



New Mexico State University College of Engineering

Las Cruces Prefreshman Engineering Program 2005 Annual Report

Proyecto Access



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Letter from the Dean

On behalf of the New Mexico State University's College of Engineering, I am extremely excited about the Prefreshman Engineering Program (PREP). This is a unique and challenging program that opens the doors of discovery and opportunity to the students in Doña Ana County. Of the more than 500 students have participated in this seven-week summer program since it began in 1997, 217 are now college age. The majority of these students have gone on to college. This is a wonderful success story.

PREP provides an opportunity for achieving pre-college students to participate in an academically intense program designed to prepare them for careers in science, engineering, and mathematics. The students are exposed to a variety of learning experiences from classroom instruction, guest lectures, hands-on experiments and field trips that are designed to excite, stimulate and prepare them for the rapidly changing technological and engineering world.

PREP is also undergoing change. For the past seven years Alyne Fulte has given the program a solid foundation on which to build. Ms. Fulte's talents are now being used to help students succeed at the collegiate level. We owe Ms. Fulte our most sincere thank you for a job well done and wish her continued success in her new position within the College of Engineering.

In 2006 PREP will be under the leadership of Karen Mikel of WERC: A Consortium for Environmental Education and Technology Development. Ms. Mikel brings to the program balanced experience in classroom teaching and the private sector. Her vision for PREP will continue to evolve the core curricula and expand the number of students able to participate in the program.

I am looking forward to the upcoming year and being able to share my passion for the College of Engineering with all the participants of PREP.

Sincerely,



Steven P. Castillo
Dean, College of Engineering
NMSU Regents Professor





Executive Summary


“I have learned that the purpose of an engineer is not only merely an inventor, but in many ways a protector of the people. Where would we be right now without engineers? Would there be tall buildings?, would there be bridges? Surely a person can invent anything, but who makes sure it works, it is safe, or if there are any flaws or better adjustments to be made? The answer is the engineer.”

- Former PREP Participant

Las Cruces Prefreshman Engineering Program (PREP) recruits achieving pre-college students for a seven-week, academically intense, summer program with the goal of preparing them for careers in science, engineering and mathematics (SEM). Courses such as logic, algebraic structures and physics stimulate our participants’ interest in higher mathematics and science. Problem-solving sessions equip them with the necessary tools and desire to complete pre-calculus and calculus during high school. Most importantly, through Friday field trips and Career Awareness Seminars, these students get to meet and interact with professionals who instill the vision and passion to become the scientific leaders of tomorrow. Participants may begin the program as early as sixth grade, and attend for three years prior to college entrance. Although Las Cruces PREP is open to everyone, the program focus is on female and minority populations traditionally underrepresented in the science, engineering and mathematics fields.

Las Cruces PREP is a member of a national consortium of Hispanic-serving institutions called Proyecto Access. The purpose of the Proyecto Access consortium is to spread the highly acclaimed Texas Prefreshman Program (TexPREP) nationally. The National Aeronautics and Space Administration (NASA) began funding the Proyecto Access program in 1997 through the Hispanic Association of Colleges and Universities (HACU). In 2002, the University of Texas, San Antonio, assumed responsibility from HACU for the program. From 1997 to 2004, NASA renewed the Proyecto Access Grant. Although increasing the participation of disadvantaged Americans in science, engineering and mathematics is important nationally, this challenge is especially critical in New Mexico as our state has the highest proportion of Hispanics and the third highest proportion of Native Americans than any other state in the United States. Furthermore, New Mexico ranks 46th among the 50 states in per capita income. Doña Ana County, the primary focus of Las Cruces PREP, ranks 20th out of 33 counties for per capita income in New Mexico. This county is largely agrarian and resides on the southern Rio Grande Corridor where 54.4 percent of the population (age five and older) speaks a language other than English at home. The three participating school districts are Las Cruces Public Schools, Gadsden Independent School District and Hatch Valley Public Schools.

Since the program’s inception in 1997, Las Cruces PREP has had 511 students complete PREP 1, 306 students complete PREP 2, and 203 students complete PREP 3. Approximately two-thirds of our former participants who completed PREP 1 returned to complete PREP 2. Our PREP 2 to PREP 3 retention rate is approximately 77 percent. This year, a total of 142 students completed one of our PREP components with a summer retention rate of 95 percent. More than three-quarters (76 percent) of our population were underrepresented minorities and 55 percent were female.




Of the 511 students who have successfully completed PREP 1 since 1997, 217 are now college age. One hundred forty-nine of these students responded to our follow-up survey. The results of the survey were:

- 136 PREP students are currently in college, 12 PREP students are college graduates, and two PREP students are in the military,
- 100 percent of those who returned the survey are high school graduates,
- 52 percent of the college attendees are majoring in science, engineering and mathematics fields,
- 83 percent are members of underrepresented minority groups,
- 54 percent are female,
- 90 percent of those currently in college are enrolled at New Mexico State University, and
- 93 percent are attending universities in New Mexico.



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Las Cruces Prefreshman Engineering Program (PREP) 2005 Annual Report

I. Program Description

A. History/Background

1. Proyecto Access

Proyecto Access was founded in January 1997 when NASA awarded a \$1 million grant to the Hispanic Association of Colleges and Universities. The purpose of the project, called Proyecto Access, was to form a consortium of Hispanic-Serving Institutions that would replicate the highly successful TexPREP outside the state of Texas. PREP was founded in 1979 by Dr. Manuel Berriozábal, professor of mathematics at the University of Texas, San Antonio. The program recruits achieving, pre-college students for an eight-week, academically intense, summer program. The goal of this program is to prepare the students for careers in science, engineering, and mathematics. Although PREP is open to all, PREP particularly targets women and underrepresented minorities. Participants may begin the PREP program as early as sixth grade and attend for three years prior to college entrance.

PREP offers its participants special courses in logic, algebraic structures, physics and technical writing. Problem-solving seminars equip them with the necessary tools and desire to complete pre-calculus and calculus in high school. Speakers from academia and industry offer personal insight into a wide variety of career choices through daily career awareness seminars. On Fridays, participants go on field trips to places where engineering, science and mathematics are used on a daily basis.

In 2005, there were six Proyecto Access sites:

- Community College of Denver, Denver, CO;
- Florida International University, Miami, FL;
- Hostos Community College, Bronx, NY;
- International American University of Puerto Rico, Bayamon Campus
- New Jersey City University, Jersey City, NJ; and
- New Mexico State University, Las Cruces, NM.

2. New Mexico State University

New Mexico State University (NMSU) was founded in 1888 as the state's land-grant institution and is currently the second largest comprehensive university in New Mexico. In 1997, NMSU first hosted the Las Cruces Prefreshman Engineering Program (PREP). Because of its cultural diversity and commitment to academic excellence, NMSU was selected as one of the original seven institutions in the Proyecto Access Consortium. NMSU's mission is to engage in research and provide education and service to the citizens of New Mexico and the southwest border region. NMSU is currently the only land-grant institution that is also classified as Hispanic-serving by the federal government and ranked by the Carnegie Foundation in the top research

category: Research Extensive. As a minority-serving, public research university on an international border, NMSU occupies a unique academic niche that it shares with no other post-secondary institution. New Mexico has the largest Hispanic population, and one of the largest Native American populations, of any state in the nation. In May 2003, NMSU was ranked 17th overall in number of bachelor's degrees awarded to Hispanics and placed in the top 10 in bachelor's degrees awarded to Hispanics in agriculture, education, engineering, home economics and protective services. Throughout its history, NMSU has preserved its land-grant traditions by becoming a leader in science, engineering and technology.

B. Purpose and Objectives

1. Statement of Need

Historically, socially and economically disadvantaged Americans have been underrepresented in science, engineering and mathematics (SEM) professions. A few examples that highlight the education disparity between ethnic groups, especially in the SEM fields, are as follows:

- African Americans, American Indians and Hispanics represent about 18 percent of our nation's workforce, but less than 5 percent of scientists and engineers.
- About 64 percent Hispanics ages 18 through 24 have completed high school, as compared to 92 percent of Anglos and 84 percent of African Americans.
- Only 11 percent of Hispanics ages 25 years and over have received a bachelor's degree or higher, as compared to 28 percent for Anglos.

With a growing diversity of new entrants into the labor force, this pool of talent can no longer be overlooked in meeting the nation's increasing demand for a well-trained technological workforce. Although increasing the participation of disadvantaged Americans in SEM is important nationally, this challenge is especially critical in New Mexico as:

1. Our state has the highest percentage of underrepresented minorities than any other state. New Mexico has the highest proportion of Hispanics (41 percent), with California being the second (32 percent). New Mexico has the third highest proportion of Native Americans (11 percent), falling only behind Alaska (19 percent) and Oklahoma (11 percent), but well above the national percentage of 1.5 percent.
2. New Mexico ranks 46th among the 50 states in per capita income. Furthermore, Doña Ana County ranks 20th out of 33 counties in per capita income in New Mexico.
3. In Doña Ana County, 54 percent of the population (age five and older) speaks a language other than English at home. This compares to the New Mexico percentage of 37 percent and the national average of 18 percent.
4. In New Mexico, there is a tremendous K-12 science and mathematics achievement gap between ethnic groups.
 - On the 2002 Terra Nova – 9th grade, Anglos scored an average of 2.5 mean grade equivalents higher than Hispanic students and an average of 4.0 mean grade equivalents higher than Native American students.
 - On the 2002-2003 New Mexico High School Equivalency Exam - 10th grade, 85 percent of all Anglo students passed all subtests on the first attempt. This

compares to only 61 percent of Hispanics and 49 percent of Native American students.

2. Our Objectives

The objectives of Las Cruces PREP are to:

- Help fill New Mexico's need for highly qualified scientists and engineers,
- Expose economically disadvantaged and underrepresented minority students to professional opportunities in science and engineering,
- Expose these students to the use of innovative technology,
- Prepare these students at the pre-college level for satisfactory pursuit of science, engineering, and mathematics,
- Increase the retention rate of those students in college, and
- Instill an attitude of personal responsibility, hard work and discipline.

C. Program Timetable

Timetable for Las Cruces PREP 2005	
January February	Las Cruces PREP Director makes presentations to math and science faculty of all middle schools in Doña Ana County.
March	Application deadline for Las Cruces PREP (<i>March 1</i>). Process student applications. Interview and hire staff. Attend Summer Food Service Program Sponsor Training.
April	Deadline to notify students of acceptance status (<i>April 1</i>). Recruit guest speakers for Las Cruces PREP Career Awareness Seminars; Schedule field trips; Schedule rooms; Deadline for Summer Food Service Sponsor application.
May	Parent orientation. Ensure all accepted participants have submitted proper participation forms.
June	Staff Orientation; Las Cruces PREP in Session
July	Las Cruces PREP in session; Annual Rocket Launch Competition and Robot and Bridge Building Competitions (<i>July 15</i>); Las Cruces PREP 8 th Annual Closing Assembly (<i>July 22</i>).
August	Final grade reports to schools; Compile statistics for Annual Report.
September	Begin fundraising for PREP 2006; Complete 2005 Annual Report.
October	Attend numerous school board meetings; Prepare application brochures for Las Cruces PREP 2006.
November	Schedule visits to schools for Las Cruces PREP 2006.

D. Participant Daily Schedule

Below is a typical daily schedule (Monday - Thursday) for the PREP program:

Time	Event
8:15-8:35	Staff Meeting
9:00	Roll Call
9:05-9:50	Career Awareness Seminar
10:00-10:50	Logic (<i>PREP 1</i>) Algebraic Structures (<i>PREP 2</i>) Probability and Statistics (<i>PREP 3</i>)
11:00-11:50	Engineering/Computer Science (<i>PREP 1</i>) Physics (<i>PREP 2</i>) Technical Writing (<i>PREP 3</i>)
12:00-12:30	Lunch
12:35-1:05	Recreation at Park
1:05	Roll Call
1:15-2:05	Problem Solving Seminar (<i>All Levels</i>)
2:15-3:30	Research and Study (<i>All Levels</i>)
3:30	Dismissal

E. Participant Recruitment Efforts

During the month of January 2005, appointments were made to make presentations to the math and science faculty of each of the middle schools of Gadsden Independent School District (GISD), Hatch Valley Public Schools (HVPS), and Las Cruces Public Schools (LCPS) according to the schedule below.

January 5	Gadsden Middle (GISD)
January 6	Camino Real Middle (LCPS)
January 7	Vista Middle (LCPS)
January 11	Hatch Valley Middle (HVPS)
January 12	White Sands Middle (LCPS)
January 14	Mesilla Valley Christian (LCPS)
January 18	Sierra Middle (LCPS)
January 20	Holy Cross (LCPS)
January 21	Zia Middle (LCPS)
January 24	Santa Teresa Middle (GISD) Chaparral Middle (GISD)
January 27	Picacho Middle (LCPS)

The presentations included a brief explanation of the Las Cruces PREP program and a short synopsis of the results of the 2004 program. Student brochures and applications were given to the faculty members at this time. Applications were also sent to the previous year's PREP 1 and

PREP 2 students inviting them to return as PREP 2 and PREP 3 students, respectively. All applications were returned by mid-March. Since more students applied than Las Cruces PREP could accommodate, a selection process was implemented.

F. Participating School Districts and Schools

The principal target population for LC PREP is Doña Ana County. Doña Ana County is 63 percent Hispanic, 32 percent Anglo, 1 percent Asian/Pacific Islander, 2 percent African-American, and 2 percent Native American. (2000 U.S. Census Bureau – Doña Ana County, New Mexico – Quick Facts Web Site). The three school systems targeted in Doña Ana County for the 2005 program were Gadsden Independent School District (GISD), Las Cruces Public Schools (LCPS), and Hatch Valley Public Schools (HVPS). Las Cruces PREP targeted all middle schools from each of these districts.

The middle schools of GISD are Chaparral Middle, Santa Teresa Middle and Gadsden Middle. The population they serve is 90 percent Hispanic. Because many of the residents are migrant farm workers, they live on an income well below the poverty level. In fact, 62 percent of the students served by GISD qualify for the free/reduced lunch program. Two-thirds qualify as limited English proficient.

The LCPS system currently operates seven middle schools: Camino Real, Lynn, Picacho, Sierra, Vista, White Sands and Zia. The ethnicity breakdown of the LCPS student population is as follows: 68 percent Hispanic, 28 percent Anglo, 2 percent African-American, 1 percent Asian, and 1 percent Native American. Fifty-nine percent of these students qualify for the free/reduced lunch program.

HVPS is composed of one middle school, Hatch Valley Middle. At the current time, 64 percent of the students attending HVPS live on incomes below the poverty level. Hatch is also experiencing a 36 percent unemployment rate. Because their economy is largely agrarian, this is not likely to change in the near future. All students attending HVPS are eligible to receive free breakfast and lunch under Provision II. The ethnicity breakdown of the students is as follows: 92 percent Hispanic and 8 percent Anglo.

G. Participant Eligibility and Selection Criteria

During the current academic year, all applicants must have an:

- 80 percent overall average in their academic courses.
- 80 percent average in their mathematics course (90 percent for sixth/seventh graders).
- 80 percent average in either their science or English course (90 percent for sixth/seventh graders).

These requirements are adjusted to 75 percent (80 percent for sixth/seventh graders) for honors, enriched, or gifted courses. A rating system that considered the student's academic performance,

application essay, teacher recommendations and other socio-economic circumstances was used in the selection process.

H. The Basic PREP Academic Components

All Las Cruces PREP participants commit themselves to seven weeks of intellectually demanding classes and laboratories. All participants are expected to maintain a 75 percent average or better performance standard throughout the program. Each student earns a final grade that is reported to his/her school for high school graduation elective credit.

PREP 1

- **Logic and Its Applications to Mathematics (7 weeks)** The use of Statements, Negations, Conjunctions, Disjunctions, The Conditional, Tautologies, Converse, Inverse and Contra positives in Truth Tables, Elementary Set Theory, Boolean Algebra, and Switching Circuits.
- **Introduction to Engineering (3.5 weeks)** Philosophy of Engineering, History of Engineering, Engineering Professionalism, the Engineer as a Communicator, the Engineering Workplace, Engineering Career Preparation. *Engineering Team Projects:* security systems, egg drops, bridge design, solar reflectors and rockets.
- **Introduction to Computer Science (3.5 weeks)** Explanation of basic hardware and software components, Development of algorithms through flowcharts, Basic *write, read,* and *loop* commands in either Basic, C++ or Pascal, Introduction to Microsoft Office Suite, and Web Page Design.
- **Topics in Problem Solving (Seminar) (7 weeks)** various topics from Pre-Algebra and Algebra.

