

The University of Texas of the Permian Basin and The Ector County Independent School District

INTERLOCAL COOPERATION CONTRACT

This Interlocal Cooperation Contract is entered into effect July, 2011 by and between the Contracting Parties shown below pursuant to authority granted in and in compliance with Chapter 791, *Texas Government Code*.

CONTRACTING PARTIES:

Receiving Party: Ector County I.S.D., an agency of the State of Texas.

Performing Party: The University of Texas of the Permian Basin, an Institution of Higher Education of the State of Texas.

PURPOSE:

The purpose of this Contract is to obtain the services of Performing Party to provide activities through **TexPREP**. This Contract will increase the efficiency and effectiveness of the Contracting parties.

STATEMENT OF SERVICE TO BE PERFORMED:

Performing Party will perform the following services:

Logic and Its Applications to Mathematics (Year 1)

Students will demonstrate the ability to understand and apply logical statements, compound statements (negation, conjunction, disjunction, conditional, and biconditional), logical equivalents, valid and invalid arguments, truth tables, rules of inference, paradoxes, elementary set theory (sets, subsets, union, intersection and complements, and properties of operations), Boolean Algebra (definition, examples, and properties), and switching networks (definition, examples, and switching statements).

Students will demonstrate the ability to understand and utilize universal and existential quantifiers.

Students will demonstrate knowledge of the basic concept of set theory.

Students will demonstrate the ability to conjecture, and to test and build arguments.

Students will demonstrate an understanding of the use of mathematics to symbolically represent ideas, relationships, and operations.

Students will demonstrate the ability to communicate using the signs, symbols, and terminology of mathematics.

Students will demonstrate an increased capacity for both critical and divergent thinking, as well as inductive and deductive reasoning.

Students will demonstrate an increased ability to analyze and communicate their thinking processes.

Introduction to Engineering (Year 1)

Students will demonstrate knowledge of the history and philosophy of engineering, the engineering design process and mathematical tools, the use of computers in engineering, engineering ethics and standards of professionalism, and the job focus and also requirements for career preparation for various types of engineering fields.

Students will demonstrate knowledge of basic engineering principles in the areas of work and energy, simple machines, light and optics, thermal science, and mechanics.

Students will demonstrate the ability to apply engineering principles to team projects, i.e. airplane designs, security systems, egg drops, bridge design, solar reflectors, etc.

Students will demonstrate knowledge of the relevance of distribution math and its link to engineering and study electrical engineering (middle school adaptation of the Infinity Project created by Texas Instruments and the SMU School of Engineering).

Students will demonstrate the ability to apply the engineering design process and design a sound demixing device and describe techniques related to multi-channel surround sound.

Algebraic Structures (Year 2)

Students will demonstrate knowledge of groups, rings and fields using the systems of integers and rational numbers as models, and the derivation of algebraic properties of these systems.

Students will demonstrate knowledge of the basic concepts of set theory, operations involving sets, properties of abstract mathematical systems, and the use of deductive and inductive reasoning with proofs.

Students will demonstrate the ability to represent situations and number patterns with tables, graphs, mathematical symbols and equations, and will be able to understand and communicate the relationships, patterns, and concepts.

Students will apply algebraic concepts and procedures to problem solve.

Introduction to Physics (Year 2)

Students will demonstrate knowledge of Mechanics: units and physical quantities, equilibrium of a particle, motion in a straight line, Newton's second law, motion in a plane, work and energy, inertia and momentum, circular motion, and equilibrium.

Students will demonstrate knowledge of Electricity and Magnetism: Coulomb's Law, electric fields, potential, capacitance, current, resistance, electromotive force, direct current circuit, and magnetic fields.

Students will demonstrate the ability to apply principles of physical science in the laboratory: friction linear air track, free-falling bodies, multiflash photography, the conical pendulum, capacitors in series and parallel, resistors in series and parallel, and Ampere's Law.

Introduction to Probability and Statistics (Year 3)

Students will demonstrate an understanding of basic probability theory: counting procedures, addition rule, multiplication rule, and independence.

Students will demonstrate knowledge of probability models: binomial, hypergeometric, Poisson, exponential, and normal.

Student will demonstrate knowledge of descriptive statistics: tables and charts, measures of center, and measures of spread.

Students will demonstrate knowledge of analytical statistics: confidence intervals for means and proportions, tests of hypothesis for means and proportions, and simple regression.

Students will be able to collect, organize and evaluate data.

Students will develop the ability to analyze, conjecture, and build arguments based on data analysis, and using logic, reasoning and problem solving techniques.

Students will develop the ability to sort, analyze, and interpret numerical data using statistical software.

Introduction to Technical Writing (Year 3)

Students will demonstrate increased clarity and effectiveness in their writing skills as particularly applicable to the disciplines of engineering and science. This includes techniques such as appeal to authority, appeal to original research data and appeal to logic.

