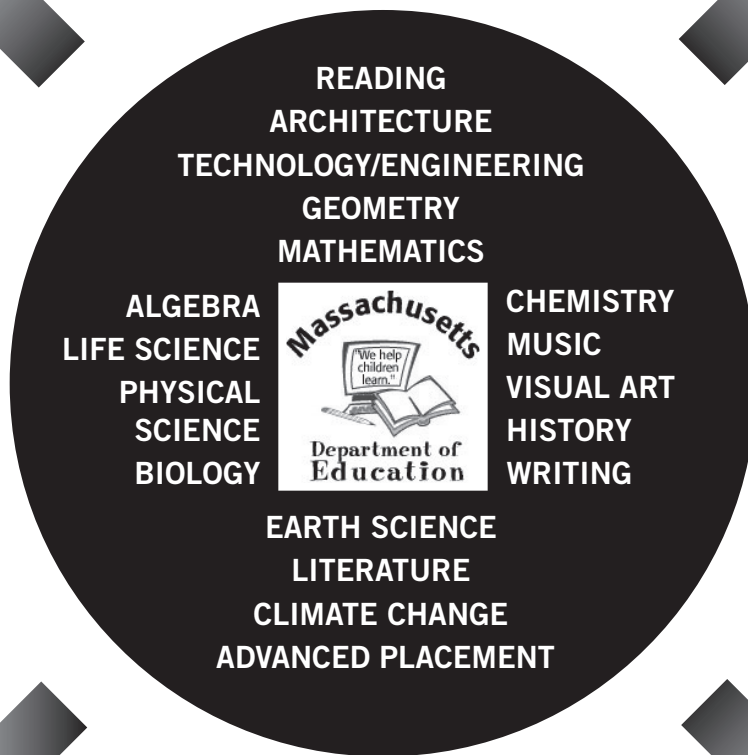


Content Institutes 2006



**PARTICIPANTS RECEIVE PDPs
INSTITUTES ARE AT NO COST TO PARTICIPANTS**

LETTER FROM THE COMMISSIONER



April, 2006

Dear Educators:

We are pleased to announce the eleventh year of our statewide program of free graduate-level institutes designed to increase the content knowledge of Massachusetts educators. These institutes are an important part of the Massachusetts Department of Education's strategic plan to raise student achievement and to meet the requirements of the federal No Child Left Behind Act, which requires teachers in the Commonwealth's public schools to be "highly qualified," that is, knowledgeable about the subject areas they teach. All of our institutes use instructional technology and include fall sessions to sustain improved teaching and learning in the classroom. Taking an institute is a great way to brush up your skills, learn about new scholarship and teaching strategies, and meet other dedicated teachers.

Sponsored by the Massachusetts Department of Education in partnership with school districts, educational collaboratives, charter schools, colleges and universities, cultural institutions, and professional associations, these content institutes all offer professional development points and optional graduate credit. We also offer Advanced Placement Teacher Institutes (in partnership with the College Board and Fitchburg State College), and the National Endowment for the Arts New England Teacher Institutes (in partnership with the Massachusetts Cultural Council and other New England states' arts agencies and departments of education).

Institutes in this catalogue are made possible by funding from the following United States Department of Education grant programs: Title II D of the No Child Left Behind Act, the Advanced Placement Incentive Program, and the Teaching American History program. Some additional funding has come from the National Endowment for the Arts. The Content Institutes will incorporate the use of MassONE, our statewide portal for communication and collaboration among educators.

I am proud of the high professional skills of our Massachusetts teachers, who know that there are always new things to learn. Enjoy reading this catalogue and please consider taking one of these courses this summer.

Sincerely,

David P. Driscoll
Commissioner of Education

PROGRAM INFORMATION

REGISTRATION PRIORITIES

All of the institutes listed in this catalogue are offered at no charge to Massachusetts educators. Current public school educators, especially those who are employed in school districts that have been identified as “high needs” districts and teachers who need to become “highly qualified” in the subject area they teach, will be given first priority for registration. Advanced Placement Institutes are offered only to teachers in high schools where 40% of students qualify for free or reduced price lunch. All current educators from publicly-funded programs covered by the Massachusetts Education Reform Act (school districts, public charter schools, adult basic education programs, preschools, and private day and residential schools that provide publicly-funded special education) may attend the institutes. If space is available, licensed educators who are not currently employed as public school teachers may register. Institutes are also available for the equitable participation of teachers from grades PreK-12 private schools within the geographic area served by the institute.

REGISTRATION/APPLICATION PROCEDURES

Registration by teams from schools and districts is encouraged. To register and obtain detailed information, please contact the person listed for the institute of your choice. Since spaces are limited, you should register as early as possible. Although you will see names of presenting and partnering districts listed for each institute, they are all open to educators from schools and districts across the state. Beyond the priorities listed above, participants will be accepted on a first-come, first-served basis. Participants must attend the entire program of the selected institute, including fall sessions. Note that you must have a MassONE account to register (see below), unless noted otherwise in the catalogue.

MassONE REGISTRATION

Prior to registering for an institute, participants must have an account on Massachusetts Online Network for Education (MassONE), the state teaching

and learning portal. All content institutes will use MassONE for communication and collaboration. Participants will be asked to provide their MassONE username when registering for an institute. Instructions for setting up an account are provided on the Department’s web site: <http://massone.mass.edu/teachers/register.html>. For additional help with MassONE registration, contact MassONEHelp@doe.mass.edu or 781-338-3020.

PARTICIPATION REQUIREMENTS

Each institute will provide at least 45 hours of instruction between June 20 and August 31 as well as up to 20 additional hours from September 1 to December 31, 2006. Participants are required to attend all sessions, take part in pre- and post-assessments of content knowledge, use MassONE, and complete projects outside of class that demonstrate their learning. Teachers’ institute-related work should be included in their personal professional development plans and should be strongly linked to school and district priorities.

PROFESSIONAL DEVELOPMENT POINTS AND GRADUATE CREDIT

Participants in institutes described on pages 7 to 17 may earn 67.5 PDPs for attending all sessions, taking the pre- and post-assessments and completing a project that documents their learning. No PDPs will be awarded for partial completion. Most institutes also offer optional graduate credit for which participants may register at their own expense. Institutes beginning on page 18 and described as “other professional development opportunities” may offer different amounts of PDPs.