PREP 2

- **Algebraic Structures (7 weeks)** the study of groups, rings and fields including the use of integers, rational numbers and modular arithmetic and symmetry groups as models.
- **Introduction of Physics (7 weeks)** A potpourri of study from the following topics: The study of Motion, Newton's Laws, Energy and Conservation Laws, Temperature and Heat, Physics of Matter, Waves and Sound, Electricity, Electromagnetism and EM Waves, Optics.
- **Topics in Problem Solving (Seminar) (7 weeks)** various topics from Algebra and Geometry.

PREP 3

- **Introduction to Probability and Statistics (7 weeks)** *Introduction to Probability:* Counting Procedures, Addition Rule, Multiplication Rule, Independence, Permutations and Combinations. *Introduction to Statistics:* The Normal Distribution, Tables and Charts, Measures of Center, and Measures of Spread.
- **Technical writing (7 weeks)** a potpourri of study from the following topics: Styles of Writing, Choosing a Research Topic, Writing a Thesis Statement, Conducting and Interview, Creating a Questionnaire, Creating an Outline, Paraphrasing and Editing, Using Multimedia.

- **Topics in Problem Solving (Seminar) (7 weeks)** various topics from Geometry, Trigonometry and Calculus.

All PREP Students

- **Research and Study (7 weeks)** this is a time dedicated to completing tasks. PREP instructors and mentors are available to give one-on-one help with assignments. Participants are given time to check out books in the library and to check their PREP e-mail accounts. It is also a time where students write in their daily journal regarding the PREP speaker of the day.
- **Career Opportunities Awareness (7 weeks)** Invited speakers from local and state high technology industries discuss current and future professional engineering and science opportunities, their own work, and a biography of their professional development. Special technical presentations, field trips to high technology industries, college preparatory expectations, and college financial aid.

I. Program Staff

1. Administrative Staff

Alyne Fulte is a College Associate Professor in the Klipsch School of Electrical and Computer Engineering at New Mexico State University. She is currently the director of the Las Cruces Prefreshman Engineering Program (PREP). Alyne was the original PREP director for five years (1997-2001) and in this capacity she wrote, submitted, received and administered over \$1.2 million in grants and gifts. Alyne earned her B.S. degree in mathematics from Oklahoma Panhandle State University in 1986 and her M.S. degree from Baylor University in 1993. During the 10-year period, 1994 to 2004, Alyne taught a variety of courses (calculus, pre-calculus, trigonometry, algebra, mathematics appreciation and mathematics for elementary education majors) in the Department of Mathematics at NMSU. In the next few years, Alyne plans to complete her Ph.D. in Curriculum and Instruction.

Jennifer Alexander is the administrative secretary for the PREP program. She is a junior at NMSU and is aiming for a degree in Hotel, Restaurant and Tourism Management.

Eunice Angulo is a student assistant for the PREP office. She is majoring in Business Administration.

2. Instructors

Bill Curtis has been a Science/Math teacher at Vista Middle School since 1989 and is a veteran instructor for Las Cruces PREP. He is the advisor of both the *MESA* and *Adventures in Super Computing* programs at his school. Bill loves to do interesting things with the kids; such as bottle rocket launches – single stage, double stage, and with protected eggs. This year marked Bill's 9th anniversary with PREP.

Paul Furth has 10 years of teaching experience at NMSU. He teaches computer programming, electronics, and integrated circuit design at undergraduate and graduate levels in the Electrical and Computer Engineering Department. This was Paul's first year as a PREP instructor, teaching Engineering and Algebra 1.

Susie Gabaldon (see figure 2 below) attended NMSU for her first three years of college then transferred to Eastern New Mexico University for her last year. Susie has her B.S. in Elementary Education and is now working toward her Master's in EMD. She is expected to graduate in May of 2007. She just started her eighth year of teaching in the middle school setting. She teaches Math at Vista Middle School. This was Susie's first year with the PREP program.

Renna Haag (see figure 1 below), three-time PREP mentor, began her first year as an Instructor for PREP. In May of this year, she received her bachelor's in Industrial Engineering. Renna came to PREP with a great deal of experience as a classroom assistant and tutor in the Math Learning Center. Her other experience includes being an after school program, volunteer instructor at MacArthur Elementary School and an engineering trainee at the Physical Science Laboratory.

Eric Moreno received his B.S. in Mathematics from NMSU in May 2002 and currently works as a Graduate Assistant in the Department of Mathematical Sciences.

Sharon Schadler received her B.S. degree in Mathematics and Chemistry from Pan American University in 1970. Sharon is a veteran teacher in the Las Cruces Public School System. She worked at Las Cruces High School from 1975 to 1998, where she chaired the Mathematics Department. In August 1998, Sharon transferred to Oñate High School, where she retired from LCPS in May 2000. She began teaching in Canutillo, Texas, after her retirement. In 2002, Sharon completed her Master's degree in Curriculum and Instruction with an emphasis on Learning Technologies. After two years at Canutillo High School, she accepted a new position: Lead Technology Teacher. This summer Sharon completed her 9th consecutive summer with PREP.

Gloria Valdez has been with PREP since 1998, working as a lead mentor, office facilitator, and summer food coordinator and this year as an instructor. She received an Associate of Applied Science in Computer Drafting from Doña Ana Branch Community College in fall 1994 and a B.S. in Secondary Mathematics Education from NMSU in fall 2001.



Figure 1 - Instructors in Action!



Figure 2 - The Joy of Teaching

3. Program Assistant Mentors

Jennie Giron is a junior at NMSU majoring in Civil Engineering. She is involved in the NMSU Pride Marching Band and NMSU Dance Sport, Competitive Latin and Ballroom dancing team. This was Jennie's first year working with the PREP program.

Monique Jackson is currently a sophomore at NMSU. She is working on her bachelor's in Biology (pre-med). Her main career goal is Anesthesiology. This was her first year as a mentor for PREP.

Andrew Peña (a former PREP participant) is currently a sophomore at NMSU, majoring in Electrical Engineering. Andrew is a member of the Pride of New Mexico Marching Band.

Alex Podruchny (a former PREP participant) will be a junior at NMSU this upcoming fall semester. He is majoring in Computer and Electrical Engineering Technology and plans to graduate with his Bachelor's in December of 2007. This year was Alex's first summer working for the PREP program.

Brady Rocks (a former PREP participant) is a senior at NMSU and is aiming for a degree in Math, with a minor in Physics. Brady has also been a volunteer for the New Mexico BEST Robotics Competition. He has been a mentor for PREP for two years.

Megan Schadler is a senior at NMSU and will be starting the nursing program this fall. She attended PREP some years ago, and now served as a mentor.

Jonathan Trejo graduated from Santa Teresa High School in 2003 and is now attending NMSU. He is seeking a degree in Electrical Engineering Technology and is currently classified as a junior. He is a Crimson Scholar, member of Phi Eta Sigma and the National Society of Collegiate Scholars. Jonathan is also on the Dean's List. He is planning on pursuing a Master's degree in Electrical Engineering once he receives his Bachelor's. This was Jon's first year as a mentor.



Figure 3 - Mentors accompany PREP students to Presiado Park at NMSU for lunch and other activities.

4. Counseling

Merranda Marin holds a Master's Degree in Marriage and Family therapy. She has worked in community mental health and also has extensive experience working with children. As a former elementary school counselor, she recognizes the importance of providing students with support to further their educational goals. Merranda is currently a doctoral student in the Counseling and Educational program at New Mexico State University. She continues to teach and conduct research at NMSU in the area of learning modalities and student strengths.

II. Program Evaluation and Outcomes

A. Participant Recruitment, Selection and Retention Summary

Since the program’s inception in 1997, Las Cruces PREP has had 511 students complete PREP 1, 306 students complete PREP 2, and 203 students complete PREP 3. Approximately 70 percent of our former participants who completed PREP 1 returned to complete PREP 2. Our PREP 2 to PREP 3 retention rate is approximately 77 percent. Charts A and B, below, show the ethnicity and gender breakdown of our former participants, respectively.

Chart A – Ethnicity Breakdown

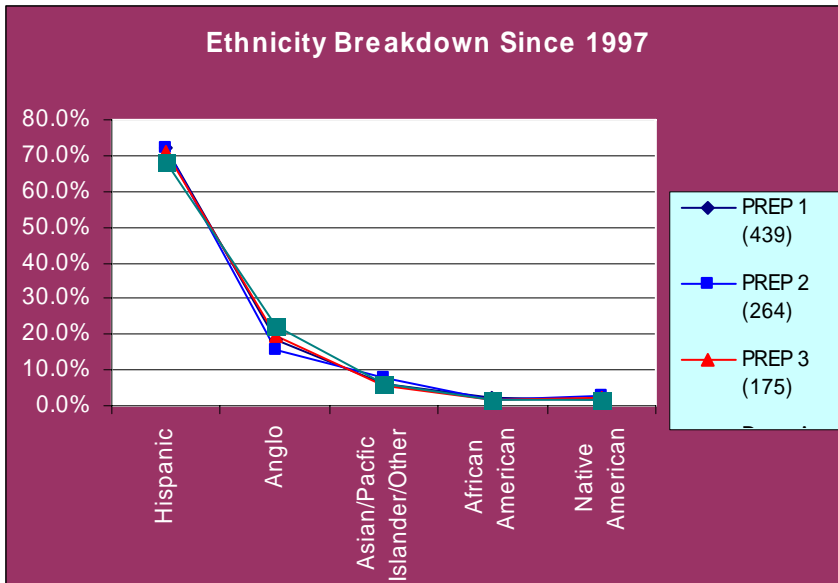
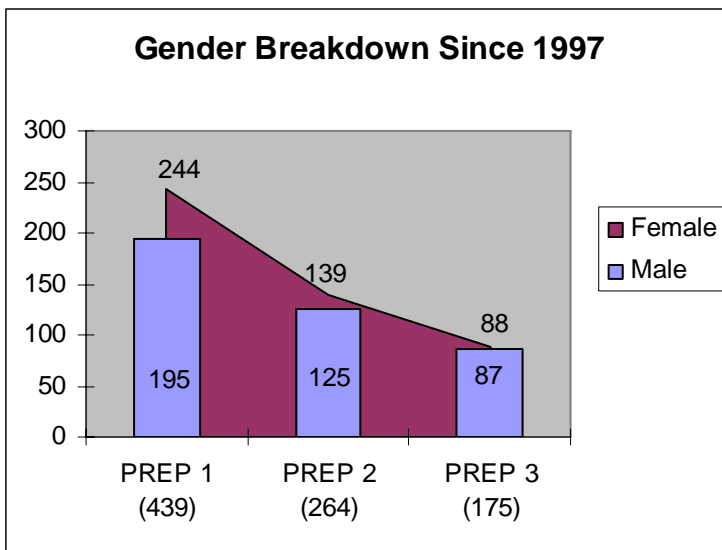


Chart B – Gender Breakdown



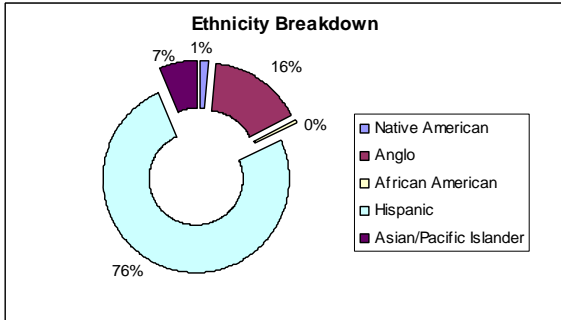
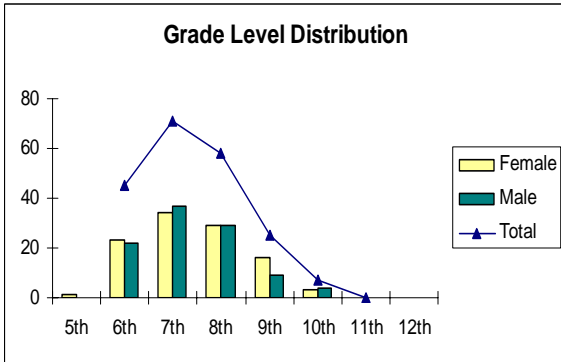
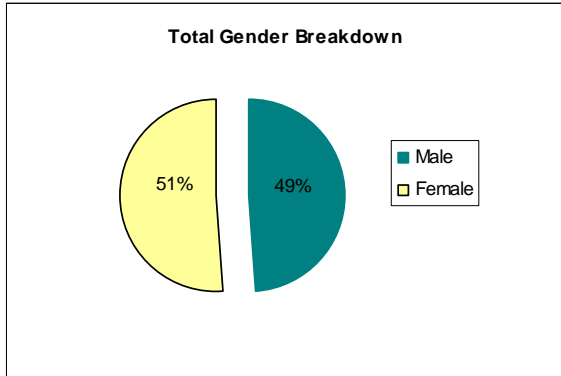
For the 2005 program, the program received a total of 207 applications. The program invited 163 students to attend Las Cruces PREP. Because of budget limitations, 44 applicants were placed on a waiting list. A summary of our summer retention and ethnicity/gender breakdown is given in the table below.

	<i>PREP 1</i>	<i>PREP 2</i>	<i>PREP 3</i>	<i>Overall</i>
<i>Total Number Invited:</i>	86	46	31	163
<i>Total Number Started:</i>	77	44	29	150
<i>Total Number Completed:</i>	72	42	28	142
<i>Summer Retention Rate (Number Completed/Number Started)</i>	94%	95%	97%	95%
<i>Ethnicity Breakdown of Completed</i>				
Hispanic	74%	81%	75%	77%
Anglo	18%	17%	16%	15%
Asian/Pacific Islander	6%	2%	6%	6%
African American	1%	0.0%	0.0%	1%
Native American	1%	0.0%	3%	1%
<i>Gender Breakdown of Completed</i>				
Female	54%	64%	47%	56%
Male	46%	36%	53%	44%

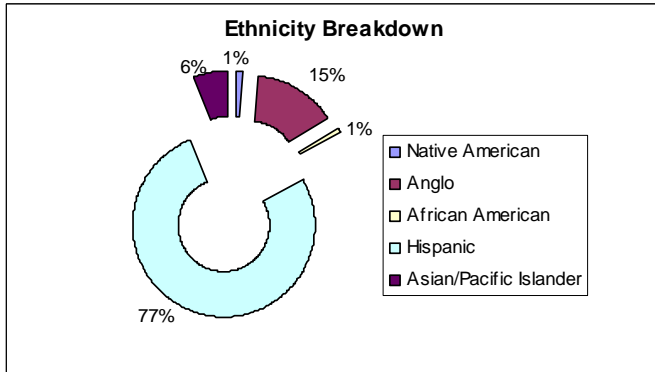
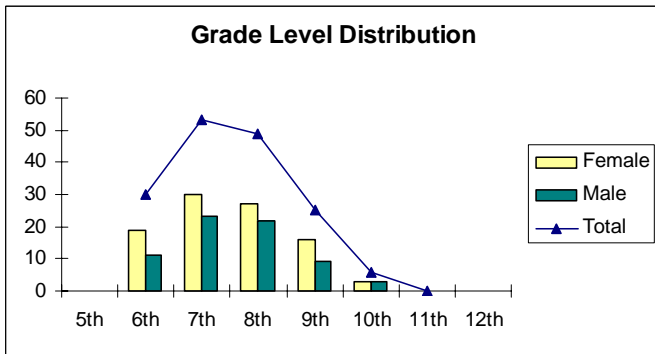
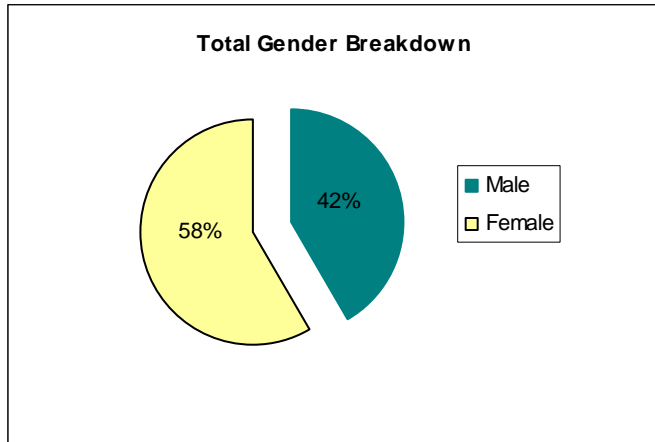
B. 2005 Grade/Ethnicity/Gender Raw Data

