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FINAL PERFORMANCE REPORT

for

PROJECT JEM

(JARVIS ENHANCEMENT OF MALES)

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Unsolicited Application
U.S. Department of Energy
Office of Economic Impact and Diversity

Project JEM (Jarvis Enhancement of Males)

Synopsis of 1997 Program

STUDENT PARTICIPANTS

Through a U.S. Department of Energy grant award in the amount of \$40,000, Jarvis Christian College continued Project JEM in 1997. Twenty (20) young African American male students were recruited from Gladewater Independent School District (ISD), Longview ISD, Hawkins ISD, Tyler ISD, Winona ISD and Big Sandy ISD. Students enrolled in the program range from ages 10 to 13 and are in grades four (4), five (5), and six (6). The following chart is a summary of the program participants for 1997:

PROGRAM COMPONENTS

Student participants in the 1997 Project JEM Program attended Saturday Academy sessions and a four (4) week intensive, summer residential program. The following information provides a synopsis of the activities which were conducted through each program component:

Saturday Sessions - The academic content of the Program is very strong. The students are involved in a wide variety of subjects which are taught by a staff that works as a unit. Some of the highlights are the intensive hands-on computer literacy classes, and the combination of physical and mental challenges presented in the outdoor field exercises. As indicated in the original proposal, students participated in a mathematics enrichment course, a science course, recreational and physical fitness activities, cultural enrichment activities, field trips and the parenting partnership component.

Summer Residential Program - The residential component is also very strong. Within the context of the residential component, the students are exposed to a variety of people and learn to interact with each other. They are also exposed to a realistic taste of college living and are therefore far better prepared to face the stresses of living away from home in a community environment.

Mathematics Enrichment Course - In the mathematics course, the discovery method is used to help reduce any anxiety students may have about mathematics. The professional standards for teaching mathematics by the National Council for Teaching Mathematics NCTM 1991 is used. Laboratory activities are used for a variety of purposes: to build readiness for abstract concepts, to provide motivation, to develop problem solving skills, and to present significant applications of mathematics to practical problems. Students of all levels of ability can profit from laboratory experiences. An advantage of this approach is the freedom students experience in looking for ways to solve mathematical examples. The students discover through their own experiences that there is more than one way to solve a problem.

Science Course - In the science unit, students are involved in science activities and endeavors (biology, earth science, physics, and chemistry.) Considerable emphasis is placed on the role of science in society and the interaction between science and decisions that individuals must make. Laboratory activities involve hands-on experiences that involve outdoor field trips. Students also have the opportunity to see scientists at work for the benefit of society through a trip at the East Texas Medical Center, Tyler, Texas. A visiting scientist from Hampton University is also scheduled to conduct a classroom presentation.

Computer Science Laboratory - The computer science laboratory provides students with challenging experiences through the use of various computers (IBM, Apple IIe, and Macintosh LCIII). Students perform a number of hands-on experiments, review a wide-range of computer educational programs and applications, and work individually on projects.

Recreational and Physical Fitness - One unique aspect of the Program is the daily "well" sessions. The sessions provide students with necessary information concerning personal hygiene, interpersonal communications and basic life skills. One staff member is solely responsible for development of this part of the program, finding and coordinating guest speakers, delegating responsibilities among the residential life staff, and providing instruction to students, as needed.

Cultural Enrichment Activities - The cultural enrichment component adds dimension to the academic and recreational components through a wide variety of activities. Through this component students receive background information on Africa with specifics concerning the development of empires on the west coast of Africa. Students also were presented with information concerning drug abuse, gang intervention, and career development.

Field Trips - The Saturday sessions and the Residential Summer Program are not all work and no play. Each evening the students have planned recreational activities and free time in and around their residence hall. Every weekend, there are recreational opportunities and field trips. Expeditions included the Smith County Jail, Tyler, Texas, Tyler Fire Departments, Tour of Historical Jefferson, Texas, TAMCO Utilities, Mount Pleasant, and Fastracks, Longview, Texas.

