2009 Syllabus for Pre-AP: Topics for AP Vertical Teams in Mathematics

July 27 – 31, 2009

Institute Overview
Teachers of middle school and high school mathematics will learn instructional strategies to expand skills, concepts and assessment practices that can be incorporated into Pre AP mathematics classes to prepare students for success in AP Calculus and Statistics.

Topics will include the following:

- Use of multi-representational approach to examine problems algebraically, graphically, numerically and verbally
- Use of technology to develop concepts and as a problem-solving tool
- Rate of change, functions (including parametric), accumulation, elementary statistics, geometry
- Design Pre AP problems, lessons and assessments
- Exploring on-line resources
- ***The AP Vertical Teams Guide for Mathematics and Statistics*** will be provided and used throughout the institute

What participants should bring:
Graphing Calculator (will have some TI technology available)
Current textbook
Two assessments given in the past year
Thirty copies of a favorite lesson or activity to share
Memory-stick to share files
Laptop if you wish

Consultant Background

BS Mathematics, University of Missouri – Kansas City - 1969
MA Secondary Mathematics Education, University of Missouri – Kansas City – 1972
Ed. Specialist Mathematics Curriculum and Instruction, University of Missouri – Kansas City – 1987

Mike Koehler teaches mathematics, including AP Calculus and AP Statistics, at Blue Valley North High School in Overland Park, Kansas, his 39th year of teaching high school mathematics. He has been an Advanced Placement Calculus Exam Reader, Table Leader and a consultant for the Midwest Region of the College Board and has authored the one-day workshop *Developing Algebraic Thinking* for the College Board. He is a national instructor for Texas Instruments' Teachers Teaching with Technology. Mike has instructed dozens of workshops on integrating technology in the teaching of mathematics throughout the United States and Puerto Rico and has given presentations at over 30 national conferences. He has coauthored *Exploring Statistics with the TI-83*. Mike has received the Presidential Award for Excellence in Mathematics Teaching in 1993 and the Tandy Technology Outstanding Teacher Award in 1997 and the Siemens Award for Advanced Placement Teaching in Mathematics in 2006. He has served on the Commission on the Future of the Standards for the National Council of Teachers of Mathematics for *Principals and Standards for School*

Mathematics released in 2000, served on the Board of Directors of the National Council of Teachers of Mathematics from 2002 to 2005, and is currently a member of the Teacher Advisory Council for the National Academy of Sciences in Washington, DC.

Institute Schedule
The Institute will run from 8:00 am – 3:30 pm, Monday – Thursday (lunch will be 12:00 – 1:00 pm), and 8:00 am – 12:00 pm (noon) on Friday.

Graduate Credit Option
Participants may also earn three graduate education hours for any of the AP Summer Institutes from Washburn University for a reduced tuition rate and the successful completion of an academic assignment.

Additional Information
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