The following series of charts provide an overview of the program's statistical data by students that applied, were invited, started and completed PREP. Each category is presented by gender breakdown, grade-level distribution and ethnicity:

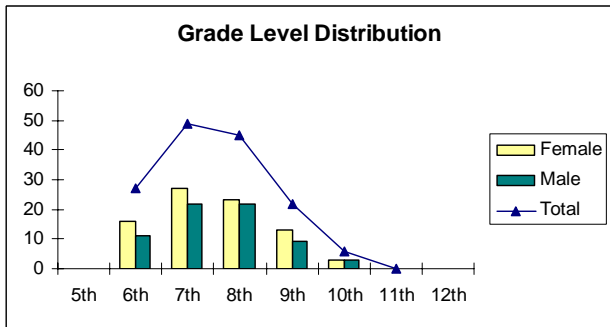
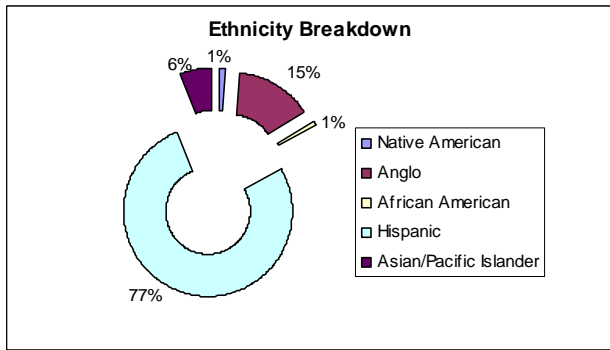
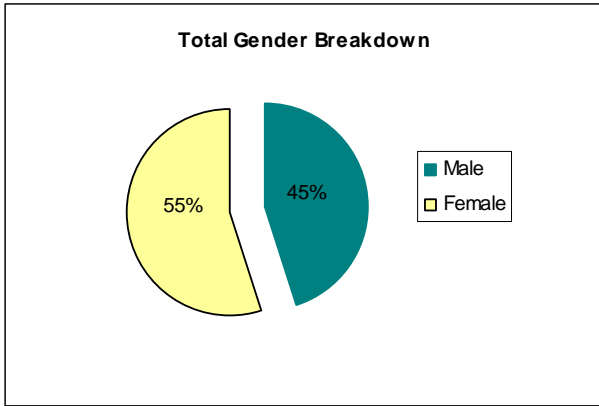
Of the 207 students who applied, the results were:



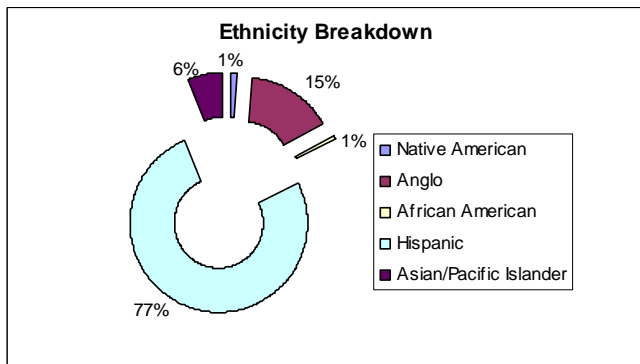
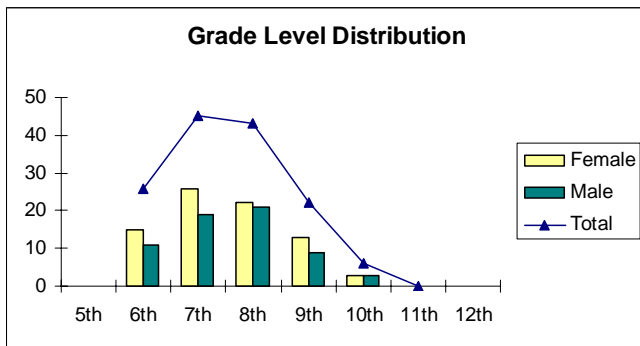
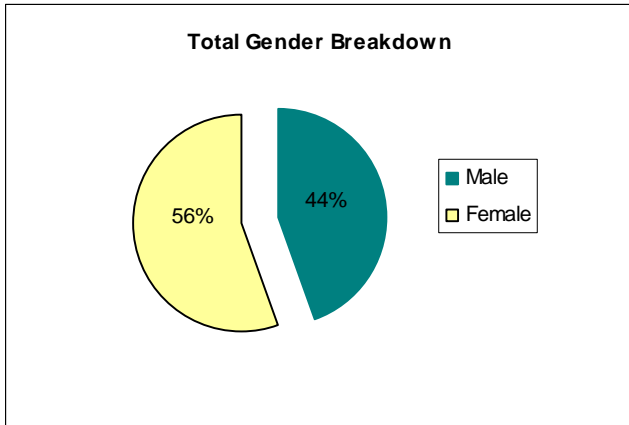
Of the 163 students invited to attend, the results were:



Of the 150 students who accepted the invitation and started, the results were:



Of the 142 students who completed the 2005 program, the results were:



Following is a list of students by school district that completed the program in 2005.

2005 Las Cruces PREP Graduates by School District

Gadsden Independent School District

1st Year Participants	2nd Year Participants	3rd Year Participants
Mayyadah Ahmad	Lizeth Armendariz	Isaac Dominguez III
Christopher Almonte	CJ Barberan	Fazzel Gurrola
Miranda Alvidrez	Joshua De Los Santos	Kevin Gutierrez
Mario Ascencio	Edwin Gamboa	Katherine Hansen
Steven Castillo	Destiny Hernandez	Jordan Harrison

Alan Chavez	Irving Hernandez	Amanda Holguin
Jose Corral	Natalie Kutchera	Daisy Lopez
Alejandra Dominguez	Eric Lucero	Maria Maldonado
Lee Anne Favela	Darrell Mesa	Karen Nehemiah
Jezheel Flores	Derrick Mesa	Angelica Rivera
Breanna Forbess	Myra Murillo	Gerardo Soria
Stephanie Garcia	Lo Gayle Olmos	Armando Vargas
Leonel Legarreta	Frankie Portillo	
Randy Morales	Carolina Rios	
Pamela Munoz	David Rodriguez	
Crystal Ochoa	Karla Rodriguez	
Dylan Ramirez	Claudia Salais	
Jeannie Ramirez	Erika Sanchez	
Diana Rodriguez	Jordan Slabe	
Maura Ronquillo	Krystalee Vigil	
Christian Salazar		
Alexis Santiago		
Cesar Soria		
Anna Lee Zamarripa		

Hatch Valley Public Schools

1st Year Participants	2nd Year Participants	3rd Year Participants
Aaron Bagley	Priscilla Banuelos	Natalie Duran
Katherine Cahill	Yadet Duran	Vanessa Martinez
Paul Candelaria	Guadalupe Jaramillo	Adrian Mejia
Derrick Fields	Katrina Krynitz	Laura Mejia
Erica Martinez	Melanie Lytle	Taylor Nunn
Sergio Pantoya	Salvador Morales	Matthew Ogaz
Elizabet Varela	Estevan Varela	Roman Pena
Erica Vasquez		
Tina Zuniga		

Las Cruces Public Schools

1st Year Participants	2nd Year Participants	3rd Year Participants
Erick Alvarez	Josepha Baca	Sophia Cheng
Serina Apodaca	Hillary Bennett	Michael Chieffo
Jonathan Beck	Brianna Bonfantini	Storm McNab
Abhishek Bhandari	Anna Cibils	Mark Norris
Elisa Cibils	Chris Corral	Pedro Olivas
Cesar De Luna	Isaac Duran	Alliandra Ornelas
Eddie Diaz	Micaela Legarda	Lauren Pincomb
Jose Enriquez	Sowmiya Murali	Jeffrey Wang
Arthur Kindig	Natasha Nesiba	

Elise Kowalski	Kristina Padilla	
Sarah Libeau	Kyle Purcell	
Lasemahang Limbu	Kathryn Sager	
Marco Lopez	Kara Shervanick	
Esteban Martinez	Ashley Valencia	
Charlotte McGee		
Evan Meza		
Santiago Meza		
Andrea Nunez		
Guillermo Nunez		
Mayra Olivas		
Caitlin Ortiz		
Joshua Pettit		
Sundeep Podila		
Anthony Sanzotta		
Dominic Sanzotta		
Kevin Schulmeister		
Angelic Sessions		
Elizabeth Soto		
Jenny Ting		
Diana Torres		
Shelby Van Arnam		
Rebekah Villa		
EJ Wilson		

Parochial Schools, Private Schools and Others

Holy Cross School		
1st Year Participants	2nd Year Participants	3rd Year Participants
Shannon Creegan	Yvonne Podruchny	Jonathan Lin
Mireya Jurado		
Rachel Kim		
Bianca Maese		
Cassidy Peterson		
Chloe Pina		



Figure 4 – The PREP students enjoyed lunch on the way to Carlsbad Caverns.

C. Voices of PREP 2005

The best way to hear about the benefits of PREP is first-hand from our returning participants.

The PREP program has been very beneficial towards my future goals. I plan on becoming an Obstetrician Gynecologist, in which I would most definitely need math and science. PREP has helped with that. In terms of educational goals, PREP has given me a small taste of college life. PREP has been highly beneficial. *–Gadsden High*

In my first year of PREP, when we built rockets, we learned basic trial and error techniques with sizes of nose cones and fins. Exposing me to these techniques will help me in every aspect of my college career and later, my adult career. Another way PREP has helped me was by assigning a project to research one kind of engineering. I chose Civil Engineering, and this helped me see that this was the right career for me. I also took a physics class. I have noticed that any future engineer needs to have an understanding of physics. Thanks to PREP I have won many achievement awards in school. *–Las Cruces High*

As I started going to PREP I realized that this wasn't a waste of my time. I enjoyed having hands-on experiences, and the speakers were interesting. As these speakers were talking, I became very interested in being an engineer. PREP gave me the information and tools I needed to succeed in the real world. I am glad that I can say that instead of staying home and watching T.V. all summer, I went to a summer program that will help my future. *– Gadsden High*

When we built those rockets for fun day, my rocket won from all of PREP 2. That is why I would become an engineer in the future, and then PREP can come and help me build a rocket or a car, or rocket car. PREP can help anybody in the long run for a career. *–Santa Teresa High.*

Going to the PREP program has helped me to become a more independent person. Meeting people and learning to work together. It has helped me to take my future more serious and to realize that anybody can do it. PREP has been a good learning experience and a good opportunity. *– Hatch Valley High.*

Since the PREP program, I have seen remarkable improvement in my grades. Also, my parents think that my attitude has improved and that I am much more involved in school activities. *–Santa Teresa High*

Not only did PREP help me education wise, but it helped me socially. I was able to make new friends that shared my same interests in science and engineering. *– Gadsden High*

D. Other 2005 Results

1. 2005 End of PREP Surveys

Student Evaluation - PREP I – 2005							
Indicate the grade level which you have just completed using the following scale:							
1.	A = 5 th	B = 6 th	C = 7 th	D = 8 th	E = 9 th AB = 10 th AC = 11 th		
Please respond to the statements below. Your input may help us offer a better program in the future. Please circle the response using the following scale:							
	SA – Strongly Agree	(5)					
	A – Agree	(4)					
	U – Undecided	(3)					
	D – Disagree	(2)					
	SD – Strongly Disagree	(1)					
					<u>SURVEY RESULTS</u>		
2.	This program has been an intellectual challenge for me.	SA	<input checked="" type="radio"/> A	U	D	SD	4.2
3.	The program reinforced my mathematical skills.	<input checked="" type="radio"/> SA	<input checked="" type="radio"/> A	U	D	SD	4.6
4.	The program made me knowledgeable about the math-based professions.	SA	<input checked="" type="radio"/> A	U	D	SD	4.3
5.	I was mathematically prepared to participate.	SA	<input checked="" type="radio"/> A	U	D	SD	4.3
6.	This program has improved my problem solving skills.	<input checked="" type="radio"/> SA	<input checked="" type="radio"/> A	U	D	SD	4.6
7.	This program helped me develop my listening and note-taking skills.	SA	<input checked="" type="radio"/> A	U	D	SD	4
8.	The guest speakers in the program made me realize the importance of education.	SA	<input checked="" type="radio"/> A	U	D	SD	4.2
9.	This program has reinforced my desire to study engineering, science, or math.	SA	<input checked="" type="radio"/> A	U	D	SD	4.3
10.	I worked to my fullest potential in PREP.	<input checked="" type="radio"/> SA	<input checked="" type="radio"/> A	U	D	SD	4.4
11.	The program material was presented in a well-organized manner.	SA	<input checked="" type="radio"/> A	U	D	SD	4.2
12.	The program instructors taught the course material well.	<input checked="" type="radio"/> SA	<input checked="" type="radio"/> A	U	D	SD	4.5
13.	The program assistant mentors were helpful.	<input checked="" type="radio"/> SA	A	U	D	SD	4.8
14.	I feel that I was placed in the appropriate seminar group.	<input checked="" type="radio"/> SA	A	U	D	SD	4.7
15.	PREP has helped me become more organized and responsible academically.	<input checked="" type="radio"/> SA	<input checked="" type="radio"/> A	U	D	SD	4.4
16.	During the program, I was able to work effectively with others as a part of a team.	<input checked="" type="radio"/> SA	<input checked="" type="radio"/> A	U	D	SD	4.4
17.	During the program, I was able to complete and submit all of my assignments on time.	<input checked="" type="radio"/> SA	<input checked="" type="radio"/> A	U	D	SD	4.4
18.	I feel that I learned better by using hands-on techniques.	SA	<input checked="" type="radio"/> A	U	D	SD	4.3
19.	The chances of me applying to PREP next year are very high.	<input checked="" type="radio"/> SA	A	U	D	SD	4.7
20.	I consider myself a better student now (after completing PREP).	<input checked="" type="radio"/> SA	<input checked="" type="radio"/> A	U	D	SD	4.5
21.	I have a better understanding of what is required of college students.	<input checked="" type="radio"/> SA	<input checked="" type="radio"/> A	U	D	SD	4.5
22.	I feel that I wasted my summer.	SA	A	U	<input checked="" type="radio"/> D	SD	1.3
23.	PREP lived up to my expectations.	SA	<input checked="" type="radio"/> A	U	D	SD	4.3
24.	The daily length of this program was:						
	(A) too long	<input checked="" type="radio"/> (B) just right				(C) too short	1.9
25.	The duration of this program was:						
	(A) too long	<input checked="" type="radio"/> (B) just right				(C) too short	2.1

Student Evaluation PREP II – 2005

Indicate the grade level which you have just completed using the following scale:

1. **A = 5th** **B = 6th** **C = 7th** **D = 8th** **E = 9th** **AB = 10th AC = 11th**

Please respond to the statements below. Your input may help us offer a better program in the future. Please circle the response using the following scale:

SA – Strongly Agree (5)
 A – Agree (4)
 U – Undecided (3)
 D – Disagree (2)
 SD – Strongly Disagree (1)

