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College of Engineering
Office of Diversity and International Programs
Summary of On-Going Projects Within the College of Engineering
That Are Directly Related to K-12 Activities

uses industry volunteers
Nov
sept

Project

Funding

NASA-John F. Kennedy Space Center Project VISION: (7th. Graders)

April 16
NASA DAY

\$400,000/year

Project VISION is a collaboration among NASA-John F. Kennedy Space Center, Dade County Public School System, the Public School System of Puerto Rico, Florida International University (leading institution) and Universidad del Turabo in Puerto Rico.

Homestead Middle

GOALS:

Project VISION's goal is to increase the participation of middle school students in, as well as their understanding of, science, mathematics and technology. Project VISION will apply the resources of NASA, FIU, and the Universidad del Turabo to improve the quality of math and science education in selected middle schools in Miami, Florida, and Puerto Rico.

Principal
Dr. David MacAlla

By Providing university faculty and students, industry mentors, technical training and equipment and by incorporating in the middle school curriculum the vast educational resources available through NASA, project VISION aspires to encourage these youngsters to be our country's future scientists, engineers, and mathematicians.

Comm.
Eddy Berrones
Homestead Comm. Miss

FLAME (Florida Action for Minorities in Engineering) (9th-12th Graders)

\$45,000/year

The Florida Action for Minorities in Engineering (FLAME) program is a joint program between the Dade County Public School System and Florida International University, specially designed for minority high school students, and provides students in grades nine through twelve a unique educational experience in the field of engineering. The program starts with a summer program at FIU. This "Full immersion Summer Program" lasts six weeks and is designed for students that will enter ninth grade.

During the regular academic year, ninth and tenth grade students will be exposed to a variety of math and science courses designed to prepare them for advanced studies at FIU during their eleventh and twelfth grade years. Incoming tenth grade students participate in the "Engineering Summer Institute" which is a six-week program.

In their eleventh grade, students take Applied Mathematics I and Applied Engineering principles I besides their regular curriculum. During the next summer program, students participate six weeks in the "Executive Internship Summer Program" in which they are placed at engineering related companies. During their senior year, students take six credits of dual enrollment courses at FIU and also take Applied Mathematics II and Applied Engineering Principles II. The program serves an Engineering Magnet Program that resides at Miami Coral Park Senior High School.

The philosophy of the FLAME Program is to instill in students a desire for academic excellence, to prepare students to complete college, and to encourage them to become solid contributing citizens

FGAMP (Florida-Georgia Alliance for Minority Participation)

\$475,000/year

The goal of the FGAMP is to increase significantly the enrollment, retention rate, and graduation rate of those individuals from traditionally underrepresented groups majoring in undergraduate and graduate science, engineering, and mathematics disciplines (SEM). Specifically, the FGAMP

Gus preparing info

Absolutorships
Miami Times story
7/11

project aims for a 200 percent increase in the graduation rate of SEM minority students by 1997

The FGAMP program comprises a unique alliance of twelve institutions in two states. The cooperating institutions are:

Florida A&M University (lead institution)
Florida International University
Florida State University
University of South Florida
Albany State College
Daytona Beach Community College
Bethune-Cookman College
University of Central Florida
University of Florida
Tallahassee Community College
Miami-Dade Community College

Project Goals:

- To increase the production of Minority graduates in Science, Engineering, and Mathematics (SEM)
- To increase the number of High School and Community College Students in SEM disciplines.
- To enhance the programs of SEM Majors at Alliance Institutions.
- To explore avenues of collaboration to enhance the education and training of FGAMP SEM Majors.
- To facilitate the entry of FGAMP SEM Majors into graduate programs.

Miami PREP (Pre-freshmen Enrichment Program): (7th. And 8th. Graders)

\$115,000/year

Miami PREP is a joint venture between: Hispanic Association of Colleges and Universities (HACU); National Aeronautics and space Administration (NASA); Dade County Public Schools (DCPS) and, Florida International University (FIU).

PREP is an intensive mathematics-based pre-college summer program which provides educational enrichment opportunities for achieving middle school students. Students are provided with the opportunity to explore and prepare for careers in the fields of science, engineering, and mathematics.

To this program can attend social and economically disadvantaged middle school students from the Greater Miami Area who are interested in learning about the engineering and science professions. Women are especially encouraged to apply.

PREP is an intellectually demanding program which has high expectations of its participants. In order to pursue PREP successfully, most participants must dedicate two or three hours outside of school for completion of assignments and projects. The difference between PREP and other summer courses is that PREP students are willing to dedicate themselves to eight weeks of hard work and intellectually demanding classes. These students are the best of the best, having earned a B or better average in Math, Science and English.

JETS/UNITE (Junior Engineering Technical Society) (9th. – 12th Graders)

\$30,000/year

JETS' mission is Guidance-answering student, teacher and counselor questions about engineering and technology by providing opportunities that enable high school students to make informed career decisions. JETS' activities and services allow student to try on engineering and technology careers while in high school.

The JETS' program provides high school students and teachers with a coordinated, integrated sequence of activities that encourage and support systemic change within the mathematics-science-technology arena. They emphasize group activities, reasoning, problem-solving and connections with the real world.

JETS/UNITE is a program for any high school student (9-12) who has previously been in a summer pre-engineering experience conducted by FIU. It is our intent to support continuity rather than focus on specific grade levels. This program also serves any student who is educationally disadvantaged. It is assumed that a majority of such students will be from those groups that are underrepresented in engineering.

General Unite program requirements:

- It must be at least four weeks long
- Program enroll at least 20 students
- It must be rigorously academic-based, not supplemental or enrichment-based.
- Classroom intensive.
- Program must be targeted at academically talented students, not remedial.
- Programs must have an ROTC presentation.

Project APT (Apprentice for a Positive Tomorrow) (10th. – 12th. Graders)

\$19,000/year

Since the 1995 Fall semester, the Construction Management Department of the College of Engineering at Florida International University, and Miami Douglas MacArthur Senior High School South have been offering this program which gives two courses:

- Practical Electricity and Electrical Circuits, and
- Electrical Wiring in Residential Construction.



Crime prevention effort

This program is designed to train at-risk students and encourages them to graduate from high school. They attend classes while at the same time they work at challenging, well-paying, part-time jobs.

Junior Engineering Technical Society (JETS) (11th. –12th. Graders)

This program targets middle and high school students from private and public schools. We are one of the largest sites in the nation. Last year we served more that 200 students.

Southeastern Consortium for Minorities in Engineering (SECME)

\$9,000/year

SECME – Symposium

This activity is state wide from all the SUS Universities offering Engineering degrees

It targets elementary, middle, and high school students.

SECME – Olympiad

A district wide educational competition for middle and senior high school students, SECME encourages students to explore the fields of science and engineering through various event Including the OLYMPIAD. Las year's competition had over 600 participants who competed in eight events. The OLYMPIAD is a collaboration between Dade County Public Schools, the Urban systemic Initiative, local universities and industry representatives.

Total funding:

Total

\$1,093,000/Year

State of Florida – Collaborative for Excellence in Teachers Preparation (FCETP)

We are part of a major state effort , lead by Florida A&M University. We are now part of the final three proposals out of twenty five from the nation. The National Science Foundation will fund two out of the three proposals. Level of funding requested \$7 millions from NSF - \$5 millions from the State of Florida.