NO CHILD LEFT BEHIND GRANT ABSTRACTS 2010-2011

Following is a list of sub-grants funded by the Arkansas Department of Higher Education through the federally funded No Child Left Behind grant program. The purpose of the grant funds is to improve the quality of teaching in Arkansas. The grant notifications were distributed in March 2011. For more information and to receive a registration form, contact the project director of the funded project using the email provided below.

ARKANSAS STATE UNIVERSITY **$104,781**
Craighead County
Project Title: Teaching Algebra 1 for 21st Century Learning
Contact Information: Dr. Mike Hall – mhall@astate.edu

The purpose of this project is to provide high-level professional development for teachers of Algebra I that primarily teach students enrolled in the 9th grade and are located in Northeast Arkansas and the Arkansas Delta regions. ***Teaching Algebra I for 21st Century Learning*** (TACL) will provide a graduate level learning opportunity for these teachers. TACL will increase the teachers' mathematical content knowledge through the use of technology and cutting-edge pedagogical methods. These methods focus on the Common Core State Standards for Algebra 1 instruction that were adopted by the Arkansas Department of Education in the summer of 2010. Course content will be developed through a partnership with the Arkansas Department of Higher Education, the Arkansas Department of Education, and other grantees during the spring of 2011. Developers will base the curriculum on research indicating best practices for teaching and learning Algebra I in order to provide teachers with the necessary methodologies for effective instruction and the support needed to continually increase content and pedagogical knowledge related to Algebra I concepts. Two sections will be offered.

SOUTHERN ARKANSAS UNIVERSITY **$55,856**
Columbia County
Project Title: SAU/HSU Bridging Algebra P-16 Partnership Project
Contact Information: Dr. Roger Guevara – rcguevara@saumag.edu

The SAU/HSU Bridging Algebra P-16 Partnership Project is an innovative approach to address the dramatic curriculum changes for Algebra I as a result of the Common Core State Standards in mathematics. The program will consist of an eight-day Algebra I Summer Institute followed by two days of professional development during the school year. The focus of instruction during the institute and follow-ups will be modeling exemplary lessons that focus on areas of greatest need, as determined by the needs assessment submitted by participating schools. Lessons will embrace the appropriate use of technology to assist students in accessing content. Each day of professional development will be led by a team of instructors composed of a SAU mathematics faculty professor and a current Algebra I classroom teacher. Participating schools will agree to release teachers to attend follow-up sessions, to make accommodations for on-site visits, and to send a principal or assistant principal to at least one instructional session or follow-up. In addition, participants will receive on-site consultation each semester.

UNIVERSITY OF ARKANSAS, FAYETTEVILLE **$70,258**
Washington County
Project Title: Adventures in Algebra
Contact Information: Ms. Lynne Hehr – lhehr@uark.edu

Adventures in Algebra I consists of two major parts.
Part I: Summer Institute
Standards-based and content-driven, this institute will provide Algebra I Arkansas teachers with Algebra I content, lesson strategies, and technology integration through modules designed with other math faculty and specialists from around the state and in accordance with state Algebra I teacher needs in mind. Content will focus on the conceptual categories, domains, and clusters from the Common Core State standards that build connections to and expand the current Arkansas Algebra I Framework. The conceptual categories covered during the institute will concentrate on *Number and Quantity*, *Algebra*, *Functions*, *Geometry*, and *Statistics and Probability.* The institute can be offered as a three hour math graduate level course with 48 hours conducted during the summer institute.
Part II: Summer Institute Follow-up
As a continuum of Part I, 12 hours of full and/or half-day workshops will be offered during fall '11 focusing on Algebra I content and technology requested, and needed, by participants involved in the summer institute.