**SURVEY
RESULTS**

2.	This program has been an intellectual challenge for me.	SA <input checked="" type="radio"/> A U D SD	4.2
3.	The program reinforced my mathematical skills.	<input checked="" type="radio"/> SA A U D SD	4.7
4.	The program made me knowledgeable about the math-based professions.	<input checked="" type="radio"/> SA A U D SD	4.5
5.	I was mathematically prepared to participate.	SA <input checked="" type="radio"/> A U D SD	4.2
6.	This program has improved my problem solving skills.	SA <input checked="" type="radio"/> A U D SD	4.3
7.	This program helped me develop my listening and note-taking skills.	SA <input checked="" type="radio"/> A U D SD	4
8.	The guest speakers in the program made me realize the importance of education.	SA <input checked="" type="radio"/> A U D SD	4.3
9.	This program has reinforced my desire to study engineering, science, or math.	SA <input checked="" type="radio"/> A U D SD	4.2
10.	I worked to my fullest potential in PREP.	SA <input checked="" type="radio"/> A U D SD	4.3
11.	The program material was presented in a well-organized manner.	SA <input checked="" type="radio"/> A U D SD	4.3
12.	The program instructors taught the course material well.	SA <input checked="" type="radio"/> A U D SD	4.2
13.	The program assistant mentors were helpful.	<input checked="" type="radio"/> SA A U D SD	4.7
14.	I feel that I was placed in the appropriate seminar group.	<input checked="" type="radio"/> SA A U D SD	4.4
15.	PREP has helped me become more organized and responsible academically.	SA <input checked="" type="radio"/> A U D SD	4.3
16.	During the program, I was able to work effectively with others as a part of a team.	SA <input checked="" type="radio"/> A U D SD	4.3
17.	During the program, I was able to complete and submit all of my assignments on time.	SA <input checked="" type="radio"/> A U D SD	4.3
18.	I feel that I learned better by using hands-on techniques.	SA <input checked="" type="radio"/> A U D SD	3.8
19.	The chances of me applying to PREP next year are very high.	<input checked="" type="radio"/> SA A U D SD	4.5
20.	I consider myself a better student now (after completing PREP).	SA <input checked="" type="radio"/> A U D SD	4.3
21.	I have a better understanding of what is required of college students.	SA A U D SD	4.5
22.	I feel that I wasted my summer.	<input checked="" type="radio"/> SA A U D SD	1.6
23.	PREP lived up to my expectations.	SA <input checked="" type="radio"/> A U D SD	4
24.	The daily length of this program was:		
	(A) too long <input checked="" type="radio"/> (B) just right (C) too short		1.9
25.	The duration of this program was:		
	(A) too long <input checked="" type="radio"/> (B) just right (C) too short		1.9

Student Evaluation - PREP III – 2005

Indicate the grade level which you have just completed using the following scale:

1. **A = 5th** **B = 6th** **C = 7th** **D = 8th** **E = 9th** **AB = 10th AC = 11th**

Please respond to the statements below. Your input may help us offer a better program in the future.
Please circle the response using the following scale:

SA – Strongly Agree (5)
A – Agree (4)
U – Undecided (3)
D – Disagree (2)
SD – Strongly Disagree (1)

**SURVEY
RESULTS**

2.	This program has been an intellectual challenge for me.	SA	A	U	D	SD	4.4
3.	The program reinforced my mathematical skills.	SA	A	U	D	SD	5
4.	The program made me knowledgeable about the math-based professions.	SA	A	U	D	SD	4.2
5.	I was mathematically prepared to participate.	SA	A	U	D	SD	4.2
6.	This program has improved my problem solving skills.	SA	A	U	D	SD	4.4
7.	This program helped me develop my listening and note-taking skills.	SA	A	U	D	SD	3.8
8.	The guest speakers in the program made me realize the importance of education.	SA	A	U	D	SD	4.1
9.	This program has reinforced my desire to study engineering, science, or math.	SA	A	U	D	SD	4.4
10.	I worked to my fullest potential in PREP.	SA	A	U	D	SD	4.2
11.	The program material was presented in a well-organized manner.	SA	A	U	D	SD	4
12.	The program instructors taught the course material well.	SA	A	U	D	SD	4.4
13.	The program assistant mentors were helpful.	SA	A	U	D	SD	4.8
14.	I feel that I was placed in the appropriate seminar group.	SA	A	U	D	SD	4.7
15.	PREP has helped me become more organized and responsible academically.	SA	A	U	D	SD	4.7
16.	During the program, I was able to work effectively with others as a part of a team.	SA	A	U	D	SD	4.7
17.	During the program, I was able to complete and submit all of my assignments on time.	SA	A	U	D	SD	4.2
18.	I feel that I learned better by using hands-on techniques.	SA	A	U	D	SD	4.3
19.	If I could go back in time, I would complete PREP again.	SA	A	U	D	SD	4.6
20.	I consider myself a better student now (after completing PREP).	SA	A	U	D	SD	4.8
21.	I have a better understanding of what is required of college students.	SA	A	U	D	SD	4.8
22.	I feel that I wasted my summer.	SA	A	U	D	SD	1.4
23.	PREP lived up to my expectations.	SA	A	U	D	SD	4.1
24.	The daily length of this program was:						
	(A) too long (B) just right (C) too short						1.9
25.	The duration of this program was:						
	(A) too long (B) just right (C) too short						2

2. 2005 Pre/Post Test Results

PREP administers a Pre/Post exam to all program participants to determine the effectiveness of classroom instruction and student comprehension and mastery of material presented. The Pre/Post exam for PREP 1, PREP 2, and PREP 3 are given in components of Logic, Physics, and Statistics, respectively.

E. College-Age Follow-Up Summary

Of the 511 students who have successfully completed PREP 1 since 1997, 217 are now college age. One hundred forty-nine of these students (69 percent) responded to a follow-up survey. Of the 149 who responded, 136 are currently in college and 12 are college graduates. The data gathered from the survey indicates:

- 100 percent of those who returned the survey are high school graduates.
- 77 of the 149 (or 52 percent) college attendees are majoring in science, engineering or mathematics.
- 115 of the 149 (or 77 percent) college attendees are members of underrepresented minority groups.
- 80 of the 149 (or 54 percent) college attendees are female.
- 133 of the 149 (or 89 percent) currently in college are enrolled at New Mexico State University.
- 140 of the 149 (or 94 percent) currently in college are attending universities in New Mexico.
- 10 of the 12 (or 83 percent) college graduates attended New Mexico State University.

III. Program Highlights

A. Intel Highlights

1. Intel 9th Annual Rocket Launch and Engineering Day

The Intel Foundation is one of the major supporters of Las Cruces PREP.

On July 15, Las Cruces PREP held the Intel 9th Annual Las Cruces PREP Rocket Launch and Engineering Day. There were four main events to the day:

- rocket launch competition,
- robot competition,
- tower building competition, and
- jewelry/beauty contest.

First-year and second-year student participants designed, constructed and launched rockets. The rockets were made of two-liter soda bottles and powered with compressed air and water. The goal for the students was to learn enough aerodynamic principles to allow their rockets to fly on a ballistic trajectory. Pre-launch testing was done at NMSU's Presiado Park. The final competition was held on the NMSU Horseshoe.

The second event of the day was the robot competition, led by Engineering Instructor, Dr. Paul Furth. All third-year students designed robots made from special engineering kits. The students competed on a 4' x 4' platform that contained approximately 150 packing peanuts. Each student had 2 ½ minutes to push as many peanuts as they could off the platform without falling off. The final two winners competed against each other by trying to push the other robot off the platform. Photo diodes and photo sensors were placed around the edges of the platform so the robots could detect when they were close to the edge.

Instructor Eric Moreno led the third event of the day, building towers of toothpicks and marshmallows. The student who built the tallest tower was the winner.

The final event of the day was led once again by Instructor, Dr. Paul Furth. Each student received ½ cup of throw away electronic components to design any type of jewelry and adorn themselves with it. After the given time was up, all participated in a jewelry beauty contest. Three judges determined the final winner.



Figure 5 - The PREP III students build robots for competition.



Figure 6 - The finals for the Rocket Launch competition is held on the Horseshoe at NMSU.

B. 2005 Las Cruces PREP Field Trip Schedule

PREP 1- 2005

DATE	GROUP	DESTINATION
6/10/05	AB	Insights Science Museum
	CD	Elephant Butte Irrigation District
6/17/05	AB	White Sands Missile Range
	CD	Insights Science Museum
6/22/05	AB	NASA
	CD	White Sands Missile Range
6/24/05	AB	Elephant Butte Irrigation District
	CD	NASA
7/8/05	ALL GROUPS	Carlsbad Caverns

PREP 2 - 2005

DATE	DESTINATION
6/10/05	International Space Hall of Fame
6/17/05	Energetic Materials Research and Testing Center
6/22/05	El Paso Zoo
6/24/05	National Solar Observatory / Apache Point
7/8/05	Intel Corporation

PREP 3 - 2005

DATE	DESTINATION
6/10/05	El Paso International Airport
6/17/05	Hoover Vacuum
6/22/04	Helen of Troy / Leviton Manufacturing
6/24/05	Very Large Array
7/8/05	IBM



Figure 7 - US Border Patrol Museum field trip - PREP I.

C. 2005 Las Cruces PREP Engineering Visits

As part of the Engineering Component, PREP 1 students visited each department within NMSU's College of Engineering. Through these visits, participants were able to hear about different career paths in Engineering. Most of the visits incorporated hands-on activities.

Las Cruces Prefreshman Engineering Program				
Engineering Department Presentations				
Summer 2005				
DATE	Host Department	Contact Person	Time	Location
PREP 1, Megan				
6/8	Engineering Tech	Dr. Sonya Cooper	10:00	EC3 Lobby
6/9	Electrical	Dr. Krist Petersen	10:00	Thomas/Brown, #106
6/13	Surveying	Dr. Stephen Frank	10:00	EC1, Room 130
6/14	Industrial	Dr. Julieta Valles-Rosales	10:00	Goddard, Room 100
6/15	Mechanical	David Seigel	10:00	Tony's Shop
6/20	Chemical	Dr. Martha Mitchell	10:00	Front of CE, Jett 259
6/21	Civil	Dr. Ken White	10:00	Hernandez, Room 202
PREP 1, Jennie				
6/8	Engineering Tech	Dr. Sonya Cooper	11:00	EC3 Lobby
6/9	Electrical	Dr. Krist Petersen	11:00	Thomas/Brown, #106
6/13	Surveying	Dr. Stephen Frank	11:00	EC1, Room 130
6/14	Industrial	Dr. Julieta Valles-Rosales	11:00	Goddard, Room 100
6/15	Mechanical	David Seigel	11:00	Tony's Shop
6/20	Chemical	Dr. Martha Mitchell	11:00	Front of CE, Jett 259
6/21	Civil	Dr. Ken White	11:00	Hernandez, Room 202
PREP 1, Jon				
6/27	Surveying	Dr. Stephen Frank	10:00	EC1, Room 130
6/28	Industrial	Dr. Julieta Valles-Rosales	10:00	Goddard, Room 100
7/5	Civil	Dr. Ken White	10:00	Hernandez, Room 202
7/6	Engineering Tech	Dr. Sonya Cooper	10:00	EC3 Lobby
7/7	Chemical	Dr. Martha Mitchell	10:00	Front of CE, Jett 259
7/12	Electrical	Dr. Krist Petersen	10:00	Thomas/Brown, #106
7/13	Mechanical	David Seigel	10:00	Tony's Shop
PREP 1, Alex				
6/27	Surveying	Dr. Stephen Frank	11:00	EC1, Room 130
6/28	Industrial	Dr. Julieta Valles-Rosales	11:00	Goddard, Room 100
7/5	Civil	Dr. Ken White	11:00	Hernandez, Room 202
7/6	Engineering Tech	Dr. Sonya Cooper	11:00	EC3 Lobby
7/7	Chemical	Dr. Martha Mitchell	11:00	Front of CE, Jett 259
7/12	Electrical	Dr. Krist Petersen	11:00	Thomas/Brown, #106
7/13	Mechanical	David Seigel	11:00	Tony's Shop



Figure 8 – PREP 1 students visited the Surveying Engineering Department at NMSU. Included in this visit was an opportunity to experiment with GSP equipment.

D. 2005 Las Cruces PREP Career Awareness Speakers

Each morning of PREP, participants get to visit with guest speakers who represent a wide scope of SEM professions.

Name	Affiliation
Beverly Clayshulte	Licensed Nutritionist
Capt. Chris Soloman	Fire Department, NMSU
Capt. Trastine Allen	Adjunct Assistant Professor, Aerospace Studies, NMSU
Dr. Abbas Ghassemi	Director, WERC: A Consortium for Environmental Education and Technology Development (WERC,) NMSU
Dr. Anthony M. Hyde	Associate Professor, Engineering Technology, NMSU
Dr. Dave Thompson	Associate Professor, Entomology, Plant Pathology, and Weed Science, NMSU
Dr. Fernando Cadena	Professor, Civil and Geological Engineering, NMSU
Dr. Mark Wise	Academic Department Head, Animal Range Sciences, NMSU
Dr. Martin D. Alexander (Dale)	Professor, Chemistry and Biochemistry, NMSU
Dr. Paul Bosland	Acting Department Head, Agronomy and Horticulture, NMSU
Dr. Phillip L. DeLeon	Associate Professor, Klipsch School of Electrical and Computer Engineering, NMSU
Dr. Rene Walterbos	Professor, Astronomy, NMSU
Dr. Steven J. Loring	Administrative Analyst, Agricultural Experiment Station (Administration,) NMSU

Dr. Waded Cruzado-Salas	Dean, Collage of Arts and Sciences, NMSU
Ed Creegan	Engineer
Morgan Perrone	Grad. Assistant, Las Cruces Museum of Natural History, NMSU
Mr. Steve Kanim	Assistant Professor, Physics, NMSU
Ms. Jill Hall	Advisor II, Financial Aid Department, NMSU
Ms. Jeanine Cook	Assistant Professor, Klipsch School of Electrical and Computer Engineering, NMSU
Robert De Kinder	Acting Chair of High Tech Consortium Education Committee

E. Other Participant Support

1. Counseling Program

The Las Cruces PREP program (summer 2005) also offered a counseling component. The Counseling and Educational Psychology (CEP) department provided classroom guidance to approximately 140 students by providing information on various topics, which included drug and alcohol awareness, vocational choices and maintaining healthy relationships.

The presentation on drug and alcohol awareness utilized various learning modalities to capture the interest of students. Students were provided a lecture on the effects that drug and alcohol have on the body, and participated in simulations demonstrating the difficulty of completing tasks while under the influence. Students also discussed ways that these substances can interfere with long-term goals and success.

Reactions to the presentations were positive; however, the older PREP students proved to be more challenging. They required a more in-depth approach consisting of more detailed instruction, utilizing specific concrete examples. In contrast, the younger PREP students were immediately engaged, willing to risk-take and provide their own personal experiences.

The second presentation incorporated community assistance by Homeland Defense Canine Officer Jose Ramirez and his narcotics detection canine. This offered students an opportunity to discuss the various career choices that lie within the government as well as provided them with knowledge regarding how animals can be incorporated in the seizure of drugs. The majority of the students remained engaged during the demonstration, and many favorable comments were overheard during and after the presentation.

The third and final presentation focused on the importance of healthy communication in the facilitation of healthy relationships. Once again, students were involved in “hands on” learning. Students engaged in role playing, demonstrating the important techniques of good communication such as “I” messages and reflective listening. Students also discussed ways to use communication to get out of, or avoid, high-risk situations. Furthermore, students discussed the various people in their lives who they have to maintain relationships with, including parents, teachers, peers and siblings. As in previous presentations, the students made numerous positive

comments. The most frequently heard comment was how the refusal techniques would be helpful because many of the students frequently face peer pressure.

Overall, each presentation was directed to get students involved in their own learning while emphasizing key points. Based on some of the feedback from the students, the presentations were successful because of using up-to-date examples of relative issues, which were provided in a medium that was easy for the students to relate to and comprehend.

In addition to the presentations, the students filled out career inventories and participated in counseling regarding their career interests. Only 62 students' parents signed a consent form to participate in this aspect of the counseling component. Students completed a Learning Styles Index (LSI) via the Internet and were given immediate feedback regarding how they learn best. The learning style inventory results provided an indication of an individual's learning preferences, and an even better indication of the preference profile of a group of students (e.g. a class).

Many of the students who completed the Index were either visual (prefer to see what they are learning) or kinesthetic (hands on learning) learners. This is of particular significance given the fact that most high school and college settings focus more on lecture - thus, have a more auditory emphasis. Students were then provided with strategies in which they could adapt their learning style to be more effective in their school and future college environment.

To compliment the LSI, students were also administered the Achievement Motivation Profile (AMP). This profile is designed to measure a student's motivation to achieve, along with related personality characteristics, interpersonal attributes, work style, and other qualities important for school success.

A third instrument used with the students was the Self-Directed Search (SDS). The SDS was developed by Dr. John Holland, whose theory of careers is the basis for most of the career inventories used today. Holland' theory states that most people can be loosely categorized with respect to six types: Realistic, Investigative, Artistic, Social, Enterprising and Conventional. Based on the results of the assessments, the majority of the students were either:

Investigative

- Occupations include: chemical engineer, computer engineer, drafter, laboratory assistant, pharmacist, surgeon, systems analyst and veterinarian.
- Characteristics: value inventiveness, accuracy and independence.
- Are curious, logical, precise, analytical and reserved.
- Enjoy analytical or intellectual activities and learning by reading, study, or investigation.