Students will demonstrate increased skill in technical writing methods: invention, assessment of purpose and audience, organization and development, revision, editing, style, grammar, and mechanics.

Students will demonstrate their ability to produce clear, persuasive and efficient technical reports using word processing software and graphic techniques.

Topics in Problem Solving (All Years)

Students will demonstrate knowledge of formal problem solving techniques, both heuristic and algorithmic, including looking for patterns, developing lists and tables, writing equations, simplification, utilization and evaluation of research.

Students will demonstrate the ability to utilize problem solving techniques as a method of inquiry and application, specifically to investigate and understand mathematical content, formulate problems, construct, analyze and test hypothesis, gather evidence, verify and interpret results, draw inferences, build arguments, and generalize solutions. Students will demonstrate the ability to generalize and extrapolate patterns of solutions and problem solving strategies.

Students will demonstrate an understanding of how problem solving approaches, methods of investigating and reasoning can be applied to new situations and to multi-step, complex and non-routine problems.

Students will demonstrate the application of problem solving techniques to specific mathematical concepts in algebra and geometry.

Students will demonstrate an understanding of how problem solving and thinking can be represented, clarified, contrasted and/or consolidated through the use of mathematical symbols and language.

Students will demonstrate an increased ability to reason mathematically, as well as increased flexibility in exploring mathematical solutions and ideas.

Students will demonstrate knowledge of the importance of accurate documentation and clear, efficient, persuasive presentations.

Students will demonstrate the ability to conduct library research, interviews, surveys, and field investigations, incorporating their problem solving and reasoning skills. (During Year 3, the **Problem Solving** and **Technical Writing** courses are integrated.)

Students will apply their course work to solving real world problems using an interdisciplinary approach. These tools facilitate learner-centered learning, inquiry, creative problem solving, clear communication, and teamwork.

Career Opportunities Awareness (All Years)

Students will demonstrate increased knowledge of the diversity of professions within the fields of mathematics, science, technology, and engineering.

Students will demonstrate a basic understanding of the necessary steps, and the opportunities available to them, to pursue careers in mathematics, science, technology, and engineering.

Students will demonstrate increased motivation to achieve academically in high school.

Students will be able to explain the relationships between mathematics and the disciplines it serves (physical and life sciences, social sciences and humanities).

Students will demonstrate understanding of the flexibility and usefulness of mathematics as applied to diverse aspects of everyday living.

Students will demonstrate an understanding of the link between mathematics and continuous innovation in technology and computer science.

Students will demonstrate knowledge of the college application process, as well as awareness of financial aid and scholarship opportunities.

Research and Study (All Years)

Students will demonstrate self-awareness, organizational skills and initiative in planning, evaluating personal strengths and goals, and in completing projects and assignments including a personal journal.

Students will develop a personal relationship with a Program Assistant Mentor, who will serve as role model, individual and small group tutor, and facilitator of personal growth and goal planning endeavors.

Field Trips (All Years)

Students will gain hands-on experience and knowledge of the applications of science and mathematics in factories, business, entertainment centers and other environs.

Students will gain a broader exposure and awareness of the impact of mathematics, science, engineering and technology on their everyday lives.

WARRANTIES:

Receiving Party warrants that (1) the services are necessary and authorized for activities that are property within its statutory functions and programs; (2) it has the authority to contract for the services under authority granted in Section _____, Texas _____ Code, and the Chapter 791, *Texas Government Code*; (3) it has all necessary power and has received all necessary approvals to execute and deliver this Contract, and (4) the representative signing this Contract on its behalf is authorized by its governing body to sign this Contract.

Performing Party warrants that (1) it has authority to perform the services under authority granted in Chapter 771, *Texas Government Code* and Chapter 791, *Texas Government Code*; (2) it has all necessary power and has received all necessary approvals to execute and deliver this Contract, and (3) the representative signing this Contract on its behalf is authorized by its governing body to sign this Contract.

CONTRACT AMOUNT:

The total amount of this Contract shall not exceed \$50,000.00

PAYMENT:

Receiving Party will remit payments to Performing Party for services satisfactorily performed under this Contract in accordance with the Texas Prompt Payment Act ("Act"), Chapter 2251, and *Texas Government Code*.

Payments made under this Contract will (1) fairly compensate Performing Party for the services performed under this Contract, and (2) be made from current revenues available to Receiving Party

TERM:

The term of this Contract begins on the Effective Date and expires on **July 21, 2011**.

