PBS TeacherLine New York

online solutions for teacher professional development

MATH

MATH SPRING AND SUMMER COURSE LISTINGS

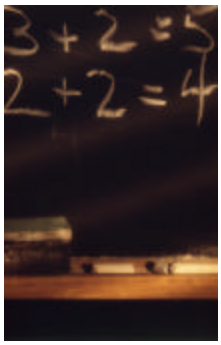
MATH120: Fostering Cooperative Learning, Discussion, and Critical Thinking in Elementary Math (Grades 1-5): Highly-developed collaborative and critical thinking skills are what your students need to meet standards and perform in high-stakes testing. Expand your collection of strategies for sharpening these skills using classroom technology. Discover activities designed to support collaboration and problem solving within the curriculum while addressing National Council of Teachers of Mathematics (NCTM) standards. Classroom Link-Access to students recommended. PBS Classroom Link courses ask learners to implement lessons with their class or with a small group of students (options for learners without access to students are available. (30 hours: Spring)

MATH126: Ahead of the Curve: Exponential and Other Functions for Grades 6-8: Help middle school students function with functions. Study strategies for teaching exponential functions and growth, and solve a range of mathematical problems to understand the underlying mathematics of functions. Collaborate with peers online to find ways to recognize and address students' misconceptions. (15 hours: Spring)

MATH150: Making Comparisons with Data Analysis for Grades 6-8: Get the inside track on what data analysis concepts your middle schoolers understand - and where they are likely to struggle. Discover concepts that are integral to making comparisons, including distribution and measures of spread, measures of center, graphic representation and interpretation, and communication of data-based conclusions. (30 hours: Summer)

MATH156: The Concept of Function for Grades 9-12: Understand more about what confuses your high school students when they encounter the theory of function. You'll examine theories of function as a process, a mathematical object, and a tool for description and prediction, and learn new ways to present the concept to your students. (15 hours: Summer)

MATH165: Enabling Students with Special Needs to Succeed in Math Class (Grades 4-8) : Make mathematics accessible and understandable for all students, including those with disabilities. The Individuals with Disabilities Education Act (IDEA) mandates equity so that, whenever possible, students with disabilities learn in the same classrooms and with the same curricula as their peers. In this course, you will learn how to adapt your own curricula and work with special needs teachers to help your students succeed in the classroom. As your final task, you will develop a plan that builds accessibility strategies into your daily teachings. (30 hours: Spring and Summer)



MATH181: Math in Everyday Life (Grades K-5): Make mathematics "real" for your young students with a fresh look at problem solving, calculators, and the Internet in the classroom. Review the National Council of Teachers of Mathematics (NCTM) Calculator-Usage and Problem-Solving Standards for a framework to design lesson plans, address content, and meet state standards. Then, develop a "walking field trip" through tasks found in students' daily lives. (15 hours: Spring)

MATH186: Math in Everyday Life (Grades 6-8): Math is all around us and you can energize middle school math instruction with real-world challenges. Examine the importance of problem-solving skills, calculators, and the Internet in the classroom while addressing national math standards. (15 hours: Summer)

MATH216: The Odds Are Good: Probability (Grades 6-8): We'll bet that we've got what you're looking for! Discover techniques to develop lessons about probability that meet the National Council of Teachers of Mathematics (NCTM) standards, use technology as a teaching tool, and incorporate new pedagogical strategies for teaching probability to middle school students. (15 hours: Spring)

MATH221: Count on It: Number Sense (Grades K-5): Make sense out of "number sense," as you discover the role it plays in students' mathematical development and the impact it has on their future performance. Identify effective assessment strategies; examine lesson plans, Web resources, and the National Council of Teachers of Mathematics (NCTM) standards. (15 hours: Spring)

MATH236: Patterns and Relations: Algebra Concepts for Grades 1-5): Teach your students how algebra connects to patterns and relationships, by incorporating manipulatives, technology, problem-solving activities, and the National Council of Teachers of Mathematics (NCTM) standards into your algebra curriculum. (15 hours: Spring)

MATH246: Rational Numbers, Fractions, Decimals, and Percents (Grades 6-8): Help your middle schoolers unravel the mysteries of rational numbers, fractions, decimals and percents. Using sample problems, you will build your understanding of how students approach their study, and learn practical, proven ways to redirect their thinking. For a final project, you will create a rational number lesson plan that includes a student assessment component. (15 hours: Summer)

MATH250: Understanding Numbers and Operations: Addition and Subtraction (Grades PreK-3): Lay the foundation that your students will build on to meet mathematical standards for years to come. Learn to teach "mental arithmetic" to enhance your students' understanding of addition and subtraction. Develop your understanding of computational strategies by observing students, exploring lesson plans, and examining Web resources. Design, implement, and assess a numbers and operations lesson that combines technology, manipulative, and effective pedagogical strategies as your final project. Classroom Link-Access to students recommended. PBS Classroom Link courses ask learners to implement lessons with their class or with a small group of students (options for learners without access to students are available. (30 hours: Spring and Summer)

MATH270: Developing Algebraic Thinking (Grades 3-5): Help your 3rd- to 5th-graders think algebraically by learning strategies for incorporating algebra in your classroom. Explore the algebraic content in your current teachings and develop a connection between algebra and mathematics. (30 hours: Summer)

MATH410: Seeing Math™: Linear Functions (Grades 6 – 12): Discover a fresh approach to teaching linear functions through the use of real-world problems that generate varied approaches and solutions. Learn how multiple representations and solutions strengthen students' understanding of functions, equations, and problem solving. (30 hours: Spring and Summer)

MATH420: Seeing Math™: Linear Equations (Grades 6 – 12): Develop strategies for teaching students how to represent and manipulate linear equations. Examine the rationale behind the symbol manipulation that maintains an equality or corresponding inequality. Use symbolic and graphic techniques to solve equations. (30 hours: Summer)

MATH425: Seeing Math™: Systems of Linear Equations (Grades 6 – 12): Uncover each step in the solution process as you learn ways to help your students master the skills they need to answer questions like these: "What does it mean to solve a system of linear equations?" and "What do all of the procedures used to solve such systems have in common?" (30 hours: Spring)

MATH435: Seeing Math™: Quadratic Functions (Grades 6 – 12): Learn high-impact modeling and problem-solving techniques to teach quadratic functions. Learn how to use multiple representations - tables, graphs, and symbolic expressions - as powerful tools to model physical situations and predict patterns. (30 hours: Spring)

MATH445: Seeing Math™: Quadratic Equations (Grades 6 – 12): Move beyond tried-and-true quadratic equation teaching techniques and look at the big picture: what the results reveal, how to interpret them within the context of a problem, and how to find related information. Manipulate the three symbolic forms of a quadratic function in order to inspect and predict shape, orientation, and location, and connect graphic and symbolic representations. (30 hours: Summer)

MATH455: Seeing Math™: Data Analysis (Grades 6 – 12): "What do the measures of central tendency—mean, median, and mode—tell you about the data?" Teach your students how to answer that question and encourage them to look beyond calculations and individual data points. Explain how the measures are related to the whole set and see the data as an aggregate; help students perform higher-order statistical thinking. (30 hours: Spring)

Spring Semester Begins March 23rd
Registrations must be received by March 13th

Summer Semester Begins June 22nd
Registrations must be received by June 12th

Register online at: www.thinkbright.org/teacherline
For more information call: (716) 845-7000 ex 360

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