Realistic

- Occupations include: carpenter, cook, electrician, industrial arts teacher, materials engineer and mechanical engineer.
- Characteristics: value nature, common sense, honesty and practicality.

- Are reliable, straight forward, self-reliant, enjoy manual and mechanical activities using machines, tools and objects.

The results may indicate that the students have many likes and dislikes that are similar to individuals who are presently employed in the aforementioned occupations, which are predominantly math and science in nature.

2. Summer Food Service Program

In May of 2005, Las Cruces PREP was officially accepted as a 2005 Summer Food Service Sponsor. Because 62 percent of students qualified for eligibility, the 50 percent level required to feed all of our participants for free was exceeded.

3. Transportation

Gadsden Independent School District (GISD) and Hatch Valley Public Schools (HVPS) provided busing to and from New Mexico State University for those participants who attended school in their district. The City of Las Cruces Roadrunner Transit offered free Summer Fun Passes to all participants residing in the Las Cruces area.



Figure 9 – PREP students were provided transportation by GISD, HVPS, and Las Cruces Roadrunner Transit.



Figure 10 – The bus services were also used for the PREP field trips.

IV. Program Contributions and Budget

A. 2005 Las Cruces PREP Benefactors

1. Grants and Gifts

\$50,000 +

Intel Foundation

\$5,000 - \$50,000

New Mexico Alliance for Minority Participation

NMSU College of Engineering

Hewlett Foundation

New Mexico State University

WERC: A Consortium for Environmental Education and Technology Development

Western Refining

Wolslager Foundation

< \$5,000

General Motors Foundation

2. In-Kind Contributors

Albertsons

Aramark

Gadsden Independent School District

Hatch Valley Public Schools

Las Cruces Public Schools

V. Appendices

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Background Information

The Las Cruces Prefreshman Engineering Program (PREP) is a seven-week, academically intense summer program designed to prepare pre-college students for careers in science, engineering, and mathematics. Participants may begin the PREP program as early as sixth grade and attend for three years prior to college entrance. Career awareness seminars expose them to a wide variety of accomplished professionals in the SEM fields. Courses like logic, algebraic structures and physics stimulate their interest in higher mathematics and science. The problem solving sessions equip them with the necessary tools and desire to complete pre-calculus and calculus during high school. Most importantly, on the field trips successful professionals instill the desire to become the visionaries behind future technological advances. Perhaps the day when students have the most fun is the annual rocket launch. Using two-liter soda-pop bottles, a compressor, a little water, and an amazing amount of imagination and ingenuity, PREP students fashion single stage rockets. While open to all, PREP is aimed at achieving, low-income, minority and female students who are underrepresented in SEM fields.

LC PREP is a member of a national consortium of Hispanic Serving Institutions called Proyecto Access. The purpose of the Proyecto Access consortium is to spread the highly acclaimed TexPREP program nationally. NASA began funding the Proyecto Access program in 1997 through the Hispanic Association of Colleges and Universities (HACU). University of Texas, San Antonio assumed responsibility from HACU in 2002. Since 1997, NASA has renewed the Proyecto Access grant five times.

Purpose and Objectives

The objectives of the LC PREP program are:

- to help fill New Mexico's need for highly qualified scientists and engineers;
- to expose economically disadvantaged students to professional opportunities in science and engineering;
- to expose these students to the use of innovative technology;
- to mathematically prepare these students at the precollege level for satisfactory pursuit of mathematics, science and engineering studies at the college level; and
- to increase the retention rate of these students in college.

PREP Curriculum

Through the assistance of the National Science Foundation in 1990, TexPREP program faculty and administrators developed PREP curricular materials which are used on a daily basis in the instruction of the participants. The following is a description of the topics and components for the PREP Program:

First Year Participants

Logic and Its Applications to Mathematics - Statements, Compound Statements, Truth Tables, Rules of Inference, Quantifiers, Paradoxes, Elementary Set Theory, Boolean Algebra, and Switching Circuits. (7 weeks)

Introduction to Engineering - Philosophy of Engineering, History of Engineering, Engineering Ethics, Engineering Professionalism, the Engineer as a Communicator, the Engineering Workplace, Engineering Career Preparation; Engineering Principles; Engineering Team Projects: airplane designs, security systems, egg drops, bridge design, solar reflectors, rockets. (3 and ½ weeks)

Introduction to Computer Science - An overall view of capabilities and applications of computers; explanation of basic hardware and software concepts including definition of system components for small home computers and large mainframe installations; development of algorithms through the use of flowcharts; writing programs in BASIC, Pascal, or C++; familiarization with multi-media writing tools such as HyperStudio. (3 and ½ weeks)

Second Year Participants

Algebraic Structures - The study of groups, rings, and fields using the systems of integers and rational numbers as models. Derivation of algebraic properties of these systems. (7 weeks)

Introduction of Physics - 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, Equilibrium; Electricity and Magnetism: Coulomb's Law, Electric Field, Potential, Capacitance, Current, Resistance, Electromotive Force, Direct Current Circuits, Magnetic Field; Laboratory: Friction Linear Air Track; Free-Falling Bodies; Multiflash Photography; the Conical Pendulum; Capacitors in Series and Parallel; Resistors in Series and Parallel; Ampere's Law. (7 weeks)

Third Year Participants

Introduction to Probability and Statistics - Introduction to Probability: Counting Procedures, Addition Rule, Multiplication Rule, Independence; Probability Models: Binomial, Hypergeometric, Geometric, Poisson, Exponential, Normal; Descriptive Statistics: Tables and Charts, Measures of Center, Measures of Spread; Analytical Statistics: Confidence Intervals for Means and Proportions, Tests of Hypotheses for Mean and Proportions, Simple Regression. (7 weeks)

All Years

Topics in Problem Solving (Seminar) - Numerous and varied experiences with problem solving as a method of inquiry and application so that students can: use problem solving approaches to investigate and understand mathematical content, formulate problems, develop and apply a variety of strategies to solve problems, verify and interpret results, generalize solutions and strategies to new problem situations, and acquire confidence in using mathematics meaningfully. (7 weeks)

Research and Study - Use of library; work on assignments and projects; consultations with instructors and program assistant mentors; study time. (7 weeks)

Career Opportunities Awareness - Invited speakers from local and state high technology industries will discuss current and future professional engineering and science opportunities, their own work, and a biography of their professional development; special technical presentations; field trips to high technology industries; counseling on such topics as resume preparation, college preparatory expectations, college financial aid, and test-taking strategies; practice SAT and ACT examinations. (7 weeks)

Location

All program functions, except for field trips, will be held on the campus of New Mexico State University.

Period of Operation

June 6, 2005 through July 22, 2005

Program Operation

Below is a typical daily schedule (Monday - Thursday) for the summer program:

8:00	Staff Meeting
9:00	Roll Call
9:10-9:50	Career Awareness Seminar (<i>All Levels</i>)
10:00-10:50	Logic (<i>PREP 1</i>) Algebraic Structures (<i>PREP 2</i>) Probability and Statistics (<i>PREP 3</i>)
11:00-11:50	Engineering/Computer Science (<i>PREP 1</i>) Physics (<i>PREP 2</i>) Technical Writing (<i>PREP 3</i>)
12:00-12:50	Lunch
12:50	Roll Call
1:00-1:50	Problem Solving Seminar (<i>All Levels</i>)
2:00-3:30	Research and Study (<i>All Levels</i>)
3:30	Roll Call and Dismissal

The staff of Las Cruces PREP endeavors to make Fridays special for the participants with field trips and other special events. One of the most exciting events of Las Cruces PREP is the rocket launch competition. The rockets are made of two-liter soda water bottles and powered with compressed air and water.

Eligibility Requirements

During the current academic year, all applicants must have an:

- ◆ 80% overall average in their academic courses;
- ◆ 80% average in their mathematics course (90% for sixth/seventh graders);
- ◆ 80% average in either their science or English course (90% for sixth/seventh graders).
- ◆ High school juniors and seniors are not eligible to participate in first year PREP.

These requirements are adjusted to 75% (80% for sixth/seventh graders) for honors, enriched, or gifted courses.

The goal of the Las Cruces PREP office is to admit all applicants who meet the above criteria and who submit the application with the required documentation by the deadline. However, we can only admit the number of students our funding allows. All applicants who are not admitted in the first round selection process are placed in an alternate pool.

Tuition and Fees

The PREP program is free to accepted students. Financial assistance from the PIC Summer Youth Program and free lunches may become available to low income students who are eligible for their school lunch program.

Program Results

Since its inception in 1997, Las Cruces PREP has had 390 participants successfully complete PREP 1, 232 successfully complete PREP 2, and 136 successfully complete PREP 3. Our cumulative summer retention rate remains well above 90%. The ethnicity and gender breakdown of our participants is as follows:

PREP GRADUATES	PREP 1	PREP 2	PREP 3
Hispanic	69.8%	72.0%	66.9%
Anglo	19.7%	18.1%	24.2%
Asian/Pacific Islander	6.9%	6.9%	5.9%
African American	2.1%	1.7%	1.5%
Native American	1.5%	1.3%	1.5%
Female	54.9%	52.6%	52.9%
Male	45.1%	47.4%	47.1%

Approximately two-thirds of our first year participants have returned to complete the second year, and our PREP 2 to PREP 3 return rate is 80.2%.

For Further Information Contact

Alyne C. Fulte, Director
Las Cruces PREP
New Mexico State University
Klipsch School of Electrical & Computer Engineering
P. O. Box 30001, MSC 3-0
Las Cruces, NM 88003
PREP Office: 646-3130
Email: lcprep@nmsu.edu

LAS CRUCES PREFRESHMAN ENGINEERING PROGRAM

Proyecto Access



Las Cruces PREP

**National Aeronautics and Space Administration
Intel Foundation
New Mexico State University
University of Texas at San Antonio
Wolslager Foundation
Jerome and Joyce Cutler Shaw Foundation
Hewlett Foundation
Gadsden Independent School District
Hatch Valley Public Schools
New Mexico Summer Food Service Program
New Mexico Space Grant Consortium**

DESCRIPTIVE SUMMARY

Las Cruces PREP

(Prefreshman Engineering Program)

Proyecto Access



National Aeronautics and Space Administration
Intel Foundation
New Mexico State University
University of Texas at San Antonio
Wolslager Foundation
Jerome and Joyce Cutler Shaw Foundation
Hewlett Foundation
Gadsden Independent School District
Hatch Valley Public Schools
New Mexico Summer Food Service Program
New Mexico Space Grant Consortium

June 6 through July 22, 2005

FIRST YEAR APPLICATION

LAS CRUCES PREFRESHMAN ENGINEERING PROGRAM (PREP) FIRST YEAR APPLICATION

JUNE 6 – JULY 22, 2005

- WHAT?** PREP is an intensive mathematics based pre-college summer program which provides educational enrichment opportunities for achieving middle and high school students.
- WHY?** Explore and prepare for careers in the fields of science, engineering and mathematics.
- WHO CAN ATTEND?** Approximately one hundred forty middle school and high school students from the Las Cruces area who are interested in learning about the engineering and science professions will be selected to attend the 2004 Las Cruces PREP. Minorities and women are especially encouraged to apply.

Eligibility Requirements

During the current academic year all applicants must have an:

- 80% overall average in their academic courses.
- 80% average in their mathematics course (90% for sixth/seventh graders).
- 80% average in either their science or English course (90% for sixth/seventh graders).
- High school juniors and seniors are not eligible to participate in first year PREP.

These requirements are adjusted to 75% (80% for sixth/seventh graders) for honors, enriched, or gifted courses.

- Students applying to PREP should complete the following math course(s) by the end of the academic year:
 - 8th Grade – Pre-Algebra
 - 9th Grade – Algebra I
 - 10th Grade – Two courses from Algebra I, Algebra II, and Geometry
- All applicants must have satisfactory conduct grades during the current academic year.

- WHEN?** June 6 – July 22, 2005 (Monday-Friday); July 1st and 5th are PREP holidays.
- WHERE?** All 2005 Las Cruces PREP functions, except for field trips, will be held in classrooms and laboratories on the campus of New Mexico State University.
- COST?** There are no tuition costs or fees to attend PREP. We anticipate that the Summer Food Service Program will provide free lunches to all those who meet income eligibility requirements. Children who are members of food stamp households, AFDC, or FDPIR participants will be automatically eligible to receive free meal benefits if we are approved to be a SFSP Sponsor. We are striving to provide free lunches to all participants. An Income Eligibility Form is attached to this application for your convenience. The Summer Food Service Program does not discriminate because of race, color, age, sex, disability, or national origin.

DAILY SCHEDULE	8:30	Staff Meeting
	9:00	Roll Call
	9:10-9:50	Career Awareness Seminar (<i>All Levels</i>)
	10:00-10:50	Logic (<i>PREP 1</i>) Algebraic Structures (<i>PREP 2</i>) Probability and Statistics (<i>PREP 3</i>)
	11:00-11:50	Engineering/Computer Science (<i>PREP 1</i>) Physics (<i>PREP 2</i>) Technical Writing (<i>PREP 3</i>)
	12:00-12:50	Lunch
	12:50	Roll Call
	1:00-1:50	Problem Solving Seminar (<i>All Levels</i>)
	2:00-3:30	Research and Study (<i>All Levels</i>)
	3:30	Dismissal

HOW CAN I APPLY?

1. Obtain permission from your parents/guardians.
2. Obtain an application form from your math teacher, school counselor or the PREP office.
3. Complete the entire application form.
4. Write a 100-200 word essay on why you wish to attend PREP.
5. Submit a copy of your 2004-2005 first semester report card. (No transcripts or progress reports are accepted.)
6. Obtain nomination forms from two faculty members from your school. One must be from your current (2004-2005) mathematics teacher. The second form may be from your science teacher, English teacher or counselor.
7. Mail entire application form with all the other documentation required to
Alyne C. Fulte, Director
Las Cruces PREP
New Mexico State University
Electrical and Computer Engineering
P.O. Box 30001, MSC 3-O
Las Cruces, NM 88003-8001

BY WHEN? Application must be postmarked on or before **March 1, 2005**.

Please keep the following in mind:

- ⇒ Make a copy of your completed application for your records.
- ⇒ Electronic submissions (FAX) will not be accepted.
- ⇒ Incomplete and late applications will not be considered in the first round of acceptance.

NEED HELP?

For questions or comments, please contact:
Alyne C. Fulte, Director
Las Cruces PREP
New Mexico State University
Electrical and Computer Engineering
P.O. Box 30001, MSC 3-O
Las Cruces, NM 88003-8001
PREP Office: (505) 646-3130
FAX: (505) 646-1435
Email: lcprep@nmsu.edu

ATTENTION FIRST YEAR PREP APPLICANT

Checklist (✓) for a Successful Application

DEADLINE: Postmarked on or before MARCH 1, 2005

FILLING OUT APPLICATION:

Make sure your application is complete. Remember incomplete and late applications will not be considered in the first round of acceptance. Did you:

- Answer all the questions?
- List the school district you live in even if you attend a private or parochial school?
- You and your parents/guardians sign the application?

ESSAY:

Your essay will be evaluated to determine your character, willingness to learn, and motivation to attend PREP. You may use an additional page, if necessary. Did you:

- Really think about the essay?
- Answer the question using your own thoughts and words?
- Print or type your essay clearly checking spelling, grammar, and punctuation?

REPORT CARD:

You should attach a copy of your 2004-2005 first semester report card. No transcripts will be accepted. Did you:

- Submit a copy of your 2004-2005 first semester report card with the application?
- Make sure the copy shows all classes, grades, honor codes, and attendance?

NOMINATION FORMS:

You should obtain nominations from two faculty members from your school. One must be from your current (2004-2005) mathematics teacher. The second form may be from your science teacher, English teacher, or counselor. These should be submitted with your application. Did you:

- Have your 2004-2005 mathematics teacher fill out a nomination form?
- Have your science teacher, English teacher, or counselor fill out a nomination form?
- Submit both nomination forms with your application?