NOTICES:

Except as otherwise provided in this Section, all notices, consents, approvals, demands, requests, or other communications provide for or permitted to be given under any of the provisions of this Contract shall be in writing and shall be demand to have been duly given reserved when delivered by hand delivery or when deposited in the U.S. mail by registered or certified mail, return receipt requested, postage prepaid, and addresses as follows:

If to Receiving Party: Ector County Independent School District, Business Operations

P.O. Box 3912

Odessa, Texas 79760

Attention: *Tonya Tillman, assistant superintendent of business operations*

Fax: 432-331-7836

Email: tonya.tillman@ectorcountysd.org

With copy to: Ector County Independent School District

P.O. Box 3912
Odessa, Texas 79760
Attention: H.T. Sanchez, Ed. D., Chief of Staff
Phone: 432-456-8899
Fax: 432-456-8898
Email: ht.sanchez@ectorcountyisd.org

If to Performing Party: UTPB Purchasing

4901 E. University
Odessa, Texas 79762
Attention: Ynez Alderson,
Fax: 432-552-3790
Email: alderson_y@utpb.edu

With copy to: UTPB Continuing Education/Outreach Dept.

4901 E. University
Odessa, Texas 79762
Attention: Rey Lascano, Director
Fax: 432-552-2109
Email: lascano_r@utpb.edu

Or other such person or address as may be given in writing by either party to the other in accordance with this Section.

TERMINATION:

In the event of a material failure by a Contracting Party to perform its duties and obligations in accordance with the terms of this Contract, the other party may terminate this Contract upon thirty (30) days' advance written notice of termination setting forth the nature of the material failure: provided that, the material failure is through no failure is fully cured prior to the end of the 30-day period.

Performing Party, University of Texas of the Permian Basin, may terminate this Contract upon ten (10) days' advance written notice of termination to the Receiving Party, Ector County I.S.D.

OTHER PROVISIONS:

Payment of Debt or Delinquency to the State: Pursuant to Section 2107.008 and 2252.903, *Texas Government Code*, Performing Party agrees that any payments owing to Performing Party under this Contract may be applied directly toward any debt or delinquency that Performing Party owes debt or delinquency is paid in full.

Products and Materials Produced in Texas. If Performing Party will provide services under this Contract, Performing party covenants and agrees that in accordance with Section 2155.4441,

Texas Government Code, in performing its duties and obligations under this Contract, Performing Party shall purchase products and materials produced in Texas when such products and materials are available at a price and delivery time comparable to products and materials produced outside of Texas.

Venue; Governing Law. Ector County, Texas shall be the proper place of venue for suit on or in respect of this Contract. This Contract and all of the rights and obligations of the parties hereto all of the terms and conditions hereof shall be construed, interpreted and applied in accordance with and governed by and enforced under the laws of the State of Texas.

Entire Agreement; Modifications. This Contract supersedes all prior agreements, written or oral, between Performing Party and the Receiving Party and shall constitute the entire agreement and understanding between the parties with respect to the subject matter hereof. This Contract and each of its provisions shall be binding upon the parties and may not be waived, modified, amended or altered except by a writing signed by Receiving Party and Performing Party.

Loss of Funding. Performance by a contracting Party of its duties and obligation under this Contract may dependent upon the appropriation and allotment of funds by the Texas State Legislature (the "Legislature" and/or allocation of funds by that Contracting Party's governing board. If the Legislature falls to appropriate or allot the necessary funds to a Contracting Party,

Or a Contracting Party's governing board fails to allocate the necessary funds, then the Contracting Party that loses funding may terminate this Contract without further duty or obligation under this Contract.

State Auditors' Office. The Contracting Parties understand that acceptance of funds under this Contract constitutes acceptance of the authority of the Texas State Auditor's Office, or any successors agency (collectively, "Auditor"), to conduct and audit or investigation in connection with those funds pursuant to Sections 51.9335©, 73.115©, and 74.008©, *Texas Education Code*.

The Contraction Parties agree to cooperate with the Auditor in the conduct of the audit or investigation, including without limitation providing all records requested. The Contracting Parties will include this provision in all contracts with permitted subcontractors.

Assignment. This Contract is not transferable or assignable except upon written approval by Receiving Party and Performing Party.

Severability. If any one or more of the provisions contained in this Contract shall for any reason be held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision thereof, and this Contract shall be construed as if such invalid, illegal, or unenforceable provision had never been contained therein.

Public Records. It shall be the Independent responsibility of Receiving Party and Performing party to comply with the provision of Chapter 552, *Texas Government Code* (the "Public Information Act"), as those provision apply to the parties respective information. Receiving Party is not authorized to receive public information request or take any action under the *Public Information Act* on behalf of Performing Party. Likewise, Performing Party is not authorized to receive public information request or take any other action under Public Information Act on behalf of Receiving Party.

Executed effective as the Effective Date by the following duly authorized representatives of Contracting Parties:

Receiving Party: Ector County I.S.D.

By: _____

Name: H.T. Sanchez, Ed.D.

Title: Chief of Staff-Ector County ISD

Date: _____

**Performing Party: The University of Texas of
the Permian Basin**

By: _____

Name: Dr. Chris Forrest

Title: Vice-President for Business Affairs

Date: _____