CANCELLATION POLICY

The Department reserves the right to cancel any institute that does not have sufficient registration. In case of cancellation, teachers who have registered for the institute will be notified by the institute provider prior to the planned opening day of the institute.

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CONTACT INFO

DEPARTMENT of EDUCATION CONTACT INFORMATION

The Content Institute Program is organized by the Offices for the Humanities, Mathematics, Science and Technology/Engineering, and Instructional Technology. For general information about the Content Institute program, please contact the following individuals at the Massachusetts Department of Education.

Arts:

Lurline Muñoz-Bennett, 781-338-6285, lmunoz-bennett@doe.mass.edu

English Language Arts:

John Chiang Keh, 781-338-6226, jkeh@doe.mass.edu

Mathematics:

Jeanne Simons, 781-338-3465, jsimons@doe.mass.edu

Science and Technology/Engineering

Joyce Bowen, 781-338-3540, jbowen@doe.mass.edu

For general information about the program, Contact:

Carol Lach, 781-338-6886, clach@doe.mass.edu

INSTITUTES BY GRADE LEVEL AND CONTENT AREA



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ARTS

ELEMENTARY

Music, Literacy, and Movement: the *Orff* Approach

Worcester Public Schools

Partner: Anna Maria College

Dates: June 26-30, July 5-8, October 14, and November 18

Location: Norrback Avenue School, Worcester

Registration: 30 spaces available

Contact: Lisa Cohane,
508-799-3479

email: cohanel@worc.k12.ma.us

The *Orff-Schulwerk* is an approach to music education that engages students in musical literacy, formal and critical analysis, and improvisation and composition as a holistic and creative process. Students in an *Orff-Schulwerk* classroom compose music, play instruments, sing alone and with others, dance, write poetry and other lyrics, experiment with form and actively engage in the creative process. This institute will deepen participants' understanding of this nationally recognized approach and provide them with the content knowledge to implement it in their classrooms. Participants will receive *Orff* Certification for Level 1 or Level 2 at the completion of the program.

11 days. Graduate credit available from Anna Maria College

ELEMENTARY AND MIDDLE

Explorations in Puerto Rican Culture

Springfield Public Schools

Partner: UMass/Amherst

Dates: July 10-20, October 7, December 9

Location: Meline Kasparian Professional Development Center, Springfield

Registration: 25

Contact: Vera Baker,
413- 787-7069

email: bakerv@sps.springfield.ma.us

Explorations in Puerto Rican Culture will immerse participants in the art, music, dance, literature and food of the island. Participants will learn about the major periods in Puerto Rican history, pre-Columbian, conquest, immigration, and the effects of social changes on cultural forms. Daily Spanish lessons will help teachers learn classroom-related phrases and assist in the pronunciation of artistic terms. Educators will attend live performances and visit sites around Springfield to meet local artistic and political leaders. Using these experiences, they will design curriculum units exploring Puerto Rican culture in their own communities.

11 days. Graduate credit available from UMass

ELEMENTARY AND MIDDLE

Kodály Music Institute

Cambridge and Boston Public Schools, Conservatory Lab Charter School

Partners: New England Conservatory, UMass/Boston, UMass/Amherst, Anna Maria College

Dates: July 5-7, 10-14, 17-21, October 21, November 18, December 2

Location: Summer Institute at New England Conservatory, Boston; Fall sessions in Newton and Brighton

Registration: 15 spaces available

Contact: Margaret Ulmer,
617-585-1126

email: Mulmer@newenglandconservatory.edu

This institute will focus on improving the content and pedagogical knowledge of elementary and middle school music teachers through content-rich areas of study based on the principles and philosophy of Zoltán Kodály. Participants improve their own musicianship by singing in moveable "do" solfège, conducting, and performing choral repertoire. Participants expand their pedagogical skills through singing/dancing multi-cultural folksongs, dances, singing games, jazz and classical art music; through researching, analyzing, and codifying musical materials; and through writing lesson plans and curriculum projects. Children attend on-site music classes/rehearsals that participants observe as live application of Kodály's principles. Music teacher participants who successfully complete this institute will deepen their knowledge of the MA Arts Curriculum Framework concepts and skills as well as the MTEL music-teacher test content knowledge.

16 days (13 in summer, 3 in fall).

Graduate credit available from School of Continuing Education, New England Conservatory

ARTS

MIDDLE AND HIGH

Art and Architecture during the American Industrial Revolution

Arlington and Boston Public Schools

Partner: Massachusetts College of Art

Dates: July 10-21, September 30, November 11, December 2

Location: Massachusetts College of Art, Boston

Registration: 25 spaces available

Contact: Elizabeth Rudnick,
617-879-7174

email: lizrudnick@massart.edu

In the late 19th century, as industry drove and influenced the shape of America's cities, architecture, public art, and the art of landscape architecture expressed the American spirit. Employing a strong cross-disciplinary approach, Art and Architecture during the American Industrial Revolution will focus on significant artists, architects, and works produced during this seminal period. This institute will compare and contrast the fine examples of art, architecture, and the landscape architecture of Boston's Back Bay and Emerald Necklace. This institute includes a studio printmaking segment which will reinforce the content learned. A wide range of speakers will highlight the diversity of the living architecture and public spaces created within the cultural ethos of the American Industrial Revolution.

13 days. Graduate credit available from Massachusetts College of Art

HIGH

New Technologies in the Visual Arts

Cambridge Public Schools

Partner: Bridgewater State College

Dates: July 10-12, 14, 17-19, 21 August 28, September 9, and November 18

Location: Bridgewater State College

Registration: 24 spaces available

Contact: Kaylee Fernandes,
508-531-6010

email: k5fernandes@bridgew.edu

This institute focuses on the manipulation of photographic images in the making of art. Participants will explore the use of photographic images in the making of digital art with Adobe Photoshop or making prints using a non-toxic lithographic process and a photocopier. Participants will also gain an understanding of the unique aesthetic and expressive issues of using photographs in art through readings, oral and written critiques, illustrated lectures and discussions. Lecture topics will include 19th and 20th century artists who pioneered photomontage and photo-collage as well as historical overviews of photography, lithography, and digital art. Class discussions will include issues of property rights and plagiarism as they apply to published photographs and the internet, and the distinctions between fine art and digital printmaking and mechanical reproduction.

