2012-13 LaSIP PROFESSIONAL DEVELOPMENT PROJECTS

COVER PAGE

Indicate content focus (Science, LIGO, ELA/Literacy, or Mathematics): Mathematics/Science **Grade Level(s) Targeted: 6-9** **Number of Targeted Participants: 30** **Number of Targeted LA GEAR UP Schools:**	**School Districts To Be Served:** Indicate high-need districts with an asterisk * Tangipahoa* St. Helena*

Name(s) of Submitting Institution(s) of Higher Education (Include Branch/Campus/Other Components):
Southeastern Louisiana University

Address of Institution of Higher Education (Dept/Unit, Street Address/P.O. Box Number, City, State, Zip Code):
Chemistry and Physics, Box 10878 Hammond, LA 70402

Title of Proposed Project: Integrated Science Technology Engineering and Mathematics (I-STEM)

Funds being requested for each funding cycle:

July 1, 2012 – September 30, 2012 $79846.18	October 1, 2012 – June 15, 2013 70217.98

Matching funds from partners:

IHE:	High-need LEA(s):	Other:

The signatories certify that the institution and the proposed project are in compliance with all applicable Federal and State laws and regulations.

Name/Title/Institution (if different from the primary institution listed)	Dept./Telephone No. Email Address	Signature
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2012-13 LaSIP PROFESSIONAL DEVELOPMENT PROJECTS

PROJECT ABSTRACT

Name of Institution (Include Branch/Campus): Southeastern Louisiana University

College/Department: Department of Chemistry and Physics, Department of Teaching and Learning

Principal Investigator: Dr. Troy Williams, Dr. Gwen Autin
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Title of Project: Integrated Science Technology Engineering and Mathematics (I-STEM)

Abstract (maximum of 500 words): Address each item below in the order given:
(1) A brief paragraph describing the overall vision of the project
(2) The project's specific content focus and measurable objectives
(3) The high-need LEA(s) and targeted schools/districts involved
(4) The participants for which the project is designed (i.e., classroom teachers, special ed teachers, paraprofessionals, and/or administrators)
(5) The number of days & contact hours during the summers & AY
(6) The number of participants & content coaches
(7) The targeted grade levels
(8) The primary activities and proposed outcomes

Project Integrated Science Technology Engineering and Mathematics (I-STEM) is a collaborative effort between Southeastern Louisiana University, Tangipahoa Parish School System and the St. Helena Parish School System. The overarching mission of the project is to create a professional learning community that will affect positive change in student performance. This will be accomplished via direct interaction between university and school system personnel. The content focus of the summer institute will be mathematics and physical science for grades 6 – 9 as defined by the Common Core Standards and the K-12 Framework for Science Education. The measurable objectives of the project are, 1) Improve teacher mathematics and science content knowledge, 2) improve teacher pedagogical content knowledge, and 3) improve student mathematics and science content knowledge.

The targeted school districts are St. Helena Parish and Tangipahoa Parish, both districts are designated high-need Local Education Agencies. The targeted participants for the project are in-service mathematics and science teachers. The project will include a ten day summer institute and five academic year follow up meetings. Participants will receive a total of 90 hours of direct instruction. Thirty mathematics and science teachers will be chosen to participate in the project. Project ISTEM will target students and teachers from grades 6 – 9.

The primary activities of Project ISTEM will be based on the inquiry approach to science content delivery. Participants will be immersed in inquiry based physical science activities via research based instructional strategies including the 5E model of inquiry and Stepan's Conceptual Change Model. The content will be directly related to Grade Level Expectations (GLE) from the Louisiana Comprehensive Curriculum. Participants will also receive pedagogical content instruction regarding the proper use of various forms of assessment including formative and summative assessments. The project will also utilize activities that target diverse learning styles.

The proposed outcomes of Project ISTEM are directly related to the formation of a professional learning community within the region immediately surrounding Southeastern Louisiana University. Participating teachers will develop and implement unit plans that utilize inquiry and pedagogical strategies learned during the summer institute. These unit plans will be evaluated by project staff and posted on the Project ISTEM website. In addition, the project will foster vital communication between mathematics and science teachers.

Proposal for:

"Project Integrated Science Technology Engineering and Mathematics"

Submitted to:

2012-2013
PROFESSIONAL DEVELOPMENT PROJECTS
for PK-12 TEACHERS of
ELA\LITERACY, SCIENCE, LIGO SCIENCE &
MATHEMATICS

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PROJECT PROGRESSION TIMELINE OF ACTIVITIES TABLE

Time line	Contact Hours	Action/Activities	Measureable Objective for each activity	Staff Responsible
July 2012	6 hours	First meeting with participants; overview of project; pre/test; discussion of individual student data; participant data	Measure of initial attitudes, mathematics, science and pedagogical content knowledge.	All staff present and responsible
July 2012	6 hours/9 days	Professional development; science and pedagogical content focus	Measure of attitudes and science and pedagogical content knowledge at the conclusion of summer institute	All staff present and responsible
October 2012 – May 2013	6 hours/ 5 days	Academic Year Follow-Up, Content reinforcement	Implementation of unit plans. Student assessment	All staff present and responsible

Narrative

A. Rationale and Need for the Project (10 points)

The need for Project ISTEM is based on low student achievement in mathematics and physical science as evidenced by the performance of students in St. Helena Parish and Tangipahoa Parish on state administered assessments. Both standardized and state criterion reference test scores were considered, indicating weaknesses in the areas of Science as Inquiry, Physical Science, Measurement, Data Collection and Analysis. These same scores were used to determine the lowest performing schools in physical science. A correlation was drawn between the lowest performing schools and the most pressing need for professional development. Project participants will be primarily recruited from the lowest performing schools and then other public and non-public schools within these districts.

Demographic data for the 2010-11 academic year for St. Helena and Tangipahoa Parish Schools are shown below. Table 1 shows the gender makeup of students in St. Helena and Tangipahoa Parish schools. The data indicates an almost equal distribution of males and females in both districts. The second table illustrates the distribution of student by race/ethnicity, where students identified as American Indian, Asian, Black or Hispanic are classified as Minorities.

Table 1.
Students By Gender

District/Agency Name	Female	Male
St. Helena Parish	48.50%	51.50%
Tangipahoa Parish	48.40%	51.60%

For every one hundred students in the St. Helena Parish School system ninety three are from representative minority racial and ethnic groups. Tangipahoa Parish Schools are essentially balanced with respect to racial/ethnic group makeup. Table 3 shows the percentage of students classified as At Risk. Students who receive free or reduced lunch are classified as At Risk Students. Ninety-two

percent of students in St. Helena Parish receive free or reduced lunch. Nearly three quarters of students in Tangipahoa Parish schools receive free or reduced lunch.