INCOME ELIGIBILITY APPLICATION:

We are planning to seek assistance for food service under the Summer Food Service Program (SFSP) for Children. In order to be considered eligible for free meals, the Income Eligibility Application included with this application must be filled out. Because we are trying to provide free lunches to all PREP participants, we ask that **everyone** return this form with the application. ***Please be assured that all information will remain strictly confidential.*** However, if you **DO NOT** wish to apply, simply print your name at the top, have a parent sign at the bottom, and draw a big "X" through the center of the page.

The application must include the total current household income, names of all household members, social security numbers of all adult household members or an indication that a household member does not possess one, and the signature of an adult household member. Children who are members of Food Stamp or FDPIR households are automatically eligible to receive assistance and do not need to provide family size or income data but must provide their Food Stamp or FDPIR case number.

Did you:

- Complete and return the Income Eligibility Application?

OTHER INFORMATION:

The goal of the Las Cruces PREP office is to admit all applicants who meet the PREP eligibility criteria and who submit the application with the required documentation by the deadline of **March 1, 2005**. However, we can only admit the number of students our funding allows. Successful applicants will be notified by April 1, 2005, with an official letter of acceptance from the Las Cruces PREP office. All applicants who are not admitted in the first round selection process are placed in an alternate pool.

NEED HELP?

For questions or comments, please contact the PREP office @ (505) 646-3130

SCHOOL CODES LISTINGS

LAS CRUCES PUBLIC SCHOOLS:

MIDDLE SCHOOLS

Camino Real Middle School
Code: LC107

Lynn Middle School
Code: LC101

Picacho Middle School
Code: LC102

Sierra Middle School
Code: LC103

Vista Middle School
Code: LC104

White Sands Middle School
Code: LC105

Zia Middle School
Code: LC106

HIGH SCHOOLS

Las Cruces High School
Code: LC201

Mayfield High School
Code: LC202

Oñate High School
Code: LC203

San Andres High School
Code: LC204

GADSDEN INDEPENDENT SCHOOL DISTRICT:

MIDDLE SCHOOLS

Chaparral Middle School
Code: GA101

Gadsden Middle School
Code: GA102

Santa Teresa Middle School
Code: GA103

HIGH SCHOOLS

Gadsden High School
Code: GA201

Santa Teresa High School
Code: GA202

HATCH VALLEY PUBLIC SCHOOLS:

MIDDLE SCHOOLS

Hatch Valley Middle School
Code: HV101

HIGH SCHOOLS

Halley Valley High School
Code: HV201

PAROCHIAL SCHOOLS, PRIVATE SCHOOLS, AND OTHERS:

Holy Cross School
Code: AR001

Immaculate Heart of Mary School
Code: AR002

Mesilla Valley Christian School
Code: PR001

Home School
Code: HS000

Other
Code: 00000

PART 4 - TO BE COMPLETED BY APPLICANT

A. WRITE A 100 TO 200 WORD ESSAY BELOW ON WHY YOU WANT TO ATTEND PREP. ALSO, BRIEFLY DESCRIBE ANY AWARDS OR HONORS RECEIVED FOR PARTICIPATION IN MATH AND SCIENCE ACTIVITIES. (Attach additional sheet if necessary.)

B. PLEASE CHECK BELOW THE CONCEPTS/SUBJECTS YOU HAVE STUDIED THUS FAR (ask your math teacher, if needed):

- | | |
|--|---|
| <input type="checkbox"/> PRE-ALGEBRA | <input type="checkbox"/> ANALYTIC GEOMETRY |
| <input type="checkbox"/> ALGEBRA I | <input type="checkbox"/> TRIGONOMETRY |
| <input type="checkbox"/> ALGEBRA II | <input type="checkbox"/> PRE-CALCULUS |
| <input type="checkbox"/> INFORMAL GEOMETRY | <input type="checkbox"/> CALCULUS |
| <input type="checkbox"/> GEOMETRY | <input type="checkbox"/> NUMERICAL ANALYSIS |

OTHER: _____

C. ATTACH A COPY OF YOUR 2004-2005 FIRST SEMESTER REPORT CARD. (NO TRANSCRIPTS NOR PROGRESS REPORTS WILL BE ACCEPTED. MAKE SURE THE COPY SHOWS ALL CLASSES, NUMERICAL GRADES, AND HONOR CODES.)

D. HOW DID YOU FIRST HEAR ABOUT PREP? (PLEASE CHOOSE ONLY ONE RESPONSE.)

- | | | | |
|---|--|---------------------------------------|---------------------------------------|
| <input type="checkbox"/> TEACHER | <input type="checkbox"/> PRINCIPAL | <input type="checkbox"/> COUNSELOR | <input type="checkbox"/> POSTER/FLYER |
| <input type="checkbox"/> FORMER PARTICIPANT | <input type="checkbox"/> SCHOOL PRESENTATION | <input type="checkbox"/> OTHER: _____ | |

MAIL THE ENTIRE APPLICATION PACKET TO:

Alyne C. Fulte, Director
Las Cruces PREP
New Mexico State University
Electrical and Computer Engineering
P.O. Box 30001, MSC 3-O
Las Cruces, NM 88003-8001
PREP Office: (505) 646-3130
FAX: (505) 646-1435
Email: lcprep@nmsu.edu

LAS CRUCES PREFRESHMAN ENGINEERING PROGRAM (PREP)

**FIRST YEAR APPLICATION
JUNE 6 – JULY 22, 2005**

MATHEMATICS TEACHER NOMINATION FORM

DEADLINE: Postmarked on or before MARCH 1, 2005

DIRECTIONS: This nomination form will be kept **confidential**. Please fill out the nomination form, seal it in an envelope, and sign your name over the seal. Return the nomination form to the student to submit with their application. Otherwise, their application will be considered incomplete and will not be processed. Please type or print clearly.

PART 1 - TO BE COMPLETED BY APPLICANT (PART 2 MUST BE COMPLETED BY YOUR 2004-2005 MATH TEACHER.)

APPLICANT'S NAME: _____
LAST
FIRST
M.I.

SOCIAL SECURITY NUMBER: ____ - ____ - _____

SCHOOL NAME: _____ **CURRENT GRADE LEVEL:** _____

PART 2 - TO BE COMPLETED BY 2004-2005 MATHEMATICS TEACHER.

ESPECIALLY IMPORTANT IS YOUR EVALUATION OF THE STUDENT'S DESIRE TO WORK HARD AND TO LEARN DURING THIS EIGHT WEEK PROGRAM. WITHOUT THIS NOMINATION FORM, A STUDENT'S APPLICATION WILL BE CONSIDERED INCOMPLETE. PLEASE COMPLETE THE EVALUATION BELOW AS HONESTLY AS POSSIBLE. YOUR ASSISTANCE IS GREATLY APPRECIATED.

A. PLACE AN 'X' IN THE APPROPRIATE COLUMN FOR EACH CHARACTERISTIC LISTED.

CHARACTERISTIC	EXCELLENT	GOOD	FAIR	POOR
ACADEMIC PERFORMANCE				
CONDUCT IN CLASS				
WILLINGLY PARTICIPATES IN CLASS				
RESPECTS OTHERS AND THEIR PROPERTY				
ABILITY TO FOLLOW INSTRUCTIONS				
COMPLETES ASSIGNED WORK ON TIME				
ANALYTICAL THINKING SKILLS				
MATURITY				
PUNCTUALITY				
EAGER TO LEARN NEW THINGS				
STUDENT IS SUFFICIENTLY MOTIVATED TO COMPLETE AN 8 WEEK SUMMER PROGRAM				

B. INDICATE CURRENT MATH COURSE(S) YOU ARE TEACHING THE APPLICANT: _____

***NOTE: APPLICATION CONTINUED ON BACK**

C. PLEASE PROVIDE COMMENTS ON MOTIVATION, AMBITION, BEHAVIOR, PERSONALITY, ETC., THAT YOU FEEL ARE PERTINENT TO THE STUDENT'S PERFORMANCE IN PREP. IF THE STUDENT FAILS TO SATISFY SOME ACADEMIC REQUIREMENTS, PLEASE EXPLAIN IN DETAIL. ADDITIONAL COMMENTS MAY BE ATTACHED, IF NECESSARY.

TEACHER'S PRINTED NAME/TITLE

SCHOOL TELEPHONE NUMBER

TEACHER'S SIGNATURE

DATE

**LAS CRUCES PREFRESHMAN ENGINEERING PROGRAM (PREP)
FIRST YEAR PARTICIPANT
JUNE 6 – JULY 22, 2005**

OTHER SCHOOL OFFICIAL NOMINATION FORM

DEADLINE: POSTMARKED ON OR BEFORE MARCH 1, 2005

DIRECTIONS: This nomination form will be kept **confidential**. Please fill out the nomination form, seal it in an envelope, and sign your name over the seal. Return the nomination form to the student to submit with their application. Otherwise, their application will be considered incomplete and will not be processed. Please type or print clearly.

PART 1 - TO BE COMPLETED BY APPLICANT (PART 2 CANNOT BE COMPLETED BY YOUR MATH TEACHER. IT CAN BE FROM YOUR SCIENCE TEACHER, ENGLISH TEACHER, OR COUNSELOR.)

APPLICANT'S NAME: _____
LAST
FIRST
M.I.

SOCIAL SECURITY NUMBER: ____ - ____ - ____

SCHOOL NAME: _____ CURRENT GRADE LEVEL _____

PART 2 - TO BE COMPLETED BY 2004-2005 ENGLISH TEACHER, SCIENCE TEACHER OR COUNSELOR.

ESPECIALLY IMPORTANT IS YOUR EVALUATION OF THE STUDENT'S DESIRE TO WORK HARD AND TO LEARN DURING THIS EIGHT WEEK PROGRAM. WITHOUT THIS NOMINATION FORM, A STUDENT'S APPLICATION WILL BE CONSIDERED INCOMPLETE. PLEASE COMPLETE THE EVALUATION BELOW AS HONESTLY AS POSSIBLE. YOUR ASSISTANCE IS GREATLY APPRECIATED.

A. PLACE AN "X" IN THE APPROPRIATE COLUMN FOR EACH CHARACTERISTIC LISTED.

CHARACTERISTIC	EXCELLENT	GOOD	FAIR	POOR
ACADEMIC PERFORMANCE				
CONDUCT IN CLASS				
WILLINGLY PARTICIPATES IN CLASS				
RESPECTS OTHERS AND THEIR PROPERTY				
ABILITY TO FOLLOW INSTRUCTIONS				
COMPLETES ASSIGNED WORK ON TIME				
ANALYTICAL THINKING SKILLS				
MATURITY				
PUNCTUALITY				
EAGER TO LEARN NEW THINGS				
STUDENT IS SUFFICIENTLY MOTIVATED TO COMPLETE AN 8 WEEK SUMMER PROGRAM				

B. INDICATE CURRENT COURSE(S) YOU ARE TEACHING THE APPLICANT: _____

***NOTE: APPLICATION CONTINUED ON BACK**

- C. PLEASE PROVIDE COMMENTS ON MOTIVATION, AMBITION, BEHAVIOR, PERSONALITY, ETC., THAT YOU FEEL ARE PERTINENT TO THE STUDENT'S PERFORMANCE IN PREP. IF THE STUDENT FAILS TO SATISFY SOME ACADEMIC REQUIREMENTS, PLEASE EXPLAIN IN DETAIL. ADDITIONAL COMMENTS MAY BE ATTACHED, IF NECESSARY.

TEACHER'S /COUNSELOR'S PRINTED NAME AND TITLE

SCHOOL TELEPHONE NUMBER

TEACHER'S /COUNSELOR'S SIGNATURE

DATE

INCOME ELIGIBILITY APPLICATION

New Mexico Summer Food Service Program

The sponsoring organization assures the New Mexico Children, Youth & Families Department, that all enrolled participants in attendance will be offered the same meals without physical segregation of, or other discriminatory action against any child because of race, color, national origin, sex, age, or disability. If you believe you or anyone has been discriminated against, please write to: USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

PART 1. INDICATE NAMES AND AGES OF CHILDREN FOR WHOM THE APPLICATION IS MADE:

NAME	AGE	NAME	AGE
_____	_____	_____	_____
_____	_____	_____	_____

PART 2. HOUSEHOLDS NOW RECEIVING FOOD STAMPS OR FOOD DISTRIBUTION PROGRAM ON INDIAN RESERVATIONS (FDPIR) BENEFITS: COMPLETE THIS PART AND SIGN THE STATEMENT IN PART 4. DO NOT COMPLETE PART 3.

Food Stamp Case Number: _____ FDPIR Identification Number: _____

PART 3. ALL OTHER HOUSEHOLD INFORMATION: IF YOU DID NOT COMPLETE PART 2, COMPLETE THIS PART AND PART 4.

a.) Names of Household Members. List all related and unrelated persons who live in your household and share living expenses or meals. **(Do not include children listed above.)**

NAME	NAME	NAME
_____	_____	_____
_____	_____	_____
_____	_____	_____

TOTAL NUMBER IN HOUSEHOLD: _____

b.) Household Income - Total Per Month Before Taxes: Indicate the source and amount of current income for all members of your household. Follow the definition of income specified in the income eligibility standards. If you receive more than one check from any of these sources, indicate the total monthly amount received.

Wages, Salary: \$ _____	Child Support/Alimony: \$ _____	TOTAL MONTHLY INCOME:	
Social Security: \$ _____	Pension/Retirement: \$ _____		
Unemployment: \$ _____	Other Income: \$ _____		\$ _____

PART 4. SIGNATURE AND PENALTIES FOR MISREPRESENTATION:

I certify that the above information is true and correct and that the Food Stamp or FDPIR numbers are correct or that all income is reported. I understand that this application is being made with the receipt of Federal funds and that program officials may verify the information on this application. I further understand that deliberate misrepresentation of any of the information on this application may subject me to prosecution under applicable State and Federal Laws.

Signature of Adult Family Member

Social Security Number

Section 9(d) of the National School Lunch Act requires that, unless the participant's Food Stamp or FDPIR numbers are provided, the Social Security number of the household member signing this application must be included or an indication that the household member signing the statement does not possess a Social Security number. Provision of these Social Security number is not mandatory, but if it is not provided, the application cannot be approved. The Social Security number may be used to identify household members in carrying out efforts to verify the correctness of information stated on the application. These verification efforts may be carried out through program reviews, audits, and investigations and may include contacting employers to determine income, contacting Food Stamp or FDPIR offices to determine the current certification for receipt of Food Stamp or FDPIR benefits, contacting the State Employment Security office to determine the amount of benefits received, and checking the documentation produced by household members to prove the amount of income received. These efforts may result in a loss or reduction of benefits, administrative claims, or legal actions if incorrect information is received. In certain cases, foster children are eligible for free meals regardless of household income. If such children are living with you and you wish to apply for such meals, please contact us.

FOR SFSP SPONSOR USE ONLY

____ Eligible ____ Ineligible

Sponsoring Organization

Official Signature

Date

SUMMER FOOD SERVICE PROGRAM INCOME ELIGIBILITY GUIDELINES

(EFFECTIVE FROM JULY 1, 2004 TO JUNE 30, 2005)

<i>HOUSEHOLD SIZE</i>	<i>INCOME</i>		
	<i>Year</i>	<i>Month</i>	<i>Week</i>
1	16,613	1,385	320
2	22,422	1,869	432
3	28,231	2,353	543
4	34,040	2,837	655
5	39,849	3,321	767
6	45,658	3,805	879
7	51,467	4,289	990
8	57,276	4,773	1,102
For each additional family member	+5,809	+485	+112

DEFINITION OF INCOME

“Income” means income before deductions from income taxes, employee’s social security taxes, insurance premiums, charitable contributions, and bonds, etc. It includes the following: (1) monetary compensation for services, including wages, salary, commissions, or fees; (2) net income from nonfarm self-employment; (3) net income from farm self-employment; (4) social security; (5) dividends or interest on savings or bonds, income from estates or trusts or net rental income; (6) public assistance or welfare payments; (7) unemployment compensation; (8) government civilian employee or military retirement, or pensions or veteran’s payments; (9) private pensions or annuities; (10) alimony or child support payments; (11) regular contributions from persons not living in the household; (12) net royalties; (13) “Military benefits received in cash, such as, housing allowance for military households living off-base, food allowance, and uniform allowance, must be considered as income”; (14) and other cash income.

DEFINITION OF HOUSEHOLD

Household means “family” as defined in Section 225.2. FAMILY means in the case of children, a group of related or nonrelated individuals who are not residents of an institution or boarding house, but who are living as one economic unit or, in the case of adult participants, the adult participant, and if residing with the adult participant, the spouse and dependents(s) of the adult participant.

