



MEMORANDUM

TO: Principals, Mathematics Chairpersons and AIS Instructors

FROM: Dr. Jong Pil Lee, Project Director and
Distinguished Service Professor, Mathematics Department

SUBJECT: Institute of Leadership Training for Teaching Mathematics and Technology for
Teachers of Grades 6 through 9

DATE: November 29, 2010

The Institute of Leadership Training for Teaching Mathematics and Technology at SUNY/College at Old Westbury has received a grant to develop and implement a leadership-training program for 25 mathematics teachers of grades 6 through 9, which will meet three hours each week, for fifteen sessions starting in January 2011. The Institute has been in operation for the past 24 years making important contributions to mathematics education on Long Island and New York City offering various workshops for over 700 elementary, middle school and high school teachers.

Training will begin in January 2011, with emphasis placed on the Key Ideas of the New York State Learning Standards for Mathematics and those proposed by the National Council of Teachers of Mathematics (NCTM). Teachers will be involved in applying problem solving strategies, using calculators and computers for instruction, writing lesson plans that align with the standards, analyzing the fundamentals of mathematics, and learning techniques to provide in-service training to others.

Superintendents, principals and coordinators are invited to nominate teachers as project participants. A nomination form must be completed by each nominee and endorsed by the Superintendent. We especially encourage nominations from high-need school districts and preference will be given to novice teachers.

The Selection Committee will apply the following criteria in making selections:

- ❖ The proposed participant must be currently employed in your district as a teacher.
- ❖ The proposed participant must be interested in improving his/her own mathematics skills and instruction.
- ❖ The proposed participant must be willing to incorporate many of the skills acquired into their classroom activities.

The project participants will have a meaningful role in planning, implementing and evaluating the in-service training. They will be asked to indicate what they hope to gain from the training on the nomination form and will have further opportunities to effect change during the orientation and evaluative sessions.

The attached Project Particulars describe in detail our proposed program and the benefits to be gained by the participant from your school district. Please note that we recommend that four in-service credits should be awarded by each participating school district for successful completion of the program.

We invite you to print the nomination form for all teachers who may be interested in the project. Completed forms will be accepted on a first-come first-serve basis until the classes are filled or the deadline of Friday, January 7, 2011.

Thank you for your interest in the Institute of Leadership Training for Teaching Mathematics and Technology. If you have any questions regarding this announcement, please call the Program's office, (516) 876-3261. You may also contact the office via fax (516) 876-3126 or e-mail the Project Director at leej@oldwestbury.edu

Coordinating Instructor for the Project:

Art Kalish:

Retired Syosset High School mathematics teacher, vice-president of NCIML, author of NCTM Calendar Problems, and editor of articles written for the Mathematics Teacher.

Instructors for the Program:

Steve Goldman:

Steve is a graduate of Hofstra University with a BA in both communications and mathematics. He has been teaching for 15 years. Steve was an instructor in the technology portion for the Institute of Creative Problem Solving. In addition to being the director of the Suffolk County Senior HS Mathematics League, he is president elect of the Suffolk County Math Teachers Association.

Peter Hayes:

Peter G. Hayes' experience with K-16 mathematics education includes over 20 years as an adjunct instructor and tutor for NYIT, and 12 years as a math team consultant for Freeport Schools. From the late 1980s to the present day, he has been an assistant coach with the Nassau County All-Star Math Team and an instructor with the Institute for Creative Problem Solving. Since 2000, he has also been the coordinator for the 9-10 section of ICPS.

Leon LaSpina:

Leon LaSpina earned his BA and MA in mathematics from SUNY Stony Brook. He has been teaching computer science and math at Bethpage High School since 1995, at levels ranging from 8th grade through pre-calculus. Leon has also served as a problem author and problem reviewer for The Nassau Math Tournament, The Nassau County Junior Mathematics League and the AMC contests.

Richard Kalman:

Past President of Nassau Interscholastic Mathematics League
Executive Director Emeritus of the Mathematical Olympiads for Elementary and Middle Schools (worldwide).

Dave Phillips:

Mathematics teacher and past vice president of the Nassau County Interscholastic Mathematics League. David helped formulate the guidelines for coaches of mathlete teams.

Dan Goldbeck:

Dan is a teacher at Syosset High School. He has mentored many students for the LI Math Fair. He is a coordinator and instructor for The Institute for Creative Problem Solving at SUNY Old Westbury. He has presented at Family Math Day, LIMACON and Time 2000.