Table 2.
Students By Race/Ethnicity

District/Agency Name	White	Minority
St. Helena Parish	7.0%	93.0%
Tangipahoa Parish	47.3%	52.7%

Table 3.
At Risk Students

District/Agency Name	At Risk	Not At Risk
St. Helena Parish	92.6%	7.4%
Tangipahoa Parish	75.5%	24.5%

A survey of state teacher preparation curricula indicates the possibility that teacher candidates may not receive formal training in one or more of the physical sciences (physics and chemistry) during their undergraduate career. This lack of formal training when coupled with the possibility that the teacher may not possess valid state credentials especially in science and mathematics may impede effective teaching of mathematics and physical science content.

The content needs of students are clearly demonstrated by performance scores on the state administered End of Course, LEAP and iLEAP assessments. Student performance for St. Helena and Tangipahoa Parish Schools will be discussed below. Results of the LEAP will be presented for eighth grade students and iLEAP results will be presented for grades 6 and 7. Outcomes from the Algebra I End of Course test will also be discussed. The state does not administer a science content assessment for 9th grade students at this time. However, results of the GEE Science test are reported as instruction in 9th grade Physical Science will have an impact on student performance. Table 4 shows the results of the LEAP and iLEAP assessment for mathematics in grades six through eight. The trend shows consistent underperformance by students from Tangipahoa parish when compared to their state counterparts. This fact underscores the need for improvements in instructional strategies that will target the need of the students. The results from the Algebra I End of Course assessment are shown in Table 5. The performance levels are Excellent (E), Good (G), Fair (F) and Needs

Improvement (NI). Nearly one third of students who take the EOC in Algebra I earn results that indicate that improvement in the core concepts of algebra is needed. With the onset of the Common Core Standards it is imperative that we begin to enhance instruction in the middle grades.

Table 4.
Student Performance in Mathematics on LEAP and iLEAP Assessments

Grade	School Name	Percent of Students at Each Achievement Level				
		A	M	B	AB	U
6	LOUISIANA STATEWIDE	8.2	11.5	49.9	16.4	14.0
	TANGIPAHOA PARISH	5.0	10.9	45.1	20.3	18.8
7	LOUISIANA STATEWIDE	5.8	10.8	50.0	20.5	13.0
	TANGIPAHOA PARISH	3.7	8.0	44.4	24.5	19.3
8	LOUISIANA STATEWIDE	4.3	5.1	51.4	22.9	16.3
	TANGIPAHOA PARISH	3.6	4.2	47.9	24.5	19.8

Table 5.
Student Performance on Algebra I End of Course Test

Grade	School Name	Percent of Students at Each Achievement Level			
		E	G	F	NI
9	LOUISIANA STATEWIDE	18.3	33.1	28.4	20.2
	TANGIPAHOA PARISH	10.5	28.9	33.6	27.0

Table 6 shows the percentage of students who scored Advanced (A), Mastery (M), Basic (B), Approaching Basic (AB) and Unsatisfactory (U) on the GEE, LEAP and iLEAP science assessments. Students in St. Helena Parish scored consistently lower than their state counterparts at all grade levels. In grades 8 and 11, more than forty percent of students in St. Helena Parish schools performed at the Unsatisfactory level. Students in Tangipahoa Parish also scored lower than their state counterparts at all grade levels tested when the percentage of students earning Basic or above is considered.

Table 6.
Student Performance in Science on GEE, LEAP and iLEAP Assessments

Grade	School Name	Percent of Students at Each Achievement Level				
		A	M	B	AB	U
6	LOUISIANA STATEWIDE	4.3	16.5	47.7	23.7	7.8
	TANGIPAHOA PARISH	3.2	15.4	46.8	26.6	8.0
7	LOUISIANA STATEWIDE	2.7	15.3	44.3	25.6	12.1
	TANGIPAHOA PARISH	2.0	12.2	39.4	30.6	15.8
8	LOUISIANA STATEWIDE	1.8	19.0	37.5	25.7	16.0
	TANGIPAHOA PARISH	1.3	17.7	38.8	26.7	15.5
11	LOUISIANA STATEWIDE	4.8	17.8	40.9	21.4	15.1
	ST. HELENA PARISH	0.0	1.8	17.5	40.4	40.4
	TANGIPAHOA PARISH	5.0	15.3	38.6	21.7	19.4

For maximum impact, priority selection of participants will be geared towards teachers from the lowest performing schools. St. Helena Parish has one middle school and one high school while Tangipahoa Parish has eleven middle schools eight high schools. Teachers from private and parochial schools located within St. Helena and Tangipahoa parishes will also be recruited to participate in Project ISTEM. The Project ISTEM team has worked diligently to identify schools with the greatest needs based on subscore results from the LEAP and iLEAP assessments. Subscore results indicate the greatest need in mathematics lie in the number and number relations and algebra content strands. The results in science demonstrate the need to address physical science concepts.

B. Project Design (50 points)

Project ISTEM is a collaborative effort between Southeastern Louisiana University, Tangipahoa Parish School System and the St. Helena Parish School System. The participants in

Project ISTEM will be mathematics and science teachers from grades 6 – 9. The incorporation of two high need Local Education Agencies (LEA) in the partnership is indicative of the commitment to improving student performance on state administered assessments. The primary focus of Project ISTEM is to increase the mathematics and science content knowledge of students and in turn improve student achievement. This increase in mathematics and science content knowledge is more likely to occur if a well prepared teacher is providing instruction. Therefore, the initial work of Project ISTEM will be to increase the pedagogical, mathematics, and science content knowledge of teachers. Project ISTEM will support the School Improvement Plans of participating schools by increasing pedagogical and science content knowledge of teachers. One outcome of Project ISTEM will be the creation of a Professional Learning Community (PLC). Eaker, Dufour, and Burnette (Eaker, 2002) suggest that PLC's will systematically address the following four questions

1. What we want students to learn?
2. How will we know if they have learned it?
3. What do student-learning data reveal?
4. What are we going to do if students are not learning?

It is the project's vision to have participating teachers return to their schools and implement inquiry based approaches and plant the seed for reform in their colleagues and school administrators.

i. Measurable Objectives (10 points)

Goal 1, Objective 1:

The number of students at participating schools who score at the Basic or above level in grades 6 - 8 will increase by five percent during the 2012-13 academic year as measured by the mathematics and science sections of the LEAP21 and iLEAP assessments when compared to results from the 2011-2012 test results.

Goal 1, Objective 2:

Students who complete the MOSART pretest and posttest will demonstrate a net positive gain when the results of the pretest and posttest are compared.

