Science Education & Quantitative Literacy

A Professional Development Program for Mathematics and Science Teachers

SEQL focus this year (2013-2014): Grades 5 through 7

When: Summer Institute, July 15-19 and July 22-26, 2013
and six follow-up sessions during the 2013-2014 academic year

What you'll receive: Training on the use of inquiry-based methods for teaching mathematics and science using fun-to-do activities from an instructional team that has conducted very successful mathematics and Science workshops over the last seventeen years.

The focus will be on providing participants the content knowledge and pedagogical skills necessary for meeting the new Grade Based Expectations for mathematics and science.

Participants will be actively engaged in a variety of hands-on activities and will learn how to develop such inquiry-based activities that can be utilized to enhance student motivation and learning.

In addition participants will also receive:
• Three hours of gradute credit for the summer institute and one more hour for the follow-up activities, all free of charge, except for approximately $160 incidental fees (4 hours at Missouri S&T usually costs over $1382) and $50 application fee
• A $11 per hour stipend for attending the workshop and follow-up meetings (you can receive up to $ 1,100 for participating in the program)
• Math/science books worth approximately $250
• Math/science kit worth $250
• An additional math or science kit worth $100
• Free meals (breakfast and lunch for everyone plus dinner for those staying at the dorm) during the summer workshop and breakfast and lunch during the six follow-up meetings
• Mileage payment for travel to and from the six follow-up meetings
• Free lodging in the university dorm for those who wish to stay at the university during the 10-day summer workshop (only 15 slots available)
• Field tested instructional material, including classroom-ready lesson plans.

See next page for more details and how to register for the program
Details of the Proposed Professional Development Program

This is an updated version of a three-year program we concluded 2010. The new version will have more intensive focus on the subject matter specialty of the participants with math and science teachers attending both common and separate sessions during the first week. During the second week, common sessions, that demonstrate ways to use the synergy that exists between mathematics and science to enhance student learning, will be highlighted. A teacher who attended in previous workshops may attend again, as long as he/she will be teaching the grades that are emphasized in this year’s workshop.

Several special features of this professional development program will be (1) emphasis on both content and pedagogy, (2) focus on inquiry-based instructional strategies for teaching content knowledge and skills specified in the new grade level expectations, (3) training on how to incorporate new assessment tools that would help teachers fine-tune their teaching strategies, (4) incorporation of fun-to-do hands on activities that integrate math and science concepts, (5) the use of field tested classroom ready material, (6) adaptation of the program to suit the needs of the participating schools with special attention given to skills in which your students are underperforming in the MAP tests, (7) inclusion of award winning masters teachers as part of the instructional team, (8) a segment on the grading rubrics for MAP, conducted by MAP coordinators, and (9) the theme of conservation and renewable energy interwoven into the project activities through field trips, conservation related activities, visits to the S&T solar house, solar car, as well as activities involving solar energy. Participants will also receive field tested lesson plans and kits of instructional materials for mathematics and science.

Teachers will be trained in the use of Mathematics and Science activities designed to provide their students with skills or knowledge that will help improve student performance. The activities will be grade level-appropriate, encourage active learning and inquiry, and focus on the concepts and skills emphasized in Missouri’s Curriculum Frameworks and Grade Level Expectations. Teacher-tested activities that have been proven successful in the past workshops will form part of the instruction. Other activities will be developed in cooperation with participating teachers, and designed to meet needs that the teachers themselves have identified.

Science and Mathematics faculty from Missouri S&T will work together to ensure that both scientific and mathematical aspects of activities are emphasized. Our goal is to identify the special needs of participating schools and areas that need emphasis within the mathematics and science curriculums. To achieve this goal, we will select 10 school coordinators from participating schools who will provide input regarding the topics to be covered.

Many of the activities will require no equipment other than common classroom supplies. Some grant funds will be available to purchase laboratory equipment such as thermometers, meter sticks, and spring scales for teachers use.

For more information or to register for SEQL, please contact

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