10.5 days. Graduate credit available from Bridgewater State College

Campus housing is available

ELEMENTARY, MIDDLE AND HIGH

NEA New England Teacher Institutes in the Arts

Educators are invited to attend a five-day summer institute in the rigorous study of a single masterwork of art. Led by leading cultural institutions, scholars, and artists, participants will study the artistic, historical, and social contexts of these major works. As part of each institute, participants will develop a five-lesson curriculum unit for implementation during the fall and then reconvene in December to discuss the results of their work in the classroom. The two institutes offered this summer are:

1. DeCordova Museum and Sculpture Park in Lincoln: Kinetic Sculpture and the Art of Wind Dynamics: George Rickey's "Three Lines" August 7-10
2. Boston Public Library in Boston: Art, Architecture, and the Public Square: The McKim, Mead, and White Building July 10-14

For more information on dates and locations go to www.massculturalcouncil.org and click on NEA Teacher Institutes. The Teacher Institutes are presented by the Massachusetts Cultural Council in partnership with the National Endowment for the Arts, and the New England state arts and education agencies.

6 days. Graduate credit available from institute providers

MassONE registration, although recommended, is not required for these two NEA institutes.

See Also:
Advanced Placement Studio Art, page 19

ENGLISH LANGUAGE ARTS

MIDDLE AND HIGH

Lenses on Literature: Exploring Literary Criticism to Improve Reading Instruction in Grades 5-12

Greenfield Public Schools

Partners: Western Massachusetts Writing Project, UMass/Amherst

Dates: May 20, July 10-21, Fall dates TBD

Location: UMass/Amherst

Registration: 25 spaces available

Contact: Amber Engelson,
413-545-5466

email: wmwp@english.umass.edu

Web: www.umass.edu/wmwp/

This institute will demystify critical theory by applying established forms of criticism to commonly taught adult texts such as F. Scott Fitzgerald's *The Great Gatsby* and Jamaica Kincaid's *Lucy*. Teachers will engage in reading, writing, and discussion as they learn and apply a variety of critical theories to these and numerous shorter texts. Using their new knowledge of critical theory and teaching strategies for reading and interpretation, participants will prepare a unit for a text that they will teach in the upcoming school year. In the fall sessions, participants will analyze their classroom application of critical theory and teaching strategies. They will present student work from their classes, and get feedback on their lessons, and discuss the successes and challenges they have encountered. These sessions will allow teachers both to refine their work and to reinforce what they learned in the summer portion of the institute.

10 days. Graduate credit available from the UMass/Amherst.

MIDDLE AND HIGH

Theories of Reading and Writing in the World

Taunton Public Schools

Partner: Bridgewater State College

Dates: June 22, July 24, 27, 28, 31, August 2, 3, and fall dates TBD

Location: Bridgewater State College

Registration: 25 spaces available

Contact: Kaylee Fernandes,
508-531-6010

email: k5fernandes@bridgew.edu

This course is designed to introduce participants to significant theorists and theories of reading and writing as connected practices of composition. Participants will apply these theories to the practices of reading "texts" that surround us, from traditional print to electronic media to the very world we live in. They will explore how a rich and complex understanding of critical literacy affects the way reading and writing are taught in the language arts classroom in the United States today, and how reading and writing might be taught in the future. Participants will design research-based activities that bring definitions of reading, writing, and composition to life in order to better meet needs of the wide variety of students—and literacies—that make up our world.

9 days. Graduate credit available from Bridgewater State College

HIGH

Tragedy and Hope: Exploring the Human Condition through Classic and Contemporary Poetry, Drama, and Fiction

Bedford Public Schools

Partners: Boston University and Harvard University

Dates: June 22 - 30, two fall days TBA

Location: Lt. Job Lane School, Bedford

Registration: 28 spaces available

Contact: Susan Rozen,
781-275-1700 x 5174

email: susan_rozen@bedford.k12.ma.us

In this institute teachers will engage in a scholarly discussion around different genres of literature: drama, fiction, and poetry. Through immersion in three central texts, historical context, literary criticism, and multimedia presentations, participants will learn how to engage students in demanding reading and scholarly research. Interdisciplinary ties will be made to examine themes in literature through music, art, and theater. Participants will choose between attending either a one-day workshop on the Socratic method or a technology/interdisciplinary unit. Senior scholars from Boston University, University of Washington, and Harvard University will demonstrate the use of primary and secondary sources in interpreting literature and a technology specialist will work with participants in the use of technology in the classroom. Curriculum linked to MTEL and ELA standards.

9 days, (7 summer, plus two fall days). Graduate credit available from Fitchburg State College

See Also:
Advanced Placement English Literature and Composition, page 19

MATHEMATICS

ELEMENTARY

K-3 Math: A Springboard for Success

Cape Cod Collaborative, Barnstable, Wareham, and Provincetown Public Schools

Partners: Teachers²¹ and Simmons College, Bourne, Falmouth, and Chatham Public Schools

Dates: June 28, July 26-28, August 1-4, October 14, November 18

Location: Barnstable Middle School

Registration: 25 spaces available

Contact: Joe Gilbert,
508-564-5099 x12

email: jjgilbert@cccollaborative.org

This institute is designed to review, strengthen and extend teachers' understanding and teaching of mathematics in Grades K, 1, 2, and 3. Participants will explore mathematical ideas in the area of number sense and operations, algebra, geometry, and measurement. The ideas of problem solving, communication, and assessment will be integrated into the mathematical goals of the institute. The participants will utilize manipulatives, explore ideas for conceptual understanding of algorithms of whole number operations, enrich their toolbox of word problems, and discuss methods of instruction in other countries. Throughout the institute, the participants will learn about current learning theories and related research. The participants will grow in their confidence and understanding of mathematics.