Goal 1, Objective 3:

The change in students attitudes toward science will be measured at the beginning and end of the academic year using the Views About Science Survey (VASS), the effect of teaching on attitudes will be determined by the net gains or losses on the VASS.

Goal 2, Objective 1:

Project ISTEM aims to increase the science content knowledge of science teachers, gains in teacher science content knowledge will be measured using results of the FCI pretest and posttest.

Goal 2, Objective 2:

Project ISTEM aims to increase the mathematics content knowledge of science teachers, gains in teacher science content knowledge will be measured using results of the MDTP - Mathematical Analysis Readiness Test pretest and posttest.

Goal 2, Objective 3:

The attitudes towards science of Project ISTEM participants will be measured at the beginning and end of the summer institute using the Views About Science Survey (VASS), positive gains on the VASS will be indicative of project success.

Goal 2, Objective 3:

Participant understanding of the nature of science will be determined using a comparison of pre and post scores on the Epistemological Belief Assessment for Physical Science (EBAPS), project success is defined as a positive gain.

Goal 3, Objective 1:

The use various instructional strategies that target diverse learning styles will be evaluated during classroom observations.

Goal 3, Objective 2:

Project ISTEM participants will demonstrate knowledge of CTS by leading studies during the summer institute, academic year follow-ups and school departmental meetings.

ii. Specific Subject-Matter Content/Classroom Instructional Strategies (15 points.)

The philosophy of the Common Core State Standards (Common Core State Standards Initiative, 2011), A Framework for K-12 Science Education (National Research Council, 2011) as well as the Louisiana Comprehensive Curriculum, Grade Level Expectations, GEE, LEAP and iLEAP results influenced the subject-matter content of Project ISTEM. With regards to the participants, there are three major areas of concentration, mathematics content knowledge, science content knowledge and pedagogical content knowledge. The science content knowledge topics are guided by the recently released A Framework for K-12 Science Education, the Louisiana Comprehensive Curriculum (LCC) and Grade-Level Expectations (GLE). The mathematics content focus was driven by the Common Core State Standards for Mathematics. The pedagogical content knowledge topics are determined by research based best practices.

The Louisiana Comprehensive Curriculum and Grade Level Expectations dictate that Physical Science be taught in the sixth grade and the ninth grade. Life Science and Earth/Space Science are taught in the seventh and eighth grades respectively. Project ISTEM will focus on Physical Science GLE's from the sixth grade and ninth grade curriculum. However, because the LEAP exam is administered in the eighth grade, many of the physical science concepts taught in sixth grade must be reinforced in both the seventh and eighth grades. Figure 1 shows the science content topics that will be addressed during the summer institute and academic year follow up meetings.

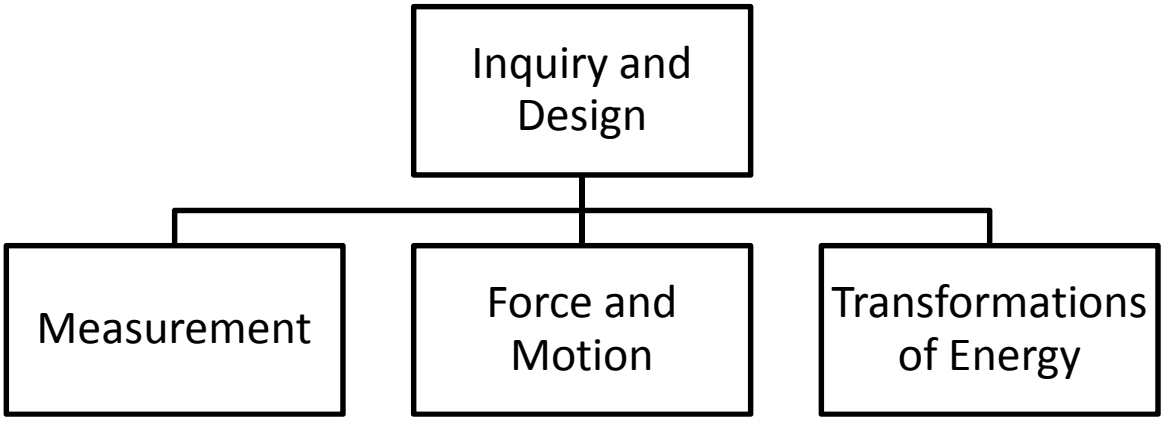

Figure 1. Science content topics

Project ISTEM will utilize inquiry based activities from the Physics and Everyday Thinking curriculum (Goldberg, 2006) and Joseph Stepans' Targeting Students' Science Misconceptions Physical Science Concepts Using the Conceptual Change Model. (Stepans, 2008) The PSET curriculum and Stepans' CCM utilize guided inquiry to illicit learners' prior knowledge. Participants will interact in small and large groups to discuss initial ideas before conducting hands on investigations. In most cases, participants will use novel inexpensive materials to conduct inquiry investigations. In coordination with the Framework for K-12 Science Education, each activity will include a design component that incorporates the fundamentals of engineering. This approach will allow the participants to experience the bridge between science and engineering. Additionally, participants will utilize the recommended essential elements of the K-12 science and engineering curriculum:

1. Asking questions (for science) and defining problems (for engineering)
2. Developing and using models
3. Planning and carrying out investigations
4. Analyzing and interpreting data
5. Using mathematics, information and computer technology, and computational thinking
6. Constructing explanations (for science) and designing solutions (for engineering)
7. Engaging in argument from evidence

8. Obtaining, evaluating, and communicating information

The Common Core State Standards for Mathematics lists eight Standards for Mathematical Practices. The essential connection between the Standards for Mathematical Practice and Standards for Mathematical Content will be fostered during the summer institute. Participants will be immersed in activities that build coherence and understanding of the fundamental concepts of mathematics for grades 6 – 9. The mathematics content will focus on Number and Number Relations and Algebra.

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

The final aspect of the content instruction in Project ISTEM will address pedagogical content knowledge. Effective mathematics and science teaching requires more than a solid content knowledge base. Research shows that teachers must understand what might prevent or enable students to grasp basic and difficult concepts in mathematics and science. The overlap and coherence of the recommended practices for science and mathematics are the inspiration for including both mathematics and science teachers in the institute. Project ISTEM participants will utilize Curriculum Topic Study (CTS) (Keeley, 2005) to gain a better understanding of mathematics and science content, identify student misconceptions, relate Grade Level Expectations to national standards, and how to properly use sequencing to help students better understand mathematics and science content.

iii. Delivery Method (20 points.)

As prescribed in the Louisiana Comprehensive Curriculum, instructional activity should focus on what is important to teach. Scientific literacy and Mathematical proficiency of its citizens is a major priority within that mandate. If Louisiana is to compete for the preferred industries of the 21st century, it must provide an environment to entice such start-ups, such as a properly skilled available workforce as well as school systems which are attractive to new businesses, and the accompanying influx of new state residents. It is also a directive to align content instruction and assessment to state standards.