LAS CRUCES PREFRESHMAN ENGINEERING PROGRAM (PREP)

The Klipsch School of Electrical and Computer Engineering
New Mexico State University
MSC 3-O / P.O. Box 30001
Las Cruces, NM 88003-8001
Office: (505) 646-3130 Fax: (505) 646-1435
lcprep@nmsu.edu



March 23, 2005

Ms. Jane Engineer
123 Space Highway
Orbit City, NM 88001

Dear Jane:

Congratulations! I am pleased to inform you that you have been selected as a first year participant in the 2005 Las Cruces Prefreshman Engineering Program at New Mexico State University. Your dedication to your education is to be commended.

Included with this letter is the 2005 PREP Checklist. Please read it carefully and keep it handy because it contains vital information that you may need to refer to periodically. Pay special attention to the PREP Rules and Regulations which, as a PREP participant, you will be expected to abide by. In addition, please notify our office immediately if you change your address. This will ensure that you receive all necessary PREP information during the next couple of months.

The first meeting (student orientation) will be held from 9:00 - 10:00 a.m. on **Monday, June 6, 2005**, in the Chemistry Building, Rm. 111 at NMSU. A campus map will be included in the next mailout.

The enclosed 2005 PREP Acceptance Reply Form must be postmarked on or before **April 15, 2005**, to:

Las Cruces PREP
New Mexico State University
Electrical and Computer Engineering
P.O. Box 30001, MSC 3-O
Las Cruces, NM 88003

Because of the length of our waiting list, we will need to strictly enforce the deadline, and we ask for your cooperation.

I look forward to having you as a 2005 Las Cruces PREP participant. Meanwhile, if you have any further questions, please feel free to contact me.

Warm regards,

Alyne C. Fulte, Director
Las Cruces PREP

ACF:ja

Attachments: 2005 Checklist and Acceptance Reply Form

2005 PREP ACCEPTANCE REPLY
DEADLINE: April 15, 2005

1. CHECK THE APPROPRIATE RESPONSE:

() I **ACCEPT** the program offer to attend 1st year PREP at **New Mexico State University**.

() I **DECLINE** the program offer and will give my position to an applicant on the waiting list.

2. We would like to verify the information currently stored in our database. Our records for you are as follows:

Name:	Jane Engineer	Social Security Number:	111 22 3333
Address:	123 Space Highway	Phone Number:	555-MARS
	Orbit City, NM 88001	Grade Level:	7
		School:	Orbit City Middle

IF ANY OF THE ABOVE DATA IS **INCORRECT**, PLEASE PROVIDE THE **CORRECT** INFORMATION BELOW.

NAME: _____ **SS#** _____

ADDRESS: _____ **PHONE NUMBER:** _____

_____ **GRADE LEVEL:** _____

SCHOOL: _____

STUDENT PLEDGE:

I will be available to attend PREP during the regular designated hours and also during hours designated for special events for seven weeks unless prior written documentation from parent/guardian has been submitted for approval to the site director. I understand the absentee policy and fully intend to comply with this policy and all PREP rules.

Student Signature Date

PARENT/GUARDIAN CONSENT:

I approve of my child's participation in PREP as indicated above and understand this involves a commitment of seven weeks attendance in PREP. I understand the absentee policy and fully intend to comply with this policy and all PREP rules.

Parent/Guardian Signature Date Daytime Phone Number

FORM MUST BE POSTMARKED ON OR BEFORE **April 15, 2005** AND MAILED TO:

LAS CRUCES PREP
NEW MEXICO STATE UNIVERSITY
ELECTRICAL AND COMPUTER ENGINEERING DEPARTMENT
P.O. BOX 30001, DEPARTMENT 3-0

LAS CRUCES, NM 88003

2005 PREP I CHECKLIST
(New Mexico State University-Las Cruces PREP)

1. **DATES:** June 6 to July 22, 2005 (July 1st and 5th are PREP holidays)
2. **HOURS:** 9:00 a.m. - 3:30 p.m., Monday-Thursday
Fridays are reserved for field trips and other special events.
3. **FIRST MEETING:** New Mexico State University, 9:00 a.m., June 6, 2005, Chemistry Building - Room 111.

4. **FACILITIES:**

All program functions, except for field trips, will be on the New Mexico State University campus. Program staff will be available for supervised research and individual consultations. The library facilities of New Mexico State University will be available to program participants. Vending machines are located throughout each building. Other campus privileges will be discussed at the first meeting on June 6th and the parent orientation on May 17th.

5. **TRANSPORTATION:**

Participants from the Las Cruces Public Schools will be responsible for their transportation to and from New Mexico State. Roadrunner City Bus passes can be purchased for PREP participants at a rate of \$7.50 per month. Gadsden ISD and Hatch Valley Public Schools will be providing busing for students enrolled in their districts. More information will be provided in the next mailing scheduled for early May.

6. **PARENT ORIENTATION:**

A Parent Orientation will be held at **7:00 p.m. on Tuesday, May 17, 2005, in Gerald Thomas, Room 194.** Attendance is recommended and strongly encouraged, but not mandatory.

7. **SUMMER FOOD SERVICE PROGRAM (SFSP):**

We anticipate that the Summer Food Service Program will provide free lunches to all those who meet income eligibility requirements. Children who are members of food stamp households, AFDC, or FDPIR participants will be automatically eligible to receive free meal benefits if we are approved to be a SFSP Sponsor. We are striving to provide free lunches to all participants. Income eligibility forms were attached to all PREP applications. If you have any questions about your status please contact our office. The Summer Food Service Program does not discriminate because of race, color, age, sex, disability, or national origin.

8. **PROGRAM OPERATION: (Monday – Thursday)**

Below is a typical day for first year PREP:

9:00	Roll Call
9:10-9:50	Career Awareness Seminar
10:00-10:50	Logic
11:00-11:50	Engineering/Computer Science
12:00-12:50	Lunch
12:50	Roll Call
1:00-1:50	Problem Solving Seminar
2:00-3:30	Research and Study
3:30	Dismissal

Fridays are reserved for field trips and other special events.

(continued on back)

9. **PREP RULES**

- (a) Excused absences are given for family emergencies and illness only. Consequently, excused absences are not given for family vacations, church camps, cheerleading camps, leadership camps, ROTC camps, band camps, sports camps, etc. **The third absence will result in dismissal from the program. Unexcused absences are not allowed and will result in immediate dismissal from the program.** Twenty-four (24) hours advanced notice, via phone call or letter, is requested for any absence unless it is due to a family emergency or illness. *Any excused absence requires written documentation from the parent upon the participant's return.*
- (b) **Attendance at the Closing Day Ceremony on July 22nd is mandatory for successful program completion.**
- (c) Participants are expected to be punctual for all class and roll calls. Las Cruces PREP is a "closed" campus. Therefore, participants may not leave the campus for any reason at any time. If a participant will be tardy at the beginning of the day or early dismissal is requested, then the parent or guardian should notify the PREP Office (646-3130) 24 hours in advance if at all possible. **Participants with more than 3 tardies or early dismissals will be asked to resign from the program.**
- (d) You may wear comfortable classroom attire appropriate for summer weather such as shorts and t-shirts. Spandex clothing, shower sandals, tank shirts, slip dresses, shirts that may expose the midriff, short shorts, and caps are not permitted. The Las Cruces PREP Director reserves the right to ask any participant to refrain from wearing other inappropriate clothing.
- (e) Library privileges will be in accordance with the NMSU campus site policy.
- (f) Students are **NOT** allowed to bring radios, headphone sets, cameras, games or toys, including Nintendo games, to any PREP site under any circumstance. The above will be confiscated and not returned until the parent/guardian contacts the Las Cruces PREP Office.
- (g) Gum, food, drinks, etc., are not allowed in the lecture halls or classrooms.
- (h) Any participant caught with cigarettes or chewing tobacco will be immediately dismissed.
- (i) Unruly and disrespectful behavior is grounds for dismissal.

10. **COMPONENT WEIGHT:**

Each student's final PREP grade will be calculated using the following:

Logic and Its Application to Mathematics	50%
Introduction to Computer Science	10%
Introduction to Engineering	10%
Problem Solving	20%
Speaker/Writing/Learning Log	10%

11. **PREP GRADING SCALE:**

A+	100.00 - 99.00 (Outstanding)	C	84.99 - 75.00
A+	98.99 - 98.00 (Honors)	D	74.99 - 69.50
A	97.99 - 93.00	F	BELOW 69.50
B	92.99 - 85.00		

12. **INQUIRIES:** If you have any questions or comments, please call the Las Cruces PREP Office at 646-3130.

LAS CRUCES PREFRESHMAN ENGINEERING PROGRAM

This is to certify that

Jane Engineer

has fulfilled the first year PREP requirements and has earned this

Certificate of Promotion

and is now eligible to enter second year PREP

Dated this 22nd day of July, 2005

Michael V. Martin, President

Alyne C. Fulte, LC PREP Director

LAS CRUCES PREFRESHMAN ENGINEERING PROGRAM

This is to certify that

Joe Scientist

has fulfilled the second year PREP requirements and has earned this

Certificate of Promotion

and is now eligible to enter third year PREP

Dated this 22nd day of July, 2005

Michael V. Martin, President

Alyne C. Fulte, LC PREP Director

LAS CRUCES PREFRESHMAN ENGINEERING PROGRAM

For having willingly devoted three summer vacations
in pursuit of educational excellence

Gilbert Mathematician

has earned this

Certificate of Graduation

By completing all three components of the PREP program

Dated this 22nd day of July, 2005

Michael V. Martin, President

Alyne C. Fulte, LC PREP Director

**LAS CRUCES PREP
PERMISSION TO PARTICIPATE**

In full recognition and appreciation of the hazards and exposures involved, I do hereby give my son/daughter (listed below) my voluntary permission to participate in the Las Cruces Prefreshman Engineering Program scheduled from June 6 through July 22, 2005, at New Mexico State University. Further, I do for myself, my heirs, and personal representative(s) hereby defend, hold harmless, indemnify and release and forever discharge any officers, agents, employees and volunteers of *New Mexico State University, Las Cruces Public Schools* or *Durham School Services* from and against any and all claims, demands, and actions, or causes of action of any sort on account of damage to personal property, or personal injury, or death which may result from my son/daughter's participation. I have read and execute this document with full knowledge of its significance.

Participant's Name (please print): _____

Parent/Guardian's Name (please print): _____

Parent/Guardian's Signature: _____

Date: _____

FIELD TRIP PERMISSION FORM

TO BE FILLED OUT BY PARTICIPANT:

I wish to attend the field trips on the schedule listed to the right. I agree to follow all PREP rules and to be on my best behavior. If I cannot attend a field trip, I agree to give at least two days advance notice unless the absence is due to an emergency or illness. I understand that lack of attendance on a field trip will be considered as an absence.

(STUDENT)
PRINTED NAME: _____

SIGNATURE: _____

DATE: _____

TO BE FILLED OUT BY THE PARENT OR GUARDIAN:

I authorize my child to attend the PREP field trips listed on the schedule to the right. I agree not to hold *New Mexico State, Las Cruces Public Schools, Durham School Services* nor any member of the Las Cruces PREP staff responsible for any injuries my child may incur during these field trips.

(PARENT)
PRINTED NAME: _____

SIGNATURE: _____

DATE: _____

PREP 1 FIELD TRIPS 2005		
DATE	GROUP	DESTINATION
6/10/05	AB	Insights Museum
	BC	Elephant Butte Irrigation District
6/17/05	AB	White Sands Missile Range
	CD	Insights Museum
6/22/05	AB	NASA
	CD	White Sands Missile Range
6/24/05	AB	Elephant Butte Irrigation District
	CD	NASA
7/8/05	ALL GROUPS	Carlsbad Caverns

Las Cruces Prefreshman Engineering Program

Final Progress Report (PREP 1)
Summer 2004

Participant's Name: **Jane** **Engineer**
 Social Security: **111-22-3333**
 School: **Gadsden Middle School**

FINAL PREP STANDING

Logic	100
Computer Science	100
Engineering	100
Problem Solving	
Research Study	100
FINAL SCORE	100.00

PERCENTAGE BREAKDOW

Logic	50%
Computer Science	10%
Engineering	10%
Problem Solving	20%
Research Study	10%

PREP GRADING SCALE

A+ (Outstanding)	100.00-99.00
A+ (Honors)	98.99-98.00
A	97.99-93.00
B	92.99-85.00
C	84.99-75.00
D	74.99-69.50
F	Below 69.50

Las Cruces Prefreshman Engineering Program Mid-Term Probation Contract

All Las Cruces PREP Participants must complete PREP with a 70% Final Grade if they are to receive a certificate of graduation on July 22, 2005. Because your current mid-term average is less than 75%, we are placing you on a probation contract. The terms of the contract are as follows:

1. Our instructor(s) will be giving you some cumulative problem sets to complete. These must all be completed, with diligent effort, by the deadline given.
2. Any and all future assignments from your instructors must be turned in complete, and at the deadline assigned.
3. Failure to complete any assignment given by your instructor(s) is grounds for dismissal from PREP.

Please understand that this is being done to help ensure that you are able to graduate and that you are able to receive elective math credit from your school district.

By signing below, I am agreeing to the conditions above.

Participant's Name (please print) _____

Participant's Signature _____

Date _____

Parent's Name (please print) _____

Parent's Signature _____

Date _____

***Las Cruces Prefreshman Engineering Program
Parent Orientation Agenda
May 17, 2005, 7:00 p.m., Gerald-Thomas Hall, Room 194***

- I. Introductions and Acknowledgements
Ms. Alyne Fulte, Las Cruces PREP Director
- II. Welcome
Dr. Steven Castillo, Dean, College of Engineering
- III. PREP Background Information
Ms. Alyne Fulte, Las Cruces PREP Director
- IV. Campus Security
Lt. Doug Teweliet, NMSU Police Department
- V. Transportation for HVPS Participants
Ms. Alyne Fulte, Las Cruces PREP Director
- VI. Transportation for GISD Participants
Ms. Ann Steinhoff, Director of Federal Programs, GISD
- VII. Transportation for LCPS Participants
Ms. Alyne Fulte, Las Cruces PREP Director
- VIII. Library Facilities
Ms. Mary Chavarria, Library Specialist III, NMSU
- IX. Counseling Program
Dr. Luis Vázquez, Head, Counseling & Educational Psychology
- X. Summer Food Service Program
Ms. Alyne Fulte, Las Cruces PREP Director
- XI. Forms
Ms. Alyne Fulte, Las Cruces PREP Director
- XII. Questions & Answers
Las Cruces PREP Parents

***Programa de Las Cruces para Ingreso a la Facultad de Ingeniería
Agenda de Orientación para Los Padres
17 de Mayo, 2005, 7:00 p.m., Gerald-Thomas Hall, Salon #194***

- I. Introduccion y Reconocimientos
 Profa. Alyne Fulte, Directora de PREP de las Cruces
- II. Bienvenida
 Dr. Steven Castillo, Decano de la Escuela de Ingeniería
- III. Informacion de Antecedentes de PREP
 Profa. Alyne Fulte, Directora de PREP de Las Cruces
- IV. Seguridad en el Campus
 Lt. Doug Teweliet, Departamento de Policia, NMSU
- V. Transporte para los Participantes de HVPS
 Profa. Alyne Fulte, Directora de PREP de las Cruces
- VI. Transporte para los Participantes de GISD
 Srita. Ann Steinhoff, Directora del Programmas Federales, GISD
- VII. Transporte para los Participantes de LCPS
 Profa. Alyne Fulte, Directora de PREP de las Cruces
- VIII. Facilidades de la Biblioteca
 Srita. Mary Chavarria, Especialista de Biblioteca, NMSU
- IX. Programa de Consejeras
 Prof. Luis Vázquez, Jefe, Psicología Educativa y de Consejeria
- X. Programa de Comida de Verano
 Profa. Alyne Fulte, Directora de PREP de Las Cruces
- XI. Solicitudes
 Profa. Alyne Fulte, Directora de PREP de Las Cruces
- XII. Sección de Preguntas y Respuestas
 Para los padres de los participantes de PREP

Benefactors

Albertsons
Aramark
Gadsden Independent School District
General Motors Foundation
Hewlett Foundation
Hatch Valley Public Schools
Intel Foundation
Las Cruces Public Schools
New Mexico Alliance for Minority Participation
New Mexico State University
New Mexico WERC
New Mexico Summer Food Service Program
Western Refining
Wolslager Foundation