10 days. Graduate credit available from Simmons College

ELEMENTARY

Differentiated Instruction in Mathematics: Successful Strategies for Teaching Regular and Special Education Students, Grades 2-4

SEEM Collaborative, Malden and Stoneham Public Schools

Partners: Teachers²¹ and Simmons College

Dates: June 22, June 26-29, July 5-7, October 21, November 4

Location: SEEM Collaborative

Registration: 25 spaces available

Contact: Cathy Lawson,
781-279-3802

email: clawson@seemcollaborative.org

This institute will provide a variety of useful strategies for differentiating mathematics content, process, and products at the elementary level. Participants will become adept at identifying students' diverse learning styles and individual needs. They will be able to create multiple paths for students' success in the standards-based classroom. Working together, special educators and regular classroom teachers will develop differentiated approaches that model strategies for their classrooms. These strategies will include learning contracts, tiered activities, stations, learning centers, cubing, peer tutoring, anchor activities, choice, and assessment practices.

9 days. Graduate credit available from Simmons College

ELEMENTARY

Weaving Number Sense and Algebra in the Grade 3-5 Classroom

Quincy Public Schools

Partner: Northeastern University

Dates: June 21- 23, 26-30, September 30, November 4

Location: North Quincy High School

Registration: 24 spaces available

Contact: Dottie Greene,
617-984-8797

email: dgreene@quincy.k12.ma.us

This institute is designed to refine and deepen teachers' content understanding of the interrelationship between two strands in the Mathematics Curriculum Framework: Number Sense and Operations, and Patterns, Relations, and Algebra. Communicating, making connections, developing reasoning, and using various types of representation will be promoted in a community of learners' environment. The institute will help participants enhance their use of a variety of technologies such as MassONE, graphing calculators, and interactive web-based manipulatives.

9 1/2 days, including 2 fall dates. Graduate credit available from Northeastern University

MATHEMATICS

ELEMENTARY

Learning and Teaching Geometry

Boston Public Schools

Partner: Wheelock College,

Dates: June 28- 30, July 5, 6, 17-21, fall dates TBD

Location: Wheelock College

Registration: 30 spaces available

Contact: Elizabeth Lanoue,
617-879-2205

email: elanoue@wheelock.edu

The institute is designed for pre- and in-service elementary school teachers and addresses the content covered in the measurement and geometry strands of the Mathematics Framework for grades 1- 6. Key geometry and measurement concepts such as two-dimensional and three-dimensional figures, congruence and similarity, transformations, perimeter, area, and volume are introduced through hands-on and problem-solving activities. The ultimate goal of the institute is to deepen teachers' knowledge and understanding of geometry and measurement so that they can increase students' mathematical ability and achievement.

10 days. Graduate credit available from Wheelock College

ELEMENTARY

BRIDGES Mathematics for Elementary School Teachers

Gill-Montague Regional School District, Greenfield Public Schools, Athol-Royalston Regional School District

Partners: Hampshire Educational Collaborative and Springfield College

Dates: August 7-11, 14-16, and 2 days in October and November

Location: Turners Falls High School, Montague

Registration: 25 spaces available

Contact: Sue Gee,
413-863-9324

email: sgee@gmrds.org

This institute supports K-6 teachers in their implementation of elementary mathematics curricula. It is designed to emphasize the purposes and approaches of any curriculum aligned with the Massachusetts Mathematics Framework and the National Council of Teachers of Mathematics Standards. The content strands covered in this institute include Number sense (number and counting, computational fluency and fractions, decimals and percents), Patterns, relations and algebra, Probability, and Measurement (focusing on geometry).

10 days. Graduate credit available from Fitchburg State College

ELEMENTARY AND MIDDLE

Architecture: Learning by Design

Wareham Public Schools and Old Rochester Regional School District

Partners: Boston Society of Architects, Southeastern Massachusetts Arts Collaborative, UMass/Dartmouth

Dates: June 26-30; September 27, October 25, November 29

Location: Mattapoisett Center School

Registration: 25 spaces available

Contact: Marcia Kessler,
508-758-2772 x 1963

email: mkessler@orr.mec.edu

This institute will focus on improving the content knowledge of teachers in grades 3-8 in geometry, measurement, and engineering/technology using the context of architecture and design. Exploration of the "built environment" with field trips within the seaside community of Mattapoisett will allow an in-depth exploration of 2D/3D scale drawing and solid figures, modeling, ratios, area, perimeter, and the engineering design process. MassONE curricular design tools play an integral part of this institute, and special attention will be given to developing curricular and assessment materials to help learners with differing abilities through Teaching for Understanding and differentiated instruction. Teachers who successfully complete this institute will have a greater depth of knowledge of the concepts and skills in the curriculum frameworks and the skills assessed on the MTEL for General Curriculum, Middle School Math and Science.

5 full days, 10 hours in the fall. Graduate credit available from UMass/Dartmouth

MATHEMATICS

ELEMENTARY AND MIDDLE

Reasoning Algebraically: Transitioning from Thinking Arithmetically to Reasoning Algebraically

Haverhill Public Schools

Partner: Lesley University

Dates: June 20, July 24-28, August 9, September 21, October 18

Location: Bradford Elementary School, Haverhill

Registration: 30 spaces available

Contact: Judi Zaino,
978-374-3427

email: jzaino@haverhill-ps.org

This institute will examine the underlying algebraic reasoning behind arithmetic operations, numeric patterns, and proportions as slopes of lines. Since identifying patterns in various representations is a powerful strategy in problem solving, this institute will focus on identifying and using patterns to solve problems. The institute will engage participants in modeling operations with integers and polynomials using algebra blocks, linking these operations to their arithmetic counterparts. The institute will focus on identifying and using patterns in various representations. It will explore algebraic representations for linear functions and compare them to non-linear functions. Graphing calculators and the Geometers' Sketchpad will be used to explore multiple representations (table, graph, and equation) for those functions.

9 days. Graduate credit available from Lesley University

MIDDLE

TLC Algebra: Teaching and Learning the Content of Algebra

Whitman-Hanson Regional School District

Partners: Rockland Public Schools, Lesley University

Dates: June 21, 22, 26-30, August 10, September 28, October 26

Location: Whitman-Hanson Regional High School

Registration: 24 spaces available

Contact: Ruth Gilbert-Whitner,
781-618-7471

email: Ruth.Whitner@whrsd.org

This institute will provide participants the opportunity to learn important algebraic concepts through methods that excite and interest students. Key topics in algebra including: patterns, functions, proportional reasoning, multiple representations, and modeling abstract ideas with concrete models will drive the institute. Middle school mathematics teachers, Algebra 1 teachers, and special education teachers will learn content that develops and expands over the grade levels so they can better help students who struggle with mathematics. Technology in the form of TI-83/84 graphing calculators and the TI-SmartView software as well as the MassONE on-line tool will be used extensively. This course will promote problem solving and active learning. Understanding the key concepts from this institute will help prepare teachers for the MTEL.