UNIVERSITY OF ARKANSAS AT FORT SMITH **$54,889**
Van Buren County
Project Title: Integrating the Common Core Standards in Teaching Algebra 1
Contact Information: Dr. Jack Jackson – jack.jackson@uafs.edu

Central to the Common Core State Standards is the vision of a *mathematically proficient student*, confident in exploring new mathematical ideas, making conjectures, validating those conjectures, and applying results in multiple contexts. The challenge of implementing the CCSSM is in changing *how we teach students to learn mathematics*. This workshop for Algebra I teachers focuses on *minds-on student activities* that stimulate critical thinking in students and their teachers. Topics:

- Integration of the Common Core Standards in Algebra and resulting changes in curriculum.
- Integration of inquiry based learning in teaching Algebra I.
- Using technology as a tool for inquiry and concept building.
- Development *by teachers* of tasks and lessons designed to engage students and teachers in critical thinking skills and development of a profound understanding of Algebra I.
- Creation of an ongoing online and in-person professional learning community for teaching Algebra I to facilitate sharing of resources, techniques, and data.
- Using student assessment to monitor the effect of improved strategies and make decisions about modifications.

Details:

- 20-30 Arkansas Algebra I teachers

- 8-day workshop June-July 2011
- Four 1-evening follow-up workshops in school year
- 6-hr/day
- Classroom Visit
- Online Community

UNIVERSITY OF ARKANSAS AT LITTLE ROCK **$48,790**
Pulaski County
Project Title: Foreign Languages in the 21st Century Classroom
Contact Information: Dr. David McAlpine – dcmcalpine@ualr.edu
Dr.Rosalie Cheatham – rmcheatham@ualr.edu

The Department of International and Second Language Studies (DISLS) is committed to providing quality opportunities for foreign language teachers to improve both their language and pedagogical skills in order to enhance the quality of classroom instruction in Arkansas schools. This project will focus on the expectations outlined in the Partnership for 21st Century Skills that identifies the skills, knowledge and expertise students must master to succeed in work and life in today's world. Since learning other languages and understanding the culture of the people who speak them is a significant 21st century skill and since global awareness is one of the four partnership themes, project participants will be guided to develop activities for their students focusing on each of the 12 skill frameworks identified by the Partnership as essential for today's students. The intent of these sessions is to enable teachers to center their instructional strategies on what students need to know in order to be able to perform well on assessments based on real world language usage. The sessions will enable teachers to apply their theoretical knowledge to the creation of level-appropriate activities and assessments.

UNIVERSITY OF ARKANSAS AT LITTLE ROCK **$97,249**
Pulaski County
Project Title: Improving Teacher Quality in Algebra 1
Contact Information: Dr. Jim Fulmer – jrfulmer@ualr.edu

This project, **Improving Teacher Quality in Algebra 1**, will consist of two workshops for 50 9th grade Algebra I inservice teachers. Each workshop is designed for 45 content, immersion contact hours and 15 follow-up implementation hours in learning communities-face-to-face, for a total of 60 hours. Eligible participants shall include 9th Algebra 1 teachers who teach in Arkansas public schools and private schools. The project is geared to the strategy that improving student achievement through improved quality of teaching requires improved teacher professional development opportunities. The workshop will emphasize both mathematics content and mathematics teaching methods to improve teacher quality and student achievement. Teacher-participants will be involved in research, reading, writing, oral communication, participation, and reflection. The project involves the Department of Mathematics at the University of Arkansas at Little Rock (UALR), College of Education at UALR, Little Rock School District, and Pulaski County Special School District. Workshop content will follow a statewide curriculum syllabus/guide to be developed during spring 2011.

Implications of the new CCSS (Common Core State Standards) will be a focus. Each participant will receive a stipend based on a rate of $40 per three-hours of attendance, 60 hour workshop, total possible stipend is $800. The workshop will be five days during Summer 2011 and an additional five days during the academic year.

UNIVERSITY OF ARKANSAS AT LITTLE ROCK **$54,300**
Pulaski County
Project Title: Arkansas STRIVE 2011: Learning Inquiry
Contact Information: Dr. Jim Winter – jdwinter@ualr.edu
Dr. Janet Lanza - jxlanza@ualr.edu