Project ISTEM will consist of a ten day summer institute and five academic year follow-up meetings on the campus of Southeastern Louisiana University. Each day will include six hours of content instruction which will yield a total of 90 hours of direct interaction with participants as a group. The five academic year follow-up meetings will be held on Saturdays during the months of October, November, January, February, and March, so as to have the maximum impact on classroom instruction.

Each day participants will conduct four hours of mathematics and science investigations using inquiry and design approaches. Each investigation will include the collection and analysis of data using appropriate techniques. The remaining two hours of each day will be used to provide instruction on strategies to integrate scientific content knowledge and pedagogical content knowledge. During this daily two hour session participants will examine activities from the LCC and conduct Curriculum Topic Studies. The use of CTS in this manner will allow participants to 1) improve understanding of the mathematics and science content they are teaching, 2) become aware of research identified student misconceptions, and 3) examine and eventually apply effective instructional strategies.

The participant pool for Project ISTEM includes science teachers in St. Helena and Tangipahoa Parish public and private/parochial schools. Teachers from low performing school will be recruited first. It is anticipated that 80% of the participants will be teachers from Tangipahoa Parish. Teachers chosen to participate in Project ISTEM will be immersed

in rich physical science and pedagogical content. Participants are expected to share content knowledge and instructional strategies with colleagues during the academic year.

To encourage the use of knowledge gained during the summer institute, participants will be required to design and implement two unit plans that utilize the science and pedagogical content learned during the summer institute. The unit plans and subsequent lessons will be guided by the Common Core State Standards for Mathematics and Framework for K-12 Science Education and ultimately aligned with the Louisiana Comprehensive Curriculum and Grade Level Expectations. Direct feedback to participants will be provided after the evaluation of unit plans by project staff. Approved unit plans will then be made available to teachers in both parishes via the Project ISTEM website. Project staff will perform two classroom observations of participants during the academic year and provide direct feedback.

iv. Collaborative Partnerships and Participant Recruitment (5 points.)

The partnership between Southeastern Louisiana University, St. Helena Parish School System, and Tangipahoa Parish School System is eager to recruit participants for the initial Project ISTEM institute. The Tangipahoa Parish School System (TPSS) has committed Mrs. Cecilia Lanier who serves on the district's Curriculum and Instruction Leadership Team to recruit teachers for Project ISTEM. Low performing schools in the TPSS have been identified. Upon notification of funding, Mrs. Lanier will initiate recruitment from the aforementioned schools.

C. Quality of Key Personnel (Total of 10 points)

Dr. Troy Williams is Instructor of Physics at Southeastern Louisiana University. Over the past six years he has worked in tandem with Dr. Gwen Autin along with the Tangipahoa Parish School System to provide professional development to more than 180 teachers via 3 separate Math and Science Partnership projects and two LaSIP funded projects. He has been involved as an activity coordinator and instructor for Southern University's Project MISE partnership with LIGO-SEC. Dr. Williams also served on the Louisiana Department of

Education's Standards Revision Committee. His responsibilities as Principal Investigator will include oversight of the project. He will also perform classroom observations and science and pedagogical content instruction.

Dr. Gwen Autin is Associate Professor in the Department of Teaching and Learning at Southeastern Louisiana University She has over 25 years of experience at both the high school and university levels. Dr. Autin began her teaching career in the content area of mathematics and currently teaches education methods courses to pre-service teachers. She has published numerous articles, written and been awarded several grants and been called upon to serve as consultant for a variety of issues, including Louisiana Mathematics Framework and School Board Goals 2000. Dr. Autin is actively involved in curriculum development and has conducted many national and state presentations. She has received a variety of honors including the Outstanding Research Practioner Award in spring 2003 from the National Association of Developmental Educators. Dr. Autin has performed mathematics and pedagogical content instruction for the Tangipahoa Parish Math and Science Partnership for the past seven years. Her primary responsibility in Project ISTEM will be mathematics and pedagogical content instruction.

Mrs. Cecilia Lanier is STEM grants coordinator with the Tangipahoa Parish School System. She has more than 15 years of experience as a classroom teacher. She has served as director of the Tangipahoa Math and Science Partnership which has provided science and mathematics professional development to more than 150 teachers. Her responsibilities as part-time site coordinator will include participant recruitment, classroom observations and coordination of materials and supplies.

D. Project Evaluation (10 points)

The success of Project ISTEM will be based on increases in teacher content knowledge, science attitudes, and changes in instructional strategies. In addition, student performance on teacher administered and state administered assessments will be used to determine effectiveness of instruction.

Overall changes in teacher content knowledge will be measured using the Force Concept Inventory (FCI) an instrument proven reliability and validity. The FCI will be administered in a pretest/posttest combination at the beginning and end of the summer institute. To aid in the formative assessment of teacher science content knowledge Project ISTEM will employ the Turning Point System. Turning Point allows for responses to be tabulated via the numbered radio frequency controller that a participant responds with. By assigning the same-numbered controller to a participant each session, all their responses to queries that are posed during the course of activities can be monitored. This information can be applied, along with the workshop pre-tests to assess misconceptions and strengths, followed by workshop post-testing to gauge teacher knowledge improvement and teacher approach to use of effective instructional strategies.

Faithful and comprehensive implementation of the PD program in classrooms and schools will be measured by onsite visitation by team PIs to their various cohort members. Changes in teacher's attitudes towards science will be measured using the Views About Science Survey (VASS). The Epistemological Belief Assessment for Physical Science (EBAPS) will be used to determine changes in teachers understanding of the nature of science. The VASS and EBAPS will be administered at the same time as the FCI instrument. The participant designed unit plans will be used to determine the effect of the summer institute on instructional strategies.

Improvements in student content knowledge will be measured using the FCI instrument. The instrument will be administered at the beginning and end of the school year. Student progress will be measured throughout the academic year using questions from the Misconceptions Oriented Standards Based Assessment Resources for Teachers (MOSART). Participants will be given unit based assessments to administer to their students as they progress through the academic year. The results of the assessments will be aggregated and examined by project staff to determine where additional instruction may be needed. Student performance on state administered assessments will also be utilized to determine the success

of the project. Changes in student's attitudes will be measured using the Views About Science Survey (VASS). The VASS will be administered at the beginning and end of the academic year.

