FREE Summer Math Courses for Teachers
Polk Brothers Mathematics Program

We welcome teachers at all grade levels

Teachers may take any or all courses

All courses can be applied to
• license renewals
• state middle school mathematics endorsement
• CPS professional development hours

Classes located at the University of Chicago in Hyde Park

FREE for CPS and Chicago Charter Teachers, $500.00 per course for all others.

COURSES

• Methods of Teaching Middle School Mathematics
  The Open-Ended Approach to Teaching Mathematics
  Dr. Jerry Becker
  (6 2/3 graduate semester)
  June 27 – July 28, 2016, M-Th 9:00a.m.-12:00 noon

• Pre-Calculus and Calculus for CPS Teachers
  Dr. Robert Fefferman
  (5 graduate semester hours)
  June 27 – July 21, 2016, M-Th 1:30-4:30 p.m.

• Introduction to Geometry for CPS Teachers
  Dr. Robert Fefferman
  (3 1/3 semester hours)
  July 25-28, 2016, M-Th 1:30-4:30 p.m. and ten times during the school year, dates to be announced.

For more information and to obtain a registration form, contact
Marie Schilling
Email: mschilling17@earthlink.net
Phone 773-955-4949

These courses, taught by University of Chicago Professor Dr. Robert Fefferman and Southern Illinois University Professor Dr. Jerry Becker, 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 rules rather than the beautiful ideas and creativity that are the hallmark of the subject.
Math 53011: Methods of Teaching Middle School Mathematics  
The Open-Ended Approach to Teaching Mathematics  
Instructor: Jerry Becker

6 2/3 graduate semester hours (200 units)  
June 27 – July 28, 2016 M-Th, 9:00a.m.-12:00 noon  
57 class hours

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 53012: Polk Brothers Pre-Calculus and Calculus for CPS Teachers  
Instructor: Robert Fefferman

5 graduate semester hours (150 units)  
June 27 – July 21, 2016 M-Th, 1:30-4:30 p.m.  
45 class hours

COURSE DESCRIPTION: This is the world’s most self-contained and easiest to understand treatment of Calculus. It covers the derivative, the slope of the tangent line to the graph of a function, and also considers it as the velocity of a particle. It also covers the integral, which is just the area under the graph of a function, and then covers the proof that these two concepts of slope and area are intimately related. The course considers all kinds of interesting applications to Physics and to other questions that arise in the real world, as well as to other parts of Mathematics, such as Geometry. Calculus concepts are explained in the context of background information, such as the idea of function, and the basic examples of functions, from trigonometry and elsewhere, as well as necessary parts of Algebra.
Course Descriptions cont.

Math 53013: Polk Brothers An Introduction to Geometry for CPS Teachers
Instructor: Robert Fefferman

3 1/3 graduate semester hours (100 units)
July 25-28, 2016 M-Th 1:30-4:30 p.m., plus 10 Monday evening class sessions during the 2016-17 academic year (ending in spring), to be announced
32 class hours

COURSE DESCRIPTION: This course introduces teachers to some of the most interesting results from Geometry. We discuss length, area and volume, and derive the formulae for circumference, area and volume of the most common geometric objects in one, two and three dimensions. We investigate angles, triangles and similarity and congruence. We also give several simple proofs of the Pythagorean Theorem. Our emphasis is on simple explanations to make teachers appreciate the beauty of the ideas of the subject, rather than memorizing theorems.

Cost to Teachers

FREE for CPS and Chicago Charter teachers. $500.00 per course for all others

Payable on the first day of class by check or money order/cashier’s.

Check made out to The University of Chicago. Fees are non-refundable, but may be applied to a later Polk Brothers course if a person withdraws from a class. Write “Polk Brothers Program” on the check or money order.

Payment accepted on the first day of class.

To obtain a registration form, please contact

Marie Schilling
Email: mschilling17@earthlink.net (preferred method)
Phone: 773-955-4949
Please check the course(s) you wish to take.

__________ MATH 53011: Polk Brothers Methods of Teaching Middle School Mathematics – Jerry Becker (June 27-July 28, M-Th, 9-12 a.m.)

__________ MATH 53012: Polk Brothers Pre-Calculus and Calculus for Middle School Teachers – Bob Fefferman (June 27-July 21, M-Th, 1:30-4:30 p.m.)

__________ MATH 53013: Polk Brothers Geometry for Middle School Teachers – Bob Fefferman (July 25-28, M-Th, 1:30-4:30 p.m. plus 10 Monday evening meetings during the school year)

PLEASE PRINT OR TYPE – ANSWER ALL QUESTIONS

Name: ______________________________ Gender: ______ Date of Birth: ________

U of C ID# if you have one (6-digit number): ______________________________

Is this your first Polk Brothers Class? yes________ no_____________________

Complete Soc. Sec. #: ______________ Country of Citizenship: ______________

Place of Birth: City: ______________ State/Province: __________ Country: ______

If you are not a U.S. citizen, what is your legal status in the U.S. (Permanent Resident, DOMA, etc.)? ___________________________________________________________________

Home Address: _______________________________________________________

Street

___________________________ City __________________ State __________ Zip

Home Phone: _______________ Preferred Email Address: ________________

School Name: __________________ CPS or school email ____________________

School Address (street and city)_________________________________________

Grade(s) you currently teach ________ Subjects(s) _________________________

Check if primarily Spec. Ed.: ________

Mail this form to Marie Schilling, 5600 S. Blackstone Avenue, Chicago, Illinois 60637 or email Marie (mschilling17@earthlink.net) to get the above form and return it online (the preferred way).