10 days. Graduate credit available from Lesley University

MIDDLE

Reasoning and Problem Solving: Number Sense, Algebra, and Measurement

Ashburnham-Westminster Regional School District, Gardner Public Schools, and Narragansett Regional School District

Partners: Teachers²¹ and Simmons College

Dates: June 22, July 6-7, 10-14, September 30, October 21

Location: Westminster Elementary School

Registration: 25 spaces available

Contact: Jana Harrison,
978-874-7312

email: jharrison@awrsd.org

This institute is designed to expand the mathematics content knowledge of teachers in grades 5-8 in the areas of number sense, algebra, and measurement. Participants will examine, explore, and develop practical classroom strategies for teaching and making connections among these strands of the Massachusetts Mathematics Framework. The institute will focus on the essential notion that students should experience mathematics as a coherent whole, rather than as discrete and unrelated topics. Problem solving and reasoning will be an integral part of the institute, as participants will work to solve real-life problems set in meaningful contexts. Concepts such as proportionality, linear relationships, area, and the Pythagorean Theorem will be uncovered using various methods including hands-on explorations, graphing calculator lab work, and the use of interactive web-based tools.

10 days. Graduate credit available from Simmons College

MATHEMATICS

MIDDLE

Integrating Math and Science in Grades 5-8

Cambridge Public Schools

Partners: Tufts University

Dates: August 1-4, August 7-9 Fall sessions TBD.

Location: Maynard Ecology Center and Tufts University

Registration: 30 spaces available

Contact: Gena Merliss,
617-627-2391

email: gena.merliss@tufts.edu

Through an investigation of density and motion, science and math teachers will learn content through inquiry-based activities that promote “thinking like mathematicians and scientists”. This exploration will enhance understanding of variables in linear and non-linear graphs and equations, slope, ratios, the density of materials, constant speed and acceleration, and the engineering design process. Teachers who successfully complete this institute will have a deeper understanding of math, science and engineering concepts and will collaboratively develop an integrated, inquiry-based unit to be used in classes.

9 days. Graduate credit available from Tufts University

MIDDLE

Linear Equations and Their Foundations

Lowell Public Schools

Partners: Lawrence Public Schools, EduTron Corporation, Fitchburg State College

Dates: June 5 (3-6pm), 22, 23, 26-30, Fall sessions (3-6pm): September 27, October 25, November 29

Location: Lowell Public Schools, Central Office, Lowell

Registration: 30 spaces available

Contact: Kai C. Liu,
781-729-8696

email: KCLBA6M@EduTron.com

Linear Equations and Their Foundations will take participants “from MCAS to MTEL” and back. It will cover three major topics: linear equations in two variables, systems of linear equations, and, preceding them, a connected sequence of elementary topics that are foundational for the other two major topics: division, fractions, decimals, percent, rate and speed, ratio, direct and inverse proportion, and measurement. By means of multi-topic concept mapping with an emphasis on visual explanations, and solution of challenging problems at their level, participants will develop deep understanding of the topics and their interrelationships. In addition, they will explore likely student misunderstandings and their remediation. The CLEAR Math program, which was designed by presenters of this institute, and graphing calculators will be used to enhance learning efficiency and to demonstrate ways of using technology to teach math in the classroom. MassONE will be used for information exchange and for discussions.

8 days. Graduate credit available from Fitchburg State College

MIDDLE AND HIGH

Increasing Accessibility to Algebra and Geometry for Special Education Students and English Language Learners

Leominster Public Schools

Partner: University of Massachusetts Medical School

Dates: August 14-17, 21- 23, fall sessions TBD

Location: Framingham High School

Registration: 25 spaces available

Contact: Wendy Pelletier Cleaves,
508-856-5348

email: Wendy.Pelletier@umassmed.edu

This institute is designed for grades 6-10 teachers who provide math instruction and support to Special Education students and English Language Learners. It will address the standards of the Massachusetts Mathematics Framework from the Algebra and Geometry strands with a focus on the connections between them. Strategies will include using multiple representations (Rule of 4) in problem solving, learning stations, math labs, graphic organizers, and various technologies. Using informal and formal assessments to encourage students to demonstrate what they know and can do will also be addressed. Graphing calculators, geometry software, and the internet will be used where appropriate.

8 days. Graduate credits available from Fitchburg State College

HIGH

Equations: Fundamentals, Interpretations, and Applications

Leominster Public Schools

Partners: Fitchburg and Gardner Public Schools, EduTron Corporation, Fitchburg State College

Dates: June 6 (3-6pm), July 5-7, 10-13, Fall session (3-6pm): September 28, October 26 and November 30

Location: Sky View Middle School, Leominster

Registration: 30 spaces available

Contact: Kai C. Liu,
781-729-8696

email: KCLBA6H@EduTron.com

This high school mathematics institute provides a unique intense immersion experience for teachers. It has two primary foci: linear equations in two variables, and other nonlinear functions (including quadratic, exponential, logarithmic, and trigonometric). Participants will: analyze linear equations through numerical, graphical, and algebraic methods. They will make connections between geometrical/algebraic interpretations and engage in the formulation, exploration and solution of application problems and open-ended projects. The presenters are members of the authoring team of the CLEAR Math program. CLEAR Math and graphing calculators will be used to demonstrate ways of using technology to teach math in the classroom. This institute will prepare teachers to explain algebraic concepts at the student's point of readiness and through the student's learning preference, thus making content accessible to the diverse learning population.

