
GeoFORCE Texas: Six Years of Experience Turning Rural and Urban, Mostly-Minority High School Students into College Science Majors

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ABSTRACT

Since 2005, the Jackson School of Geosciences at the University of Texas at Austin has run GeoFORCE Texas, a program that takes high school students from rural Southwest Texas and inner-city Houston on spectacular geologic summer field trips. The goal is to keep the students engaged in school, encourage them to take challenging math and science classes, interest them in geology, and enroll them in college in science, technology, engineering, and mathematics (STEM) fields, particularly geosciences. The program began in 18 school districts in Southwest Texas, roughly encompassing the area in and around Uvalde, Del Rio, and Eagle Pass. The Southwest Texas group has reached its goal of 320 participants each year, and it graduated the first GeoFORCE students in 2009. In 2008, GeoFORCE opened up a second region in inner-city Houston. With 196 students now enrolled, GeoFORCE should reach full enrollment of 320 students in summer 2010. Students are recruited in the 8th grade, and must maintain a 3.0 GPA, with no grade lower than a B in math or science to remain in the program. GeoFORCE have not lost any students for academic reasons. In the school districts in which GeoFORCE operate, high school graduation rates are 50-70%, and four-year college matriculation rates are <20%.

As the second class prepares to graduate high school in 2010, GeoFORCE are just beginning to see the effects of the program on college enrollment and choice of major. In 2009, all 77 GeoFORCE seniors graduated high school in Southwest Texas, and, in 2010, all 112, 41 in Houston and 71 in Southwest Texas, are set to graduate. As a quick snapshot, the Southwest Texas students are 77% Hispanic and 23% Caucasian, and the Houston students are 61% African American, 29% Hispanic, and 7% Asian. All 77 of our 2009 graduates are enrolled in college. Half of these students started college as STEM majors; 8 of them declared geology as their major. For our 2010 class, with college applications still pending, 68% of our students plan to major in STEM fields; 31% in the geosciences.

By any standard, these numbers represent a huge success. In the regions in which GeoFORCE work, to produce this many minority science and math majors is extraordinary. Of course getting them into college is only the first step. GeoFORCE will continue to monitor and encourage these students as they pursue higher education.