Parenting Partnership Component - The joint involvement of parents and students is a necessary component of Project JEM. Workshop activities are provided for parents concerning the selection of courses for junior/senior high to prepare their children for college. In addition, information on the availability of and how to apply for financial aid, plus planning and paying for college costs is presented.

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Project JEM (Jarvis Enhancement of Males)

DESCRIPTION OF PROJECT JEM

Project JEM (Jarvis Enhancement of Males) is a pre-college program directed toward stimulating disadvantaged, talented African American males in grades four, five, and six to attend college and major in mathematics, science, computer science, or related technical areas needed by the U.S. Department of Energy.

Data from the Census Bureau shows that nearly two-thirds of the black children living in homes with a female-headed families are poor. However, there are several crucial "turning points" in the lives of black male children regardless of socioeconomic background. The first period is between the ages of eight (8) and nine (9), when there appears to be change in cognitive process. This seems to lead to the so called "fourth grade syndrome" and is related to increased achievement and disciplinary problems. The second period of early adolescence, when individuals assert their independence and often engage in high risk behavior.

Project JEM is designed to provide pre-college exposure in mathematics, science and computer laboratories for the African American rural males between the ages of nine (9) and fourteen (14). These ages are considered the most crucial "turning points" or stages in their cognitive and social development.

This program also tests the impact of the early college exposure on future career choices of the male students as they matriculate from elementary and secondary schools and college. The training Program assists them

during an important development phase and combined with other pre-college programs, such as the National Youth Sports Program and the Mentoring and Tutorial Corps, it is anticipated that these students will be

well prepared to succeed in college. An enumeration of the benefits are to be derived from Project JEM. These include:

- * Provide access to information about careers in mathematics, science, computer science, and related technical areas to rural African American males as described in the goals and objectives of the U.S. Department of Energy;
- * Inspire and encourage rural African American males to pursue and enroll in a course of higher education;
- * Enhance the quality of academic preparation for rural African American males and strengthen their self-awareness and ethnic pride; and
- * Establish a longitudinal research project which will track their progress and career aspirations and choices through out secondary school and college.

SPECIFIC PROJECT OBJECTIVES

The primary intent of the program is to establish a project which can be used to determine the basic components necessary for successful training and mentoring programs for rural African American males: The specific objectives are:

- 1) increase the accessibility of information about academic preparation and career opportunities in mathematics, science, and computer science for talented rural African American Males,

- 2) conduct a pre-college project for African American males and their parents designed to develop a sense of values, racial identity and self-esteem;
- 3) produce a model longitudinal research project which tracks the academic progress and career choices of African American males who participate in this pre college program.

IDENTIFICATION AND RECRUITMENT

African American males from grades four (4), five (5), and six (6) have been nominated by principals, teachers, and guidance counselors. A committee composed of Jarvis Christian College faculty and staff members oversee the application recommendations and selection process. Criteria is based on school attendance, a written statement in the student application, recommendation of teacher, counselors, grade reports, citizenship, and leadership ability. A total of twenty students have been recruited and enrolled in the Project. It is anticipated that the college will increase the number to thirty for the 1997-98 program period.

PROGRAM THRUST

Project JEM consists of three major thrusts: (a) A four (4) week summer residential program; (b) an after school, academic year, mentoring and tutoring component; and (c) a parenting partnership component.

Summer Residential Program - The residential program will consist of a four (4) week academic enrichment program consisting of daily classroom experiences in mathematics, science, computer science and communications (writing skills). The College will provide housing, meals and on campus recreational activities. Following the daily classroom experiences, students will devote one hour per day to developing and completing laboratory projects; two hours to physical fitness, and one hour daily to activities to promote self-esteem.

ACADEMIC ENRICHMENT COURSES

Mathematics - The mathematics enrichment class is taught by professional mathematicians and scientists at the masters and doctoral levels. The courses begins with arithmetic and moves into algebra and more advanced concepts as students become accustomed to the demands of the program. Teachers use the discovery method of teaching mathematics. This reduces anxiety students have about mathematics and stimulates their interest in developing analytical skills.