8 days. Graduate credit available from Fitchburg State College

See Also:
Advanced Placement Calculus AB and Statistics, page 19

ELEMENTARY

Physical Science and Technology/Engineering: Inquiry and Experimentation

Winchendon Public Schools

Partner: Fitchburg State College

Dates: June 26-30, July 5-7, two days in the fall TBD

Location: Memorial School, Winchendon

Registration: 20 spaces available

Contact: Valorie Miller,
978-297-0261

email: vmiller@winchendonk12.org

Physical Science and Technology/Engineering: Inquiry and Experimentation supports K-6 teachers in their implementation of elementary physical science curricula. The institute is designed to emphasize the purposes and approaches of a curriculum aligned with the Massachusetts Frameworks.

The institute will strengthen teachers' physical science understanding and confidence, as well as model specific pedagogical techniques. It will focus on topics that support and enrich participants' physical science content knowledge in order to develop students' higher order thinking skills. The content strands covered in this institute include Materials and Objects, Energy, Electricity, Magnetism and Waves (sound and light).

9 days. Graduate credit available from Fitchburg State College

ELEMENTARY

Physical Science and Technology/Engineering: Fundamentals and Classroom Implementation

Worcester Public Schools

Partners: Worcester State College; STEP, Inc., Regional Science Resource Center, UMass

Dates: August 7-10, 14-17; December 13, and 4 additional fall sessions TBD

Location: Worcester State College

Registration: 20 spaces available

Contact: Joseph Buckley,
508-799-3479

email: buckleyjw@worc.k12.ma.us

Physical Science and Technology/Engineering presents in-depth background information and experimental work aligned with national standards and Massachusetts' standards in physical science and technology/engineering for teachers in grades 4-6. Accurate collection and analysis of data are used as an integral part of performing and reporting scientific work. Topics include: scientific inquiry process, properties of solid objects and materials, forces, friction, simple machines, pendulums, engineering design, electricity, volume, density, buoyancy, heat and heat transfer, and chemical reactions. Institute instructors will provide four experimental activities in each participant's classroom. Participants will attend a final full-day wrap-up session to share implementation experiences on December 13th.

8 days (plus fall session). Graduate credit available from Worcester State College

SCIENCE & TECHNOLOGY/ENGINEERING

ELEMENTARY AND MIDDLE

Worlds of Water: Integrating Science Standards Through Classroom And Field Investigations of Boston Harbor and The Fresh Pond Reservation

Cambridge Public Schools

Partner: New England Aquarium

Dates: August 8-17, October 14, and November 18

Location: New England Aquarium and field sites in and along Boston Harbor and the Fresh Pond Reservation in Cambridge

Registration: 25 spaces available

Contact: Joel Rubin,
617- 973-6590

email: trc@neaq.org

Participants will compare Boston Harbor and the Fresh Pond Reservation in Cambridge, learning about the physical environment, living organisms and human activity in and around these freshwater and marine ecosystems. Participants will conduct hands-on field and classroom investigations with educators and faculty from New England Aquarium, Cambridge Public Schools, Cambridge College, Massachusetts Marine Educators, UMass/Boston, Mass Water Resources Authority, Boston Harbor Islands National Park, and Northeastern University. Faculty will present a rich array of curricula, practical skills, and content knowledge for conducting standards-based investigation and analysis. Based primarily on the science standards, the institute integrates other content areas, especially language arts (linking science observation to literacy through journaling) and mathematics (measuring, graphing). The institute utilizes on-line research, collegial forums and sharing of activities and assessments using MassOne, the Commonwealth's on-line network for education.

10 days. Graduate credit available from Cambridge College

ELEMENTARY AND MIDDLE

Impacts of Science, Technology, and Engineering of the American Industrial Revolution

Lowell Public Schools

Partner: UMass/Lowell

Dates: June 28-30, August 7-11, and fall dates TBD

Location: Boott Mill, Lowell National Historical Park, Lowell

Registration: 25 spaces available

Contact: Beverly Perna,
978-970-5080

email: Beverly.Perna@uml.edu

Impacts of the Science, Technology, and Engineering of the American Industrial Revolution will examine the effects of rapid changes in technology, environmental impacts of industrialization and urbanization, and the importance of natural resources such as water. The impact on production and social culture will also be included. Using a variety of teaching strategies (including inquiry and guided discovery) and integrated sciences (physics, physical science, earth science), instructors will deliver science content. They will also model teaching with interactive activities that can be taken back to the classroom. Instructors will include university professors and museum education professionals.

8 days. Graduate credit available from UMass/Lowell

ELEMENTARY, MIDDLE AND HIGH

Earth Science: A Hands-On Approach

Marblehead Public School

Partner: Endicott College

Dates: June 17, 24, July 26-30, September 16, November 8, December 2

Location: Marblehead High School

Registration: 24 spaces available

Contact: Mark D. Greenman,
781-639-3100

email: mgreenman@marblehead.com

This will be a laboratory-based course especially relevant to teachers in grades 4 through 9. This earth science course will provide participants with ideas for classroom activities. It will develop teachers' confidence and comfort in the concepts and skills of physical science and earth science. Investigations will involve classifying and identifying rocks and minerals, the study of rock formations, plate tectonics, understanding the earth-sun-moon relationship, and study of the earth's atmosphere. Participants will visit geological formations and take samples to classify and identify. They will leave with the Washington State rock kit, a mineral kit, a sieve kit, an exciting video on volcano building, and several charts.

10 days. Graduate credit available from Endicott College

Housing accommodations (Salem State dorm-suites) are available from Salem State College for a fee

SCIENCE & TECHNOLOGY/ENGINEERING

MIDDLE

An Integrated Approach To Middle School Biological and Physical Science

Barnstable, Wareham, and Provincetown Public Schools, and Cape Cod Collaborative

Partners: Waquoit Bay Estuarine Reserve, Thornton Burgess Society, Green Briar Nature Preserve, Fitchburg State College, Falmouth Public Schools

Dates: August 7-10, 11, 14 September 23, October 14

Location: Sandwich High School

Registration: 30 spaces available

Contact: Esther Owen or Joseph Gilbert, 508-564-5099

email: esther@cccollaborative.org

The areas of focus for this institute will include cell biology, inheritance, evolution, biodiversity, ecology, soil formation and structure, coastal erosion, the water cycle, and the impact of coastal storms. Learning standards from the Massachusetts Science and Technology/Engineering Framework for grades 5-8 will be covered with numerous activities, lab exercises, and field studies. An inquiry-based, hands-on approach will be used to examine physical and biological systems that can be easily used in any classroom. Each participant will develop a portfolio of science activities and ideas that will be aligned with the science standards, and will include many examples of interdisciplinary study and alternative assessments. A number of field trips will also be scheduled.