Arkansas STRIVE places math, science, and computer teachers from middle, junior high, and senior high schools (7^{th}-12^{th}) into summer research positions or on projects in industry, government agencies, universities, research facilities, and nonprofit organizations. Teachers work with professionals in the field for eight weeks and learn how professionals solve problems facing their organizations. We support about 24 teachers per summer in our program with a variety of private and public funding sources. We request matching monies from the No Child Left Behind Program (NCLB) for seventeen teachers to work on research projects in the ADHE-supported Centers for Science, Technology, Engineering, and Mathematics (STEM Centers) at Arkansas universities and at other nonprofit organizations. We also present workshops to the teachers on inquiry-based and problem-based teaching, and on using computers for data analysis. In addition, we help the teachers develop inquiry-based or problem-based lessons using the new skills and experiences that the teachers acquired during the summer. The main expected outcomes are that teachers will experience real-world research and problem solving, learn methods of inquiry and problem-based teaching, and develop two inquiry-based and problem-based lessons that they will use in their classrooms. We place the STRIVE teachers' lessons on computer CDs and give a CD to each teacher so that they have a library of good inquiry and problem-based lessons.

UNIVERSITY OF ARKANSAS AT MONTICELLO **$63,170**
Drew County
Project Title: Developing Algebra 1 Teachers for the 21st Century
Contact Information: Ms. Pam Beard – beard@uamont.edu

Participants in the program will receive instruction utilizing (1) number and quantity; (2) algebra; (3) functions; and (4) statistics and probability. Number and quantity will focus on the real number system, quantities, the complex number system, and vector and matrix qualities. The algebra focus will provide instruction in seeing structure in expressions, arithmetic with polynomials and rational functions, creating equations, and reasoning with equations and inequalities. Functions will primarily focus on interpreting functions, building functions, linear, quadratic, and exponential models, and trigonometric functions. The final area of statistics and probability will focus on interpreting functions, building functions, linear, quadratic, and exponential models, and trigonometric functions.

Participants will use research based instructional strategies designed to effectively teach the four strands of the Common Core State Standards. Participants will see strategies modeled that will

effectively help students understand important mathematical concepts. Participants will demonstrate their understanding of the strategies through hands on, relevant, and authentic activities. Participant will utilize these activities to assess their knowledge of the four stands of the Common Core State Standards.

UNIVERSITY OF CENTRAL ARKANSAS $105,382
Faulkner County
Project Title: Algebra 1 Implementation of Common Core State Standards
Contact Information: Dr. Uma Garimella – ugarimel@uca.edu

The University of Central Arkansas in collaboration with the Arch Ford Educational Cooperative, Dawson Cooperative, DeQueen/Mena Cooperative and many school districts seeks to provide content institutes and workshops particularly in Algebra I for 9th grade teachers in the state of Arkansas. The project will provide long-term, sustained high-quality professional learning opportunities to increase teacher effectiveness and to improve teacher quality and student achievement. Based on our pre-grant survey of potential teachers for this proposal, we will focus on the following current content strands: expressions and equations, linear and exponential relationships, relationship between quantities and reasoning with equations, quadratic functions, modeling, and some concepts of descriptive statistics. Projected number of teachers that would attend the institute, if funded, is 60. Faculty from UCA and representatives from partner school districts will work with other grant funded groups to develop collaborative Algebra I modules that will be used in our training programs. To include a large and diverse group of teachers in the professional training, professional development workshops will be offered at two locations: one in the Department of Mathematics at UCA and the other at a location to be determined in the Nashville School District.

WILLIAMS BAPTIST COLLEGE $62,959
Lawrence County
Project Title: Algebra 1 - Priority
Contact Information: Dr. Brad Baine – bbaine@wbcoll.edu

The main thrust of this project is based on the difference between Algebra 1 as it is taught now and as it will have to be taught once the Common Core State Standards (CCSS) are in place. Professional development is needed to close the gap between Algebra 1 now and under the CCSS. This training is designed to close the gap between Algebra I today and the higher level content knowledge that will be included under CCSS for Algebra I teachers in a four county area: Randolph, Lawrence, Greene and Clay. During one week of June 2011, participants will attend five days of training for six hours a day. In addition, participants will attend a 3 hour session once a month, starting in August and ending in May.

The instructional goal for this training is to give the teachers a conceptual base for CCSS knowledge, thus enabling exploration and investigation by their students while building on prior knowledge to comprehend the concepts rather than learning rote algorithms.