

Polk Brothers - University of Chicago Program in Mathematics for CPS Teachers (June 2013-June 2014)

This is a collection of three courses for teachers that provide them with both a modern method of mathematics education, and a deepened knowledge and appreciation for mathematics. The courses are designed primarily for K-8 teachers, and are intended to assume virtually no background. They will give teachers an enjoyable experience, while allowing them to get away from the traditional math classroom that too often emphasizes memorization of formulae and rules rather than the beautiful ideas and creativity that are the hallmark of the subject. We want to give teachers who previously disliked mathematics the opportunity to own and love it, and to show them a compelling way to transmit this attitude to their students. Those teachers who already have great enthusiasm for the subject will enjoy seeing some really deep new mathematics presented in a very self-contained simple way.

Course credit can be applied towards state endorsement, state recertification, and CPS lane credit.

Location of all Classes: the University of Chicago Hyde Park Campus; Building and Room to be announced

Cost to Teachers:

- Free for Chicago Public School and Charter School teachers
- \$500.00 per course for all others

Three courses are offered:

Math 53011: Polk Brothers Program: Methods of Teaching Middle School Mathematics - The Open-Ended Approach to Teaching Mathematics; **Credit Hours:** 6 2/3 graduate semester hours; **Dates and Time:** June 27 – July 25, 2013, 9:00-12:00. We will not meet on the following days in July: 3, 4, 19.

Course Description: This class provides teachers with an effective, modern method of Mathematics Education, known as the Open-Ended Approach. This method works by introducing a series of problems that seem extremely elementary, but that model central mathematical themes. Open-ended problems are designed to have a number of different methods of solution. Students are asked to solve the problems in as many different ways as they can. This method is very attractive to students because it gets them into a creative, energetic mode of attacking the mathematics, rather than memorizing mechanical formulae and procedures. Students are surprised to see their friends come up with completely different (but equally valid) ways of solving the problems. Experience has shown that teachers and students alike greatly enjoy this process. The Open-Ended Approach can be used in any Mathematics class, K-12.

Math 53014: Polk Brothers – Math Content for Elementary and Middle School Teachers: Algebra; **Credit Hours:** 5 graduate semester hours; **Dates and Time:** June 27 – July 18, 2013, 1:30-4:30. We will not meet on the following days in July: 3, 4.

Course Description: The goal is to help teachers deepen their understanding of mathematical ideas underlying the mathematics curriculum in elementary and middle grades. We are particularly concerned with continuity from arithmetic to algebra and the interdependence between the two areas in mathematics. We will explore the ways in which algebraic arguments and theorems depend on basic ideas in arithmetic and the ways, in turn, in which arithmetic is dependent on algebraic ideas. For example, we will use basic assumptions in arithmetic to give algebraic proofs of important theorems, such as The Fundamental Theorem of Arithmetic.

Math 53016: Number Theory for Middle School Teachers – Polk Brothers;
Credit Hours: 3 1/3 graduate semester hours; **Dates and Time:** July 22 – July 25 (Monday through Thursday), 1:30-4:30 p.m. plus 10 late-afternoon sessions between September 2013 and June 2014, dates and times to be determined

Course Description: This course will begin during the fifth week of the program. Although it will continue some of the themes from the Algebra course, people who have not taken the Algebra course will also be comfortable with the material. We will continue working with prime numbers and will use modular number systems to explore some basic ideas in arithmetic and algebra.

Teachers may take one, two or all three courses.

Registration: To register, complete The University of Chicago – Polk Brothers Registration Form on the last page of this announcement or the one-page document version. Please send in only the single-page application. Email this form to Marie Schilling: mschilling17@earthlink.net or send it to the address at the bottom of the form.

The deadline for applications is June 14, 2013.

If you have questions, please mail Marie Schilling at mschilling17@earthlink.net or call: 773-955-4949. Email is the preferable way to communicate because we check it several times a day and can often get back to you sooner than if you call.

**POLK BROTHERS PROGRAM - UNIVERSITY OF CHICAGO
TEACHER APPLICATION AND REGISTRATION FORM
JUNE 2013 - JUNE 2014**

Please check the course(s) you wish to take.

_____ **MATH 53011: Polk Brothers Methods of Teaching Middle School Mathematics – Jerry Becker (June 27 – July 25, 2013, 9:00-12:00. We will not meet on the following days in July: 3, 4, 19.)**

_____ **MATH 53014 – Polk Brothers – Math Content for Elementary and Middle School Teachers: Algebra – Bob Fefferman (June 27 – July 18, 2013, 1:30-4:30. We will not meet on the following days in July: 3, 4.)**

_____ **MATH 53016: Number Theory for Middle School Teachers – Polk Brothers - Bob Fefferman (July 22-July 25, 2013, M-Th, 1:30-4:30 p.m., and 10 evening dates from Sept, 2013 – June 2014, to be determined)**

PLEASE PRINT OR TYPE – ANSWER ALL QUESTIONS COMPLETELY.

Name: _____ **Gender:** _____ **Date of Birth:** _____

U of C ID# if you have one: _____

Is this your first Polk Brothers Class? yes _____ no _____

Soc. Sec. #: _____ **Country of Citizenship:** _____

Place of Birth: City: _____ State/Province: _____ Country: _____

Home Address: _____
Street

_____ City State Zip

Home Phone: _____ **Preferred Email Address:** _____

School Name: _____ **CPS email** _____

Grade(s) you teach (Specify if Spec. Ed.): _____ **Subjects(s)** _____

Email this form to email Marie Schilling (mschilling17@earthlink.net) (the preferred way) or mail it to: Marie Schilling, 5600 S. Blackstone Avenue, Chicago, Illinois 60637.