8 days. Graduate credits available from Fitchburg State College

MIDDLE

STEMS (Science, Technology, and Engineering for Middle Schools) Content Institute

Lawrence Family Development Charter School and Greater Lawrence Technical School

Partner: Northern Essex Community College

Dates: July 10-14, 17-21, plus two sessions in late fall

Location: Northern Essex Community College, Haverhill

Registration: 25 spaces available

Contact: Michael Pelletier, 978-556-3878

email: mpelletier@necc.mass.edu

The STEMS (Science, Technology and Engineering for Middle Schools) Content Institute will provide educators in grades 6-8 with the content and context to offer science and engineering/technology courses that meet the Massachusetts Curriculum Framework standards and that provide a solid integration of key scientific and mathematical concepts applied through the engineering design process. Key academic concepts addressed in this institute include: inquiry, heat transfer, physical sciences, materials and tools, engineering design, communication technologies, manufacturing technologies and construction technologies. The content institute will be organized and delivered using technology. All lecture notes, assignments, and required readings will be provided on-line and participants will be able to submit assignments on-line through MassONE. Pod-casting of the audio of the topics will also be provided.

10 days plus follow-up sessions. Graduate credit available from Endicott College

MIDDLE AND HIGH

Chemistry Content: A Laboratory-Based Approach

Marblehead Public Schools

Partners: Endicott College, Northeastern University

Dates: July 10-13, 17-19, September 16, November 8, December 2

Location: Marblehead High School

Registration: 24 spaces available

Contact: Mark D. Greenman, 781 639-3100

email: mgreenman@marblehead.com

This will be a laboratory-based course that is especially relevant to teachers in grades 6 through 10. This chemistry course will provide participants with classroom activities. It will develop teachers' confidence and comfort in teaching topics in high school chemistry and middle school physical science. Investigations will involve the study of physical/chemical properties (e.g. density, viscosity, and solubility), physical/chemical changes, solutions, acids and bases, the atomic model and chemical formulas and nomenclature. Participants will use a mix of computer probe-ware and traditional equipment to gather and analyze data. They will leave this program with an assortment of equipment, supplies, classroom activities, and written resources.

7 days. Graduate credit available from Endicott College

Housing accommodations (Salem State dorm-suites) are available for a fee

SCIENCE & TECHNOLOGY/ENGINEERING

MIDDLE AND HIGH

Elements of Teaching Technology Education

Fitchburg Public Schools

Partner: Fitchburg State College

Dates: July 13-15, 20-22, September 16, and December 9

Location: Fitchburg State College

Registration: 25 spaces available

Contact: Elaine Francis

978-665-3501

email: efrancis@fsc.edu

This institute will focus on improving the content knowledge of middle and high school science, technology and industrial arts teachers in technology/engineering standards. Teachers will participate in an in-depth exploration of the application of the engineering design concepts in construction, manufacturing, transportation, as well as electrical and fluid systems. This institute will help teachers to develop expertise in the development of the process and in the examination of student work for evidence of understanding. Teachers who successfully complete this institute will have a greater depth of knowledge of the concepts and skills in the standards for technology/engineering in the Massachusetts Science and Technology/Engineering Framework.

8 days. Graduate credit available from Fitchburg State College

HIGH

Climate Change and Coastal Communities

Gloucester Public Schools

Partners: Salem State College, Mass Audubon, Plum Island Ecosystem Long Term Ecological Research

Dates: June 28-30, August 14-18, September 27, November 8, and December 13

Location: Gloucester High School, Mass Audubon's Endicott Sanctuary, and coastal sites in Essex County.

Registration: 25 spaces available

Contact: Elizabeth B. Duff,
978-927-1122 X 2701

email: lduff@massaudubon.org

This institute provides instruction in climate change, focusing on impact on coastal communities. Concepts such as the physical science of climate change, the carbon cycle, local indicators of climate change, and the technological aspects of responding to climate change will be addressed. Analysis of global and local climate and ecology data will be an impetus for developing an understanding of the complex interactions associated with climate change and how its impact is monitored. This inquiry-based approach integrates mathematics and technology in investigations of coastal ecosystems. Participants will also gain familiarity with important resources in the North Shore region including: scientists conducting ecological research, educational support from Mass Audubon, local ecosystems for study, and scientific databases and websites designed to support teachers' and students' learning.

8 days. Graduate credits available from Salem State College

HIGH

Geospatial Tools: Creating a Framework for Scientific Inquiry and Field Experiences in the High School Curriculum

Worcester Public Schools

Partners: Worcester State College

Dates: July 5-14, August 11, October 14, November 18, December 16, additional fall classroom visits TBD

Location: Worcester State College

Registration: 25 spaces available

Contact: Joseph Buckley,
508-799-3479

email: buckleyjw@worc.k12.ma.us

Geospatial Tools: Creating a Framework for Scientific Inquiry and Field Experiences in the High School Curriculum offers a framework for helping students explore and visualize issues in their community and surrounding environment through the use of technology and through data-gathering using technology tools such as Mobile GIS, Global Positioning System receivers and other field instruments. Teachers will learn to develop activities where students will take the data they gather in the field, combined with GIS information, and learn to create an analytical model based on the fundamental concepts of physical science. Workshop material will be applicable across the science curriculum and will be geared toward facilitating the planning and implementation of field examinations of physical, biological and cultural phenomena.

12 days and 2 hours in-classroom follow-up per participant. Graduate credit available from Worcester State College

TEACHING AMERICAN HISTORY INSTITUTES



ELEMENTARY

It's All History: American History Books for Kids

Dates: August 16-17

Location: Fall River

Registration: TBD

Contact: Andrew Hoffman,
508-678-2811

email: tah@bristol.mass.edu

The Teaching American History Professional Development Project offers elementary educators a rare chance to earn content-area Professional Development Points in a no-cost, two-day summer institute. Participants will meet writers of history and historical fiction for elementary-level readers and find out how their colleagues use books in teaching.

