three-dimensional Geometry; Measurement; Data Analysis; Single Variable Statistics; Probability.</p> <p>(3) MATH 114 – Develops understanding of the mathematical content of patterns, functions, and algebra at the deep level required for successful elementary school teaching in ways that are meaningful</p>		<p>of mathematics for prospective teachers. The topics include patterns and problem solving, numeration systems, algorithms for mathematical operations, geometric shapes and tessellations, measurement, data collection, introductory statistics and probability. This course is required for Early Childhood Education and Elementary Education Majors.</p> <p>(2) MATH 124 – This course provides a conceptually based, comprehensive study of mathematics for prospective teachers. The topics include number theory, integers, fractions, decimals, percent, ratio and proportions. This course is required for Early Childhood Education and Elementary Education majors.</p>	
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		to pre-service elementary teachers. Topics include: Concepts of Variable and Function; Linear; Quadratic, and Exponential Functions and their Graphs; Patterns. Arithmetic and Geometric Progressions; Solving Equations and Applications. Connections between arithmetic and algebra will be emphasized.			
Comments	BCC Contact Person: Dave Henry (dhenry@bristolcc.edu)	BSC Contact Person: Becky Metcalf (rmetcalf@bridgew.edu) - All of these courses fulfill our General Education Requirements for Mathematical Reasoning and Quantitative Skills - At this time, these courses are not taught online.		MCC Contact Person: Jane Devoe (jdevoe@massasoit.mass.edu)	