E. Budget Request, Budget Narrative, and Cost Sharing (20 points)

A. University Employed Staff

1. Summer salary and supplemental pay for Williams (07/01/12 – 06/15/13)
$47,866 × 2.74/9 = $14,575.61

2. Summer salary and supplemental pay for Autin (7/01/12– 06/15/13)
$58,131 x 2/9 = $12,918.00

10. Fringe Benefits for Staff
$10,636 * 0.35 + 16,857.61 * 0.22 = $7,431.27

B. Staff Not University Employed

12. Part-time Site Coordinator
$55,000 /yr x 1/10 + $5500.00 * 0.237 (TRSL)= $6803.50

C. Participant Support

17. Participant Stipends
$25 /hr x 6 hrs/day x 15 days x 30 teachers = $67,500

18. TRSL contributions for Participants
$67500 * 0.237 = $15,997.50

20. School Resource Materials = $12,000.00

21. Project Supplies = $9,500.00

E. Core Costs

27. Indirect Costs
$41,728.38 x 8.0% = $3,338.27

Budget Narrative

Project ISTEM will impact 30 in-service teacher participants and hundreds of students in St. Helena and Tangipahoa Parish. The 11.5 month budget breaks down as follows. Compensation for PI Williams is provided during the summer and the interim periods between class sessions. Compensation for Co-PI Autin is provided during the summer. Funds are requested to compensate for fifteen days, thirty participating in-service teachers, and for materials related to

inquiry based activities. Participating teachers will be compensated via Option A. The materials funds requested will provide the items necessary for the participants to conduct inquiry based investigations during the summer institute and academic year follow ups. Participants will also receive supplies for use in their classrooms during the academic year as they implement new instructional strategies. This gives a final budget of all costs totaling $150,064.15

Cost Sharing

Other than in-kind usage of Southeastern facilities and ancillaries, there is no cost sharing plan at this time.

Works Cited

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Stepans, J. (2008). *Targeting Students' Physical Science Misconceptions Using the Conceptual Change Model.* New York: Saiwood Publications.

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Measureable Objectives Worksheet (1)

Aligned with the first LaSIP goal stated below, design at least two measureable objectives which answer each of the following five questions:

(1) **Who** is involved?
(2) **What** is the desired outcome?
(3) **How** will progress be measured?
(4) **When** will the outcome occur?
(5) What is the **level of proficiency**?

Refer to page _____ for a detailed explanation of each question. Combine the five answers to form a sentence for your measureable objective. Use the checklist provided on page ___ to ensure the objectives contain all necessary components. This page may be duplicated if additional objectives are desired.

LaSIP Goal 1: ***Increase student achievement on State high-stakes testing.***

Who: Students in grades 6-9 who are taught by Project ISTEM teachers

What: Students will demonstrate an increase in science content knowledge

How: Project ISTEM will utilize data from the LEAP21 assessment for eighth grade students, and iLEAP assessment for students in grades 6 and 7.

When: All assessments will be administered during the 2012-13 academic year.

Proficiency Level: Ten percent increase in the number of students scoring Basic or above on the Mathematics and Science portion of the iLEAP and LEAP

Goal 1, Objective 1:

The number of students at participating schools who score at the Basic or above level in grades 6 - 8 will increase by ten percent during the 2012-13 academic year as measured by the LEAP21 and iLEAP assessments when compared to results from the 2011-2012 test results.

Who: Students in grades 6-9 who are taught by Project ISTEM teachers

What: Students will demonstrate an increase in science content knowledge

How: Students in grades 6 – 9 will be administered Misconceptions – Oriented Standards- Based Assessment for Teachers (MOSART) content tests.

When: All assessments will be administered during the 2012-13 academic year.

Proficiency Level: A net positive gain on MOSART content tests.

Goal 1, Objective 2:

Students who complete the MOSART content pretest and posttest will demonstrate a net positive gain when the result of the pretest and posttest are compared.

Who: Students in grades 6-9 who are taught by Project ISTEM teachers

What: The students' attitudes about science will improve.

How: Project ISTEM will utilize the Views About Science Survey (VASS) to measure student's attitudes and dispositions regarding science.

When: The VASS survey will be administered at the beginning of the academic year and at the end of the academic year.

Proficiency Level: Net positive gains in student attitudes will be used to determine effect of teaching on student attitudes.

Goal 1, Objective 3:

The change in students attitudes toward science will be measured at the beginning and end of the academic year using the Views About Science Survey (VASS), the effect of teaching on attitudes will be determined by the net gains or losses on the VASS.

2012-13 LaSIP PROFESSIONALDEVELOPMENT PROJECTS

Measureable Objectives Worksheet (2)

Aligned with the first LaSIP goal stated below, design at least two measureable objectives which answer each of the following five questions:

(1) **Who** is involved?
(2) **What** is the desired outcome?
(3) **How** will progress be measured?
(4) **When** will the outcome occur?
(5) What is the **level of proficiency**?

Refer to page _____ for a detailed explanation of each question. Finally, combine the five answers to form a sentence for your measureable objective. Use the checklist provided on page 44 to ensure the objectives contain all necessary components. This page may be duplicated if additional objectives are desired.

LaSIP Goal 2: ***Plan effective PD based on the high-need LEA(s)/schools' data-driven needs and developed using research-based PD strategies that will take place in summer institutes, during the academic year (AY), and/or through on-line or web-based assignments and job-embedded activities.***

Who: Project ISTEM will target mathematics and science teachers from grades 6 – 9.

What: Increased science content knowledge of teachers via rigorous inquiry-based instruction.

How: Project ISTEM will utilize the Force Concept Inventory (FCI) to measure changes in teacher science content knowledge.
When: The FCI and DIRECT will be administered at the beginning and end of the summer institute.

Proficiency Level: The average participant score on the FCI and DIRECT will be 80%.

Goal 2, Objective 1:

Project ISTEM aims to increase the science content knowledge of science teachers, gains in teacher science content knowledge will be measured using results of the FCI/DIRECT pretest and posttest.

Who: Project ISTEM will target mathematics and science teachers from grades 6 – 9.

What: Increased mathematics content knowledge of teachers via rigorous inquiry-based instruction and problem solving.

How: Project ISTEM will utilize the MDTP - Mathematical Analysis Readiness Test to measure changes in teacher mathematics content knowledge.
When: The BSDT will be administered at the beginning and end of the summer institute.

Proficiency Level: The average participant score on the FCI and DIRECT will be 80%.

Goal 2, Objective 2:

Project ISTEM aims to increase the mathematics content knowledge of science teachers, gains in teacher science content knowledge will be measured using results of the MDTP - Mathematical Analysis Readiness Test pretest and posttest.

Who: Project ISTEM will target mathematics and science teachers from grades 6 – 9.

What: Participant understanding of the nature of science.

How: The Epistemological Belief Assessment for Physical Science (EBAPS) will be used to determine participant understanding of the nature of science.

When: The EBAPS will be administered at the beginning and end of the summer institute.