Science - The science classes are taught by professional teachers and college professors. Guest lecturers from energy related backgrounds complement classroom experiences. The primary objective of the science classes is to conduct experiments that illustrate everyday answers to questions that young people have about their environment and which have a scientific explanation (force, gravity, motion, body functions, muscular systems, etc).

Computer Science Laboratory - The computer science laboratory is taught by a variety of professionals from across disciplines, but primary emphasis ranges from basic understanding of computers, computer programming and simulation activities related to scientific and mathematics contents. Students have the freedom to experiment with programming computers, working with commercial software programs, and gaining an awareness of the possibilities of technology as it relates to national databases, such as Internet.

Recreational and Physical Fitness - The recreational and physical fitness component is taught by certified physical education professional, nutritionists, health care professionals, and environmentalists. Classes consist of structured calisthenics, aerobics, and weight training. Unstructured activities include swimming, camping, hiking, fishing, and horseback riding. Portions of the classes are devoted to drug abuse awareness, foods and nutrition; and personal, community and environmental health.

Cultural Enrichment Activities - Cultural enrichment includes both on-campus and off-campus activities. Campus musicians formulate the Project JEM glee club and introduce students to a variety of musical compositions. Off-campus activities include evening outings to theater productions and concerts held in Longview, Tyler and Dallas.

Field Trips - Educational and cultural enrichment field trips are scheduled to historical Jefferson, Texas, Smith County Jail, Tyler, Texas, TAMCO Utilities, Mount Pleasant, Texas and Tyler Fire Department, Tyler, Texas.

Academic Year - After School Mentoring and Tutoring Component - Students enrolled in the Jarvis Christian College Community Service Partnership Program will provide mentoring and tutoring services for the academic year, after school mentoring and tutoring component. These students will spend a minimum of seven (7) hours per week involved in working with Project JEM participants, on-site, and at their respective school/campuses. Participants will receive mentoring and tutoring in the areas of mathematics and science. This component will also provide study skills, as well as writing and reading activities, to ensure that the students are prepared to pass the statewide standardized testing requirements for secondary school graduation (TAAS) and college entrance (TASP).

Parenting Partnership Component - A part of the program includes joint involvement of students and parents. As youngsters grow and mature it becomes necessary for parents to receive information that assists them guide their sons toward college preparation and ultimate admission and graduation. Workshop activities include sessions for parents on assisting their children in selecting courses in junior and senior high school that will prepare them for college. These activities also assist parents in planning and paying for college costs. Presentations are made concerning the availability and process of financial aid and how to qualify for financial aid and the various merit-based awards that are available. There are also sessions on self-awareness and development of positive self-concepts for students and ways in which parents can assist this in occurring. Topics involve exchanges regarding peer pressure, human sexuality and

development, drug abuse, cultural awareness, and the development of a positive self image.

PROJECT EVALUATION AND RESEARCH COMPONENT

The evaluation process is coordinated by the Program Director and all aspects of the program evaluation are carried out by a five member evaluation team composed of individuals directly involved in the planning, development and implementation of the Program. The evaluation process will consist of both formative and summative evaluations:

Formative Evaluation - The administrative management of the program will be analyzed through data obtained on standardized evaluation forms and questionnaires distributed to participants. Data collected will be utilized to identify weaknesses in the management and operation of the Program so that corrective measures can be implemented. Evaluations will be collected from four (4) sources: (1) review of the original proposal to ensure that guidelines are followed and requirements have been met, (2) periodic budget reviews to ensure compliance and adherence to the approved budget, (3) faculty and staff evaluations conducted by the Program Director, and (4) student evaluations of the faculty/staff, academic curriculum, and student support programs.

Data will be analyzed to determine the extent to which the Program adheres to the original proposal the guidelines, policies, and requirements of the grant. This will include fiscal management of the budget, competence and effectiveness of personnel, the quality and effectiveness of the academic program, curriculum development programs, and student support service programs, as well as the overall organization and administrative of the program components.