**Institute of Leadership Training for Teaching Mathematics and Technology for
Teachers of Grades 6 through 9**

PROJECT PARTICULARS

I. **PROJECT DIRECTOR**

Dr. Jong P. Lee, Distinguished Professor of Mathematics

II. **INSTRUCTORS**

The instructors for the project are Art Kalish, Steve Goldman, Peter Hayes, Leon LaSpina, Richard Kalman, Alan Tucker and David Phillips. All these people are well known and recognized for their outstanding contributions to the field of mathematics education at both the middle and high school levels.

III. **STIPEND**

Each teacher participant will receive a \$300.00 stipend.

IV. **NEEDS**

The program instructors have designed a program that aligns with the NYS Learning Standards for Mathematics. Each teacher being trained will participate in pre and post workshop evaluation to assess program effectiveness.

V. **FORMAL TRAINING**

The training sessions are designed to introduce participants to (1) the nature of mathematics problems, the problem-solving process, and strategies for solving problems, (2) emerging trends in curriculum, instruction, and assessment presented in the NCTM Curriculum standards, (3) the New York State five process strands of Communication, Reasoning, Representation, Problem Solving, and Connections and the five content strands of Number Sense and Operations, Algebra, Geometry, Measurement and Data Analysis and Probability. It is expected that these sessions will enhance the learning, interest, and enjoyment of mathematics by the participants, as well as suggest ways to enrich the school curriculum and to teach students more effectively. The use of computers and graphing calculators will be stressed during most of the presentations.

VI. **EVALUATION**

This phase constitutes the direct evaluation of the attainment of desired objectives, skills, and attitudes acquired by project participants. This phase, conducted by project staff, is detailed in the section of the proposal dealing with evaluation.

VII. PROPOSED TIMETABLE

The workshop training is at SUNY/College at Old Westbury in the Campus Center, room to be determined later.

The 15 formal workshop sessions will meet on Wednesday afternoons from 4:30 to 7:30 beginning late January 2011. A tentative schedule is listed below:

January 26

February 2, 9, 16

March 2, 9, 16, 23, 30

April 6, 13, 27

May 4, 11, 18

On the first day of class an introductory exam will be administered in order to determine the various levels of the participants so that lessons can be better arranged to fit the attendees' backgrounds. On the final date, a second exam will be administered in order to determine the effectiveness of the program.

Note that there is mandatory attendance for all participants at the 25th annual Long Island math conference (LIMACON) held at SUNY Old Westbury on Friday, March 18, 2011.

VIII. TOPICS TO BE COVERED

Arithmetic Fundamentals: Basic rules of arithmetic and why they work. Analysis in bases other than base ten. Recall the comment: "There are 10 kinds of people in the world – those who understand binary and those who don't". Learn some new number tricks that will dazzle your students.

Pre-algebra: a study of our number system, the importance of units, decimals, binary arithmetic, the division algorithm, the use of calculators in the classroom, and when can the fraction rules be avoided.

Integrated Algebra: The importance of the 1-1 relationship between real numbers and points on a line, negative numbers, calculators to simplify square roots, solving quadratics just like solving linear equations, and working with complex fractions.

Geometry: Using Geometer's Sketchpad to develop definitions and postulates and to prove basic and not so basic theorems.

Integration of Technology: When and how to use the graphing calculator and other calculators will be discussed. How to use Geometer's Sketchpad and the free version (Geogebra) will be taught. Other software that can enhance your teaching will be presented as well.

Counting Skills: The fundamental theorem of counting along with permutations, combinations and simple probability will be discussed.

Graph Theory and its Applications: Learn something you most likely have not seen before in your standard math courses.

Iteration: Learn how iteration can be used to solve any equation. Also see how beautiful, realistic pictures can be constructed using iteration – fractal geometry.

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NOMINATION FOR PARTICIPATION
(Please type or print clearly in ink)

Name _____

Home Address _____
& street city, state, zip code

Home Phone () _____ E-mail Address _____
PLEASE PRINT clearly

Name of School _____ Principal's Name _____

Address _____

District _____ School Phone () _____

I. Current Assignment

a. Grade Level: _____
Number of years of teaching experience: ____ Certification Status: _____

II. Mathematics Background/Training and Additional Information (use additional paper if needed)

Please include any information that you feel may be useful to the committee in the selection process (previous related in-service courses taken and specific needs you have).

III. Extra-Activities

List math clubs or other activities you have conducted.

IV. In-Service Experience: (use additional paper if needed)

List any in-service training program, workshop or staff development effort in which you were involved. Indicate what was presented, where, when and for whom.