Proficiency Level: Positive gains as demonstrated by scale scores on the EBAPS will be indicative of project success.

Goal 2, Objective 3:

Participant understanding of the nature of science will be determined using a comparison of pre and post scores on the Epistemological Belief Assessment for Physical Science (EBAPS), project success is defined as a positive gain.

2012-13 LaSIP PROFESSIONAL DEVELOPMENT PROJECTS
Measureable Objectives Worksheet (3)

Aligned with the first LaSIP goal stated below, design at least two measureable objectives which answer each of the following five questions:

(1) **Who** is involved?
(2) **What** is the desired outcome?
(3) **How** will progress be measured?
(4) **When** will the outcome occur?
(5) What is the **level of proficiency**?

Refer to page _____ for a detailed explanation of each question. Finally, combine the five answers to form a sentence for your measureable objective. Use the checklist on provided on page 44 to ensure the objectives contain all necessary components. This page may be duplicated if additional objectives are desired.

LaSIP Goal 3: Increase leadership capacity and pedagogical skills for target schools through school/district buy-in, school-based implementation, and mentoring during the AY.

Who: Project ISTEM will target mathematics and science teachers from grades 6 – 9.

What: To increase pedagogical content knowledge of science teachers.

How: Unit plans designed and implemented by participants will be evaluated to determine the level of use of research based instructional strategies.

When: Unit plans will be written during the summer institute and taught during the academic year.

Proficiency Level: Evidence of implementation of revised instructional strategies via classroom observations

Goal 3, Objective 1:
The use various instructional strategies that target diverse learning styles will be evaluated during classroom observations.

Who: Project ISTEM will target mathematics and science teachers from grades 6 – 9.

What:To introduce Curriculum Topic Study as a way of improving the teaching and learning of science.

How: Participants will conduct Curriculum Topic Studies during summer institute and departmental meetings at school.

When: Summer institute and academic year

Proficiency Level: Participants will utilize results of CTS in designing lessons and unit plans.

Goal 3, Objective 2:

Project ISTEM participants will demonstrate knowledge of CTS by leading studies during the summer institute, academic year follow-ups and school departmental meetings.

CURRICULUM VITAE

Name Dr. Troy Williams		Current Position Title Instructor Project Position Title Principal Investigator/Project Director	
EDUCATION (Begin with baccalaureate or other initial professional education and include postdoctoral training.			
INSTITUTION AND LOCATION	DEGREE	YEAR CONFERRED	FIELD OF STUDY
Southern University, Baton Rouge, LA	Bachelor of Science	1996	Physics
Southern University, Baton Rouge, LA	Master of Science	1998	Physics
Southern University, Baton Rouge, LA	Doctor of Philosophy	2005	Science and Mathematics Education

RESEARCH AND PROFESSIONAL EXPERIENCE: DO NOT EXCEED TWO PAGES. Begin with present position, list in reverse chronological order previous relevant employment, experience, and honors.

ACADEMIC/TEACHING EXPERIENCE

Instructor, Project ITAPS, Louisiana Math and Science Partnership, Tangipahoa Parish School System 2007-present
Consultant, Project Modeling Inquiry Science Education (MISE), Southern University Baton Rouge, 2005 – present
Instructor, Project PRISM=HQT, Louisiana Math and Science Partnership, Tangipahoa Parish School System 2005-2008
Instructor, Southeastern Louisiana University, Department of Chemistry and Physics, Hammond, LA, August 2000 - Present
Adjunct Instructor, Louisiana Technical College, Baton Rouge, LA, 2000 - 2001
Instructor, Timbuktu Academy, Southern University and A&M College, Baton Rouge, LA, 1999 - 2000
Teacher, High School Physics, Southern University Laboratory School, 1996 -1998

COURSES TAUGHT

Introductory Physics Lecture and Laboratory (Mechanics)
Introductory Physics Lecture and Laboratory (Electricity and Magnetism)
Intermediate Physics (Mechanics)
Physical Science
Earth Science Lecture and Laboratory
Algebra, Geometry, Trigonometry
Secondary Science Education Methods

COURSES DEVELOPED

Developed course materials for Physical Science 101 as part of Louisiana Board of Regents Education Enhancement grant
Developed course materials for Secondary Science Methods in accordance with NCATE/NSES standards

ACADEMIC HONORS AND FELLOWSHIPS
Louisiana Board of Regents, Superior Graduate Fellow, 1996 – 1998
NASA Undergraduate Scholar 1992 – 1996
Timbuktu Academy Scholar 1992 - 1996

PROFESSIONAL MEMBERSHIPS
Member, American Physical Society, 2002 - present
Member, Louisiana Academy of Sciences, 2006 - present
Member, Louisiana Science Teachers Association, 2006 - present
Member, Society of Physics Students, SPS, 1992 - present
Member, Sigma Pi Sigma Physics Honor Society, 1995 - present
Member, National Science Teachers Association, 2001 – present

PUBLICATIONS and PRESENTATIONS

"*The Effectiveness of Online Homework in an Introductory Science Class"* – R. Allain and T. Williams, Journal of College Science Teaching, 35, May/June 2006
"An Accurate Diagnosis and an Effective Treatment of Misconceptions in Astronomy", presented at the 2006 Joint Annual Conference of the National Society of Black Physicists and the National Society of Hispanic Physicists, San Jose, CA, Feb. 18, 2006
"An Accurate Diagnosis and Treatment of Misconceptions in Astronomy and Study of Students' Attitudes Toward astronomy", presented at the Annual Meeting of the Louisiana Academy of Sciences, ULL, March 10, 2006
"*Local-Density-Functional Prediction of Electronic Properties of GaN, Si, C, and* RuO_2"G. L. Zhao, D. Bagayoko, and T. D. Williams. Physical Review B, 60, 1563, 1999.
"*Predictive Calculations of Properties of Molecules, Clusters, and Semiconductors,*" D. Bagayoko, G. L. Zhao, and T. D. Williams. Proceedings, 1999 Meeting of the National Society of Black Physicists (NSBP 99), Atlanta, Georgia, March 21.
March Meeting of the American Physical Society (APS). Presentation: *"A Spurious Effect and LDA Prediction of the Correct Band Gap in* $BaTiO_3$*."* D. Bagayoko, G. L. Zhao, and T. D. Williams. Bulletin, APS, Vol. 43, No. 1, p. 846, (1998).
March Meeting of the American Physical Society (APS). Presentation: *"The Electronic Structure and Optical Properties of* RuO_2*."* T. Williams and D. Bagayoko. Bulletin, APS, Vol. 43, No. 1, p. 927, (1998).

CURRICULUM VITAE

Name Dr. Gwen Autin	Current Position Title Associate Professor Project Position Title Co- Principal Investigator

EDUCATION (Begin with baccalaureate or other initial professional education and include postdoctoral training.