PREP Staff

Jennifer Alexander
Eunice Angulo
Bill Curtis
Joel Davis
Alyne Fulte
Paul Furth
Susie Gabaldon
Jennie Giron
Renna Haag
Monique Jackson
Eddie Montoya
Eric Moreno
Andrew Peña
Alex Podruchny
Brady Rocks
Megan Schadler
Sharon Schadler
Catherine Sullivan
Jon Trejo
Gloria Valdez

LAS CRUCES PREFRESHMAN ENGINEERING PROGRAM

Proyecto Access



**Ninth Annual
Closing Assembly
July 22, 2005**

Corbett Center Ballrooms

Presentation of the Colors

Mayfield High School Air Force Junior ROTC

The National Anthem

Mr. Eddie Montoya, Violinist
Mr. Marco Lopez, Violinist

Invocation

Dr. Paul Furth, Elder, Heart for the World Vinyard Church

Welcome

Ms. Alyne Fulte, Director, Las Cruces PREP

Introductions & Special Awards

Mrs. Alyne Fulte, Director, Las Cruces PREP

PREP Slide Show

PREP Participant Speakers

Serina Apodaca (PREP 1)
Anna Cibils (PREP 2)
Fazzel Gurrola, Sophia Cheng (PREP 3)

Presentation of the "Dr. B" Awards

Mrs. Alyne Fulte, Director, Las Cruces PREP

PREP Success

Mr. Leo Banuelos, Former PREP Student, Mentor & Instructor

Keynote Speaker

Dr. Steven Castillo, Dean, College of Engineering

Presentation of Certificates

Jennie Giron
Alex Podruchny
Megan Schadler
Jonathan Trejo
Andrew Pena
Monique Jackson
Eddie Montoya
Brady Rocks

Benediction

Dr. Paul Furth, Elder, Heart for the World Vinyard Church

Las Cruces PREP 2005

<p>Jennie - 1A</p> <p>Erick Alvarez Miranda Alvidrez Katherine Cahill Paul Candelaria Steven Castillo Jose Corral Alejandra Dominguez Lee Anne Favela Breanna Forbess Rachel Kim Randy Morales Pamela Muñoz Cassidy Peterson Dylan Ramirez Diana Rodriguez Elizabeth Soto Erica Vasquez</p>	<p>Alex - 1B</p> <p>Mayyadah Ahmad Jonathan Beck Elise Kowalski Lasu Limbu Esteban Martinez Charlotte McGee Guillermo Nuñez Ruby Ronquillo Tony Sanzotta Dominic Sanzotta Angelic Sessions Cesar Soria Jenni Ting Diana Torres EJ Wilson</p>	<p>Megan - 1C</p> <p>Serina Apodaca Aaron Bagley Abhishek Bhandari Elisa Cibils Shannon Creegan Cesar De Luna Stephanie Garcia Arthur Kindig Bianca Maese Erica Martinez Caitlin Ortiz Joshua Pettit Chloe Piña Sundeep Podila Jeannie Ramirez Shelby Van Arnam Elizabet Varela Tina Zuniga</p>	<p>Jon - 1D</p> <p>Christopher Almonte Mario Ascencio Alan Chavez Eddie Diaz Jose Enriquez Derrick Fields Jezheel Flores Mireya Jurado Leonel Legarreta Sarah Libeau Marco López Evan Meza Santiago Meza Andrea Nuñez Crystal Ochoa Mayra Olivas Sergio Pantoya Christian Salazar Alexis Santiago Kevin Schulmeister Rebekah Villa Anna Lee Zamarippa</p>
<p>Andrew - 2A</p> <p>Lizeth Armendariz Priscilla Banuelos Hillary Bennett Brianna Bonfantini Chris Corral Josh De Los Santos Yadet Duran Irving Hernandez Guadalupe Jaramillo Melanie Lytle Darrell Mesa Derrick Mesa Salvador Morales Myra Murillo Lo Gayle Omos Kristina Padilla Yvonne Podruchny David Rodriguez Claudia Salais Jordan Slabe Ashley Valencia Estevan Varela</p>	<p>Monique - 2B</p> <p>Joseph Baca CJ Barberan Anna Cibils Isaac Duran Edwin Gamboa Destiny Hernandez Katrina Krynitz Natalie Kutchera Micaela Legarda Eric Lucero Sowmiya Murali Natasha Nesiba Frankie Portillo Kyle Purcell Carolina Rios Karla Rodriguez Kathryn Sager Erika Sanchez Kara Shervanick Krystalee Vigil</p>	<p>Eddie - 3A</p> <p>Isaac Dominguez Natalie Duran Fazzel Gurrola Maria Maldonado Vanessa Martinez Laura Mejia Taylor Nunn Matthew Ogaz Pedro Olivas Roman Peña Lauren Pincomb Angelica Rivera Armando Vargas Jeffrey Wang</p>	<p>Brady - 3B</p> <p>Sophia Cheng Michael Chieffo Kevin Gutierrez Katherine Hansen Jordan Harrison Amanda Holguin Jonathan Lin Daisy López Storm McNab Adrian Mejia Karen Nehemiah Mark Norris Alliandra Ornelas Gerardo Soria</p>

LAS CRUCES PREFRESHMAN ENGINEERING PROGRAM

Proyecto Access



Albertsons
Aramark
Gadsden Independent School District
General Motors
Hewlett Foundation
Hatch Valley Public Schools
Intel Foundation
Las Cruces Public Schools
New Mexico State University
New Mexico Summer Food Service Program
State of New Mexico
Western Refining
Wolslager Foundation

PROGRAM INSTRUCTOR APPLICATION

LAS CRUCES PREP

PROGRAM INSTRUCTOR JOB DESCRIPTION

BACKGROUND:

Las Cruces PREP is an intensive seven-week, mathematics based, summer program which provides educational enrichment for achieving middle and high school students. Our goal is to help these students gain the knowledge and skills necessary to pursue careers in science and engineering. We are part of a national organization called Proyecto Access, which was modeled after the highly successful TexPREP program.

DATES OF OPERATION:

June 6 – July 22, 2005

PROGRAM OPERATION:

Below is a typical daily schedule (Monday - Thursday) for the summer program:

8:00	Staff Meeting
9:00	Roll Call
9:10-9:50	Career Awareness Seminar (<i>All Levels</i>)
10:00-10:50	Logic (<i>PREP 1</i>) Algebraic Structures (<i>PREP 2</i>) Probability and Statistics (<i>PREP 3</i>)
11:00-11:50	Engineering/Computer Science (<i>PREP 1</i>) Physics (<i>PREP 2</i>) Technical Writing (<i>PREP 3</i>)
12:00-12:50	Lunch
12:50	Roll Call
1:00-1:50	Problem Solving Seminar (<i>All Levels</i>)
2:00-3:30	Research and Study (<i>All Levels</i>)
3:30	Roll Call and Dismissal

The staff of Las Cruces PREP endeavors to make Fridays special for the participants with field trips and special events like the annual rocket launch competition.

DUTIES AND RESPONSIBILITIES OF A PROGRAM INSTRUCTOR:

Program instructors will teach three one-hour courses per day for the seven-week program. They must be available eight hours per day for eight weeks and must:

- Attend daily staff meetings and/or planning sessions.
- Formulate lesson plans from a set of curriculum provided during staff orientation.
- Prepare quizzes, tests, final examinations and other evaluation instruments.
- Determine grades for students enrolled in their classes.
- Be available for one-on-one tutoring with students before and after classes.
- Assist with special PREP activities.
- Work with program assistant mentors daily to develop and coordinate lesson plans for effective instruction.
- Perform other duties as assigned by the director.

(Over)

EMPLOYMENT DATES:

June 1 - July 22, 2005

PROYECTO ACCESS WILL NOT DISCRIMINATE ON THE GROUNDS OF RACE, CREED, SEX, COLOR, AGE, HANDICAP, RELIGION, OR NATIONAL ORIGIN OF ANY APPLICANT.

PLEASE SUBMIT THE ATTACHED INSTRUCTOR APPLICATION FORM AND A ONE PAGE RESUMÉ TO:

Alyne C. Fulte, Director
Las Cruces PREP
New Mexico State University
Klipsch School of Electrical & Computer Engineering
MSC 3-O, P.O. Box 30001
Las Cruces, NM 88003

PREP Office: 646-3130
Fax: 646-1435
Email: lcprep@nmsu.edu or afulte@nmsu.edu

2005 LAS CRUCES PREP INSTRUCTOR APPLICATION

Please Print or Type:

1. FULL NAME LAST FIRST MI

PLEASE CHECK APPROPRIATE TITLE: () Dr. () Mr. () Mrs. () Ms. () Other:

RANK, if applicable: BRANCH OF SERVICE:

2. SOCIAL SECURITY NUMBER: DOB:

3. CURRENT PHONE NO.: PERMANENT PHONE NO.:

4. CURRENT MAILING ADDRESS: STREET CITY STATE ZIP

5. PERMANENT ADDRESS: STREET CITY STATE ZIP

6. EMPLOYMENT JOB TITLE: /EMPLOYER:

7. WORK ADDRESS: Company Name (indicate school name, if applicable) Department Street Address City State Zip

8. WORK TELEPHONE NUMBER:() E-MAIL ADDRESS:

9. IMMEDIATE SUPERVISOR'S NAME AND TITLE:

10. ACADEMIC PREPARATION: Table with columns: College/University, Year Graduated, Degree Earned, Major

11. COMPUTER LANGUAGE SKILLS: Table with columns: Language, Proficiency Level, Excellent, Good, Fair, Poor

12. TEACHING CERTIFICATE (Y/N)? /DATE OF CERTIFICATION: /TEACHING EXPERIENCE (# OF YRS):

13. WHAT DATES ARE YOU AVAILABLE TO WORK? FROM TO

14. HOW WERE YOU REFERRED TO PROYECTO?

15. WHAT COURSE(S) WOULD YOU PREFER TO TEACH?

(NUMBERS 16-17 ARE OPTIONAL AND CONFIDENTIAL; USED FOR STATISTICAL PURPOSES ONLY)

16. ETHNICITY: () American Indian () Anglo () African American () Hispanic () Asian/Oriental

17. GENDER: () Male () Female

I CERTIFY THAT THE STATEMENTS MADE IN THIS APPLICATION ARE TRUE, COMPLETE, AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND ARE MADE IN GOOD FAITH. I UNDERSTAND THAT ANY FALSE STATEMENTS MADE HEREIN WILL VOID THIS APPLICATION AND ANY ACTIONS BASED ON IT. I UNDERSTAND THAT ANY OFFER OF EMPLOYMENT TENDERED ME IS CONTINGENT UPON MY AGREEMENT TO ABIDE BY THE RULES AND REGULATIONS OF THE PROYECTO ACCESS PROGRAM.

SIGNATURE OF APPLICANT: DATE:

FOR OFFICE USE ONLY: SPO EMP. DATES:

LAS CRUCES PREFRESHMAN ENGINEERING PROGRAM

Proyecto Access



Albertsons
Aramark
Gadsden Independent School District
General Motors
Hewlett Foundation
Hatch Valley Public Schools
Intel Foundation
Las Cruces Public Schools
New Mexico State University
New Mexico Summer Food Service Program
State of New Mexico
Western Refining
Wolslager Foundation

PROGRAM ASSISTANT MENTOR APPLICATION

LAS CRUCES PREP

PROGRAM ASSISTANT MENTOR JOB DESCRIPTION

BACKGROUND:

Las Cruces PREP is an intensive seven week, mathematics based, summer program which provides educational enrichment for achieving middle and high school students. Our goal is to help these students gain the knowledge and skills necessary to pursue careers in science and engineering. We are part of a national organization called Proyecto Access, which was modeled after the highly successful TexPREP program.

DATES OF OPERATION:

June 6 – July 22, 2005

PROGRAM OPERATION:

Below is a typical daily schedule (Monday - Thursday) for the summer program:

8:00	Staff Meeting
9:00	Roll Call
9:10-9:50	Career Awareness Seminar (<i>All Levels</i>)
10:00-10:50	Logic (<i>PREP 1</i>) Algebraic Structures (<i>PREP 2</i>) Probability and Statistics (<i>PREP 3</i>)
11:00-11:50	Engineering/Computer Science (<i>PREP 1</i>) Physics (<i>PREP 2</i>) Technical Writing (<i>PREP 3</i>)
12:00-12:50	Lunch
12:50	Roll Call
1:00-1:50	Problem Solving Seminar (<i>All Levels</i>)
2:00-3:30	Research and Study (<i>All Levels</i>)
3:30	Roll Call and Dismissal

PREP endeavors to make Fridays special for the participants with field trips and special events like the annual rocket launch competition.

DUTIES AND RESPONSIBILITIES OF A PROGRAM ASSISTANT MENTOR:

Before the program begins, attend staff orientation and prepare for program operation.

During the program, monitor a group of approximately 20 students with the following specific duties:

- Take attendance of assigned students several times daily and, in general, be responsible for their whereabouts.
- Attend classes and laboratories with students and assist instructors.
- Supervise research and study period.
- Maintain records of students' work.
- Assist in preparation of special activities.

Some program assistant mentors will be assigned to monitor laboratories and assist in daily operations.

(over)

QUALIFICATIONS FOR PROGRAM ASSISTANT MENTOR:

- ◆ Currently a college student having completed at least one year of college with 2.5+ GPA.
- ◆ Completion of Calculus II (preferred).
- ◆ Available to work from 8:00 a.m. to 5:00 p.m. daily between June 1 and July 23, 2004.
- ◆ Preference given to college science or engineering majors.

EMPLOYMENT DATES:

June 1 – July 22, 2005

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PLEASE SUBMIT THE APPLICATION, YOUR ESSAY, LIST OF REFERENCES, RESUMÉ, AND A COPY OF YOUR LATEST TRANSCRIPT (AN UNOFFICIAL COPY IS ACCEPTABLE) TO:

Alyne C. Fulte, Director
Las Cruces PREP
New Mexico State University
Klipsch School of Electrical & Computer Engineering
MSC 3-O, P.O. Box 30001
Las Cruces, NM 88003

PREP Office: 646-3130
Fax: 646-1435
Email: lcprep@nmsu.edu or afulte@nmsu.edu

LAS CRUCES PREFRESHMAN ENGINEERING PROGRAM (PREP)

The Klipsch School of Electrical and Computer Engineering
New Mexico State University
MSC 3-O / P.O. Box 30001
Las Cruces, NM 88003-8001
Office: (505) 646-3130 Fax: (505) 646-1435
lcprep@nmsu.edu



MEMORANDUM

MEMO TO: All Las Cruces PREP Staff
FROM: Alyne C. Fulte, Director, Las Cruces PREP
SUBJECT: Staff Orientation
DATE: May 6, 2005

Listed below is the staff orientation schedule for the week of June 2nd through June 4th. All meetings will be held in Thomas & Brown 108. Please let me know if there are any conflicts.

WEDNESDAY JUNE 1, 2005

8:30 to 9:30 a.m.	Instructor Orientation	<i>All PREP Instructors</i>
9:30 to 10:45 a.m.	SFSP Training	<i>All PREP Staff</i>
10:45 to 11:45	General Staff Meeting	<i>All PREP Staff</i>
1:30 to 3:00	Mentor Orientation	<i>All PREP Mentors</i>

THURSDAY JUNE 2, 2005

8:00 a.m. – 4:30 p.m. CPR/First Aid Training (*All PREP Staff*)
** Lunch will be provided

FRIDAY JUNE 3, 2005

8:30-10:30	PREP 1 Forms	<i>(Jennie, Megan, Alex, Jon)</i>
10:30-12:00	PREP 2 Forms	<i>(Andrew, Monique)</i>
1:30-3:00	PREP 3 Forms	<i>(Eddie, Brady)</i>

IMPORTANT PARKING INFORMATION: This year, arrangements have been made in advance for you to pick up your parking stickers from the parking department at your convenience on May 31st or June 1st. My suggestion is that you do so prior to the 8:30 meeting. This will keep you from getting any of those pesky, unwanted tickets. The cost of staff parking stickers for the summer is \$23.00. When you go to the parking department, please let them know you are with the Las Cruces PREP program in the Electrical & Computer Engineering Department. If you have any difficulties, please refer them to me at 646-3130.