10 Professional Development Points (PDPs) for Massachusetts educators

The use of MassONE is recommended, but not required for this institute.



ELEMENTARY

Living Early American History

Dates: August 7-11

Location: Fall River

Registration: TBA

Contact: Andrew Hoffman,
508-678-2811

Email: tah@bristol.mass.edu

The Teaching American History Professional Development Project offers elementary educators a week-long residential institute on Early American history. Participants will begin with two days at Plimoth Plantation, including a night in a colonial or native home. Then they will go to Western Massachusetts to witness the struggles of colonial America to rule itself, ending with a full day at Sturbridge Village, to get a sense of life in the new republic. Participants will leave Bristol Community College in Fall River at 8 am on Monday, August 7 for Plimoth, and return to the college on the late afternoon of August 8. On Wednesday, August 9, they will leave the college for Northampton and Deerfield. They will spend two nights at the Hotel Northampton. On Friday, August 11, participants will go to Sturbridge for the day

Participants completing a work-product, most likely a lesson plan based on the experience of Plimoth, Deerfield, or Sturbridge, will receive 40 Professional Development Points in the history and social science content area. Graduate credit is available upon the completion of a larger project, typically a 10-15 page annotated bibliography of the historical literature on a narrow area of any of the periods explored.

The use of MassONE is recommended, but not required for this institute.



ELEMENTARY, MIDDLE, AND HIGH

Using Historical Documents at the National Archives

Dates: July 31-August 3

Location: National Archives, Waltham

Registration: 20 spaces available

Contact: Staff,
866-406-2379 (toll free)

email: waltham.archives@nara.gov

Participants will learn how to conduct research in an archive and will be able to assist their students with these skills. Participants will also learn what sort of information is found in various Federal records and how to access that information.

The course consists of five 2-hour workshops (10 hours total). Teachers must take "Application of Research Methods" and any four of the other 2-hour workshops in order to earn the 10 PDPs. The "Application of Research Methods" workshop may be taken at any time after at least two other teacher workshops have been completed. Topics will include Archival Research, Records Relating to African-American Research, Custom House Records of New England, Immigration and Naturalization, Census Records, Local History in Federal Records, and Application of Research Methods. Please visit www.archives.gov/northeast/boston for more information.

10 Professional Development Points (PDPs) for Massachusetts educators.

The use of MassONE is recommended, but not required for this institute.

ADVANCED PLACEMENT TEACHER INSTITUTES



HIGH

Partners: The Massachusetts Department of Education, the College Board New England Regional Office and Fitchburg State College

Location: Center for Professional Studies, Fitchburg State College

Registration: 70 scholarship spaces are available, distributed across 16 institutes, to current or prospective Advanced Placement teachers in low-income high schools. Please visit www.fsc.edu/cps for a list of these schools. Scholarships will cover course and lab fees and on-campus housing for teachers traveling 60 or more miles from home to the Fitchburg State College campus. Students must pay the cost of graduate credits attempted. Registration deadline is June 16.

Contact: 978-665-3636 or <http://www.fsc.edu/cps>

Advanced Placement Teacher Institutes are designed to support all aspects of AP courses, including content, organization, and methodology. They are designed for high school teachers who will be teaching AP courses for the first time, have limited experience with AP, or are adapting or revising AP courses. Participants should be experienced in the subject area even if they have no experience with teaching an AP course.

Institute I: July 10 - 14

Calculus AB
Chemistry
Economics - Macro & Micro
English Language & Composition
English Literature & Composition
European History
French Language

Institute II: July 17 - 21

Biology
Government & Politics - U.S.
Italian Language & Culture
Psychology
Spanish Language
Statistics
Studio Art
U.S. History
World History

5 days. Graduate credit available from Fitchburg State College. These institutes are funded by an Advanced Placement Incentive Program grant from the United States Department of Education.

The use of MassONE is recommended, but not required for these Advanced Placement institutes.

2006 SPECIAL EDUCATION SUMMER INSTITUTES



ELEMENTARY, MIDDLE, AND HIGH

Special education institutes in the following topics will be offered by the Massachusetts Department of Education this summer. Please contact Linda Tarmy at 781-338-3384 or ltarmy@doe.mass.edu with any questions. Further information will be available in May 2006 on the Department's website at www.doe.mass.edu/sped or www.doe.mass.edu/frameworks/cinstitute.

- Assessing English Language Learners (ELL) with Disabilities
- Differentiated Instruction and Its Application When Teaching Mathematics to Middle and High School Students
- Effective Evaluation of Special Education Programs
- IDEA 2004: Resolution Session
- IEP Team Facilitation Skills
- Instructional Methods and Materials for Increasing Accessibility to Elementary and Middle School Math Curricula for Students with Visual Impairments
- Mathematics and Science and Technology Content Vocabulary for Educational Interpreters: Secondary Level (Grades 7-12) - American Sign Language (ASL)
- Mathematics and Science and Technology Content Vocabulary for Educational Interpreters: Secondary Level (Grades 7-12) - American Sign Language (ASL) and Other Signed Systems
- Response to Intervention
- Special Education Leadership Academy I for New Administrators (1-5 years): Laws, Regulations, Policies and Procedures
- Special Education Leadership Academy II for Experienced Administrators (over 5 years): Laws, Regulations, Policies and Procedures
- Teaching Literacy Skills to Students who are Deaf or Hard-of-Hearing
- Teaching Strategies for Students with Autism Spectrum Disorders in the General Education Classroom
- Transition Planning: Effective Procedures and Practices
- Using Data to Inform Instructional Decisions

Don't Miss These Institutes!



**ADVANCED PLACEMENT TEACHER
INSTITUTES IN**

ENGLISH

FOREIGN LANGUAGES

HISTORY AND SOCIAL SCIENCE

MATHEMATICS

SCIENCE AND TECHNOLOGY/ENGINEERING

STUDIO ART

**NATIONAL ENDOWMENT FOR THE ARTS NEW
ENGLAND TEACHER INSTITUTES**

TEACHING AMERICAN HISTORY

**SPECIAL EDUCATION
INSTITUTES**

This catalogue is available at <http://www.doe.mass.edu/frameworks/cinstitute>