INSTITUTION AND LOCATION	DEGREE	YEAR CONFERRED	**FIELD OF STUDY**
Southeastern Louisiana University, Hammond, LA	Bachelor of Science	1977	**Biology**
University of New Orleans, New Orleans, LA	Master of Education	1998	**Curriculum and Instruction**
Southern University, Baton Rouge, LA	Doctor of Philosophy	2004	**Science and Mathematics Education**

AREAS OF SPECIALIZATION

Served on doctoral program committees in mathematics education (2008, 2009)
Middle School Mathematics and Science (Grades 4^{th} –8^{th}), Second-Fourth Grade Levels, Biology, Chemistry, Elementary and Middle School Mathematics, Algebra I, II, Geometry, Advanced Mathematics, Cooperative Learning, Mathematics Curriculum, Constructivism, Physics, Physical Science, General Science, Manipulatives, Science by Inquiry, Higher-Order Thinking, Assessment, Service-Learning, Remedial Mathematics

RECENT PARTNERSHIPS

Tangipahoa Math and Science Partnerships for High School Teachers, Project ITAPS (2007, 2008, 2009)
Tangipahoa Math and Science Partnerships for Elementary School Teachers, Project I-Mast (2009-11)
Tangipahoa, Washington, St. Helena MSP for Project ITAPS (2007,2008)
Tangipahoa Math and Science Partnerships for Middle School Teachers and LIGO (2005, 2006, 2007, 2008)
Southeastern Louisiana University, Department of Biological Sciences, Coordinator of the Regional Science Fair (Fall 2006-Spring 2009), College Partner.
Southeastern Louisiana University, Dr. L. Bostic, Industrial Arts Department, team taught an integrated mathematics and art project on fractions (Spring 2006).
Southeastern Louisiana University, Department of Chemistry and Physics, Dr. Troy Williams, Project PRISM=*HQT*, team taught institutes for middle school teachers (Summer 2005, 2006, 2007, 2009).
Southeastern Louisiana University, Department of Teaching and Learning, Dr. Leah Sadden, Project IMPACT (Spring 2005-2008). ELL speakers are invited to the EDUC 326 and MAT 650 classes.

RECENT PROFESSIONAL DEVELOPMENT

Selected to the Cambridge Who's Who Among Executive and Professional Women (2008).
Invited to participate in the AP Curriculum development of Testing for High Schools (2006).
Invited to participate in ACT Calibration of Questions (2007)
Livingston Observatory for Laser Interferometer Gravitational Observatory (LIGO), (Summer 2005, 2006, 2007). Completed specialized training of 45 exhibits of hands-on discovery and inquiry in

Physics and Mathematics, 55 hours training, Livingston, LA High School Cooperative Agreement (HSCA Pilot, Phase II, HSCA 2000-2004)

This collaborative effort gained state, regional, and national attention. Southeastern's partnerships with area high schools and technical institutes helps reduces the cost of remedial education for college, state costs, and time-to-degree.

Teaching Teachers - It is Not Elementary!, International Conference on Technology in Collegiate Mathematics (2006).

Mathematics and Science Partnership Programs. Regional Conferences (2006, 2007,2008). United States Department of Education, San Francisco, CA

Curriculum Topic Study (2006, 2007, 2009). Attended institute for Mathematics and Science Partnership and the National Science Foundation.

Completed the NCATE and NCTM Compiler Training for Mathematics Review Committees (November 2006). NCATE and NCTM.

PUBLICATIONS

Autin, G. (Spring 2008). The artist teacher uses proportions, the math teacher helps students understand the how and why, fractions fly the kites. *Journal for Learning through the Arts: A Research Journal on Arts Integration in Schools and Communities.*

Autin, G. (Summer 2006). Inspiring new teachers through tutoring in Louisiana. *Community Works Journal*, 8, 30-31.

Autin, G. and Beard, L. (2008). To what extent does a mathematics methods course change pre-service teachers' beliefs about mathematics? *American Exchange Quarterly,* currently completing revisions for publication in Summer 2009

Autin, G. (in review, June 2006) PROJECT PRISM – Producing results for the *NCLB a*ct in middle school science and math. *Journal of Scholastic Teaching.*

Autin, G. (August 2003). Service-learning: Students describe their experiences. *The Teaching Professor,* 16 (7), 6-7.

Spence, Sarah. Autin, Gwen, Clausen, Sally. (Spring 2002) Reducing the cost of remediation: A partnership with high schools. *Research & Teaching in Developmental Education*.

Spence, Sarah, Autin, Gwen. (Spring 2001) Preparing high school students for college:
A partnership. Reading: Exploration and Discovery.

Allen, B., Autin, G. (June 1995). Maximizing the first five minutes. *Primus, 14(3), 89-91.*

CURRICULUM VITAE

Name Mrs. Cecilia Lanier	Current Position Title Math and Science Coordinator Project Position Title Site Coordinator

EDUCATION (Begin with baccalaureate or other initial professional education and include postdoctoral training.

INSTITUTION AND LOCATION	DEGREE	YEAR CONFERRED	FIELD OF STUDY
Southeastern Louisiana University, Hammond, LA	Bachelor of Arts	1994	Elementary Education
Southeastern Louisiana University, Hammond, LA	Master of Education	2001	Administration
Southeastern Louisiana University, Hammond, LA	Plus 30	2004	Supervision, Child Welfare and Attendance

Certifications:

Computer Science in Elementary Grades
Computer Literacy
Elementary Grades 1 – 8
Principal
Elementary Principal
Educational Technology Leader
Educational Technology Facilitator
Supervisor of Child Welfare and Attendance
Parish or City School Supervisor of Instruction
Supervisor of Student Teaching

Experience:

Math and Science Coordinator
Title I, October 2008 to present
Duties:

Math and Science Project Director, Title II Funds

Responsible for writing the MSP grant and budget, maintaining financial records, processing grant expenditures, coordinating SLU teaching staff and facilities, designing staff development activities, recruiting participants, assisting participants with writing QSM Grant, coordinating information between MSP State Director and participants, attending national and state conferences, collecting data, conducting participant observations, preparing and submitting of the Annual Performance Report to the United States

Department of Education and adhering to all federal and state grants guidelines.

LASIP Grant Coordinator

Responsible for coordination of grant between TPSS and SLU, recruiting participants, maintaining grant records, attending required Board of Regents meetings, collecting data, conducting participant observations, collecting data on teacher and student growth and adhering to all state grant guidelines.

Numeracy Grant Coordinator

Responsible for coordination of grant between TPSS and Louisiana Dept. of Education for OW Dillon and Midway Elementary. Supervised implementation of mathematics strategies in grades K-6, conducted observations and collected data on student growth in numeracy.