Summative Evaluation - The overall success of the Program in relation to the stated goals and objectives will be measured through the collection, evaluation, and dissemination of data collected regarding Program Impact, Institutional impact, and Student Progress, Performance and Accomplishments. Data will be collected from two (2) main sources: (1)

Documentation of student enrollment statistics, course enrollment statistics, and course offerings and (2) Documentation of student records to include: grade reports, scholarship awards, participation in special programs and internships, retention rates, graduation rates, degree plans, and subsequent follow-up of graduate school matriculation and employment in professional fields.

The Program Director will be responsible for obtaining all evaluation data. Standardized reporting instruments and questionnaires will be utilized to retain consistency and accuracy of reports. Analysis of data will include frequency counts, cross tabulations, and multi-variate and pathways analysis approaches to track and monitor program evaluation. All data will include frequency counts, cross tabulations, and multi-variate and pathways analysis approaches to track and monitor program evaluation. All data will be subject to measurable outcomes in relation to the general goal and objectives of the program.

Results of both formative and summative evaluations will be reported in an annual report. The report will be published and made available to all stakeholder and other interested parties.

QUALIFICATIONS OF PERSONNEL

Mr. William Hampton - Program Coordinator

M.S. East Texas State University, 1979
Educational Technology

B.S. Jarvis Christian College, 1978
Secondary Education

Mr. Hampton has worked at Jarvis Christian College since the fall of 1978. He currently serves the College as a Library Specialist and directs the functions of the campus media center. Mr. Hampton has gained extensive experience through his work with the Upward Bound Program, the

National Youth Sports Program, and the Advanced Summer Enrichment Program. He also serves as mentor in the campus mentoring program, advisor for the Pan Hellenic Council, advisor for the Phi Beta Sigma Fraternity and the advisor for the Alpha Kappa Mu Honor Society.

Dr. Mary McKinney - Assistant Program Counselor

Ph.D. Kansas State University, 1976
Mathematics and Chemistry Education

M.S. East Texas State University, 1966
Mathematics and Earth Science

B.S. Texas College, 1961
Mathematics and Chemistry

Dr. McKinney, Chair of the Division of Freshman Studies and Professor of Science, has extensive experience as a scientist, mathematician and successful administration of pre-college programs. She has served at Jarvis Christian College for the past 27 years, where she has been successful in receiving external funding and implementing College programs such as the Advanced Summer Enrichment Program. Dr. McKinney works directly with the Upward Bound Program, and serves as the Title II "Improvement and Refinement of Academic Instruction" Coordinator. She also is a volunteer tutor and mentor for the College.

Mrs. Semia Young - Science Teacher

B.S. Jarvis Christian College, 19
Elementary Education

M.S. Stephen F. Austin

Mrs. Emma Colquitt - Mathematics Teacher

B.S. Jarvis Christian College

M.S.

Public School Teacher - Health and Physical Education Teacher

Requires a B.S. degree

JARVIS CHRISTIAN COLLEGE

Jarvis Christian College, a private four-year, coeducational, liberal arts institution is located in Hawkins, Texas. This rural piney woods town in East Texas is small, sparsely populated and in a county characterized by an economy based upon the development of natural resources. The College is two miles east of Hawkins (population 1309), eight miles north of Winona (population 457), and five miles west of Big Sandy (population 1348), all relatively small towns with outer edges of various other small communities. The City of Tyler is thirty miles south; Longview is thirty-five miles east. The campus is the focus point for cultural, educational, and economic developments. The campus is an ideal location for offering enriching experiences to youth from surrounding small towns in the piney woods of East Texas.

ADEQUACY OF FACILITIES

The campus of Jarvis Christian College is ideal for a summer science, mathematics, and computer enrichment program for young African American males who are separated from the urban setting and opportunities for day campus, summer job neighborhood programs, and activity centers. The campus offers science, mathematics, and computer laboratories, in addition to a biomedical research center funded by the U.S. Department of Defense, U.S. Army Research. An Olympic sized indoor pool,

fitness room, dance studio, piano and music rehearsal halls, and other activity rooms comprise a physical education complex. The landscape offers 250 acres of hiking, fishing, baseball, tennis and outdoor camping areas. The faculty possess credentials necessary to motivate youth into becoming successful in their respective science and mathematics school programs.