Sally Ride Science Coordinator

Responsible for implementation of the Sally Ride Science Program to ensure increased interest in STEM careers with a special emphasis on female and minority populations.

LIGO – Laser Interferometer Gravitational Wave Observatory in Livingston

Responsible for coordination of teacher training in physical science inquiry based lessons, field trips for 9th grade physical science teachers and students,

Curriculum Coach 2008 - 2009

Responsible for working with Roseland Elementary and Westside Middle School to improve instruction and coordination of curriculum with Louisiana Comprehensive Curriculum and parish adopted textbooks. Assist with writing of school improvement plan, budgeting of Title I funds, coordination of acquisition of supplies and equipment needed to meet SIP, work with teachers on instructional strategies, assist in obtaining technology and other needed materials, coordinate staff development, and in-service teachers on district initiatives.

Loranger Middle School, 1994 – September 2008

Subjects taught: science, history, math, language arts, computer literacy

Duties:

8th Grade Classroom Teacher and Technology Facilitator

Followed Components of Effective Teaching, used hands-on activities, complied with parish guidelines on lesson planning, communicated with students and parents, field trips, 8th grade graduation activities, coordinated student transition from junior high to high school, Beta Club sponsor and extracurricular activities as assigned. Supervised and maintained computer labs, tech support for faculty and staff, and instructed teachers on use of technology.

LOUISIANA SYSTEMIC INITIATIVES PROGRAM
2012-2013 PROFESSIONAL DEVELOPMENT PROJECTS
CURRENT AND PENDING SUPPORT

List all State and federal funding support for each IHE faculty member during the funding cycle. Duplicate this form for each IHE faculty member, and use additional sheets as necessary.

NAME OF FACULTY: Dr. Troy Williams

Status of Support: xxx Current Pending Submission Planned in Near Future

Proposal Title(or Semester Teaching Support): (IMAST) Inquiry Based Math and Science for Teachers

Source of Support: Louisiana Department of Education

Award Amount (or Monthly Teaching Rate): $144,000 Period Covered: FY 2011

Location of Activity: Southeastern Louisiana University

Person-Months or % of Effort Committed to the Project: 1 month Cal Yr AY Summer

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Status of Support:xxxCurrent Pending Submission Planned in Near Future

Proposal Title (or Semester Teaching Support) (IBIS) Inquiry Based Instruction in Science

Source of Support:LaSIP

Award Amount (or Monthly Teaching Rate): 175,000 Period CoveredFY 2011

Location of Activity: Southeastern Louisiana University

Person-Months or % of Effort Committed to the Project: Cal Yr AY 2 months Summer

(Form 7 - 2012-13 LaSIP PD, Revised August 2010)

LOUISIANA SYSTEMIC INITIATIVES PROGRAM
2012-2013 PROFESSIONAL DEVELOPMENT PROJECTS
CURRENT AND PENDING SUPPORT

List all State and federal funding support for each IHE faculty member during the funding cycle. Duplicate this form for each IHE faculty member, and use additional sheets as necessary.

NAME OF FACULTY: Dr. Gwen Autin

Status of Support: xxx Current Pending Submission Planned in Near Future

Proposal Title(or Semester Teaching Support): (IMAST) Inquiry Based Math and Science for Teachers

Source of Support: Louisiana Department of Education

Award Amount (or Monthly Teaching Rate): $144,000 Period Covered: FY 2011

Location of Activity: Tangipahoa Parish School System

Person-Months or % of Effort Committed to the Project: 1 month Cal Yr AY 1 month Summer

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Status of Support:xxxCurrent Pending Submission Planned in Near Future

Proposal Title (or Semester Teaching Support) (IBIS) Inquiry Based Instruction in Science

Source of Support:LaSIP

Award Amount (or Monthly Teaching Rate): 175,000 Period CoveredFY 2011

Location of Activity: Southeastern Louisiana University

Person-Months or % of Effort Committed to the Project: Cal Yr AY 2 months Summer

TANGIPAHOA PARISH SCHOOL SYSTEM

59656 PULESTON ROAD ▪ AMITE, LOUISIANA 70422
TELEPHONE: (985) 748-7153 ▪ FAX # (985) 748-8587

MARK KOLWE
Superintendent

ERIC DANGERFIELD
President of the Board

February 7, 2012

Dr. Troy Williams, Instructor
Southeastern Louisiana University
Department of Chemistry and Physics
Hammond, Louisiana 70402

Dear Dr. Williams:

The Tangipahoa Parish School System is pleased to be a partner in the LASIP grant proposal being submitted by Southeastern Louisiana University Department of Chemistry and Physics. The proposal is a professional development program designed to improve content and pedagogy of mathematics and science teachers in grades 6, 7, 8, and 9 in Tangipahoa Parish schools. When this grant is funded, the Tangipahoa Parish School System will do the following:

1. Work with project staff to develop and implement the two-week summer institute and five follow-up days.
2. Work with project staff to develop a plan for improving student learning.
3. Allow project participants curriculum flexibility from parish timelines and testing regulations.
4. Allow project participants to explore and implement alternative classroom structures to maximize the number of students affected by this program.
5. Encourage school principals of project participants to take an active involvement in the project.
6. Encourage the participants to integrate subject matter, techniques, and materials from the project into their classrooms.

If we can further assist you in this endeavor, please contact me. Thank you.

Sincerely,

Mark Kolwe

Mark Kolwe
Superintendent

MK/sc

LOUISIANA SYSTEMIC INITIATIVES PROGRAM
2012-2013 PROFESSIONAL DEVELOPMENT PROJECTS
Memorandum Of Agreement Among Partners

Southeastern Louisiana University (Name of Sponsoring Institution or Institutions)	Project Inquiry Based Instruction in Science (Project Title)
Dr. Troy Williams (Principal Investigator)	Dr. Gwen Autin (Co- Principal Investigator)

This cooperative agreement reflects the overall commitment as well as the specific responsibilities and the roles of each of the partners listed below. This MOA documents the actual working partners who are responsible for contributing to the writing of the proposal, collecting and reporting data, and for the day to day success of the project.

Type of Partner	Name of Active Partner	Title	IHE or District & School	Signature
Teacher Preparation Program ***(Required)***	Dr. Gwen Autin	Associate Professor	Southeastern Louisiana University	
Dept./School of Arts & Sciences ***(Required)***	Dr. Troy Williams	Instructor	Southeastern Louisiana University	
High-need Local Education Agency/Agencies ***(LEA – Required)***	Mrs. Cecilia Lanier	Mathematics and Science Coordinator	Tangipahoa Parish	
Additional Targeted Partners				