SHAPING THE FUTURE OF SOUTH DAKOTA

South Dakota students shape their educational and employment futures through the courses they select while enrolled at the middle and high school level. Those students who choose to take challenging coursework in English, mathematics and the sciences are better prepared to achieve their educational and career goals. While remedial coursework can be an important tool for expanding student access to higher education, students who have a strong foundation of knowledge and skills upon graduation from high school have a wider range of educational and career options.

The importance of student enrollment in rigorous mathematics and science courses prior to their entry into postsecondary education was emphasized in a white paper published by The National Center for Educational Statistics (NCES) in 1997. In the paper, the NCES noted that students who enrolled in rigorous mathematics and science courses were far more likely to go to college than those who didn't. Also, despite the normal difference in college attendance rates between high/middle income students and low income students, low income students who took rigorous mathematics and science courses had similar rates as high/middle income students.

The NCES also noted the importance of these courses to students' future career choices and earning potentials. The white paper included information concerning projections made by the Bureau of Labor Statistics' Occupational Outlook Handbook. Their projections indicated that the fastest growing and highest paying jobs will require the most education and training. Computer technology and the health services, two of the fastest growing job areas, already require substantial mathematics and science preparation. Clearly, the importance of an educational system that provides strong preparation in the areas of mathematics and the sciences will continue to grow as technology is increasingly integrated throughout the economy.

Each year, ACT produces a High School Profile Report for each state in which high school students sat for the ACT exam. This report provides descriptive data concerning the academic abilities of students tested within the state and comparative national data. Data in the 1999 report show that 65% of the South Dakota High School Graduating Class of 2000 achieved ACT English scores of 18 or higher and that 50% of them achieved ACT Math scores of 20 or higher. Data in the report indicated that South Dakota high school students who take four years

of mathematics, including two years of algebra and one year of geometry, are more likely to enroll in enroll in math general education courses than students who take three years of mathematics or less. The relationship between those mathematics courses that students chose to take and their ACT Math scores, is shown in Table 1.

Table 1. Relationship between Mathematics Courses taken in High School and Average ACT Math Scores for the South Dakota High School Graduating Class of 2000

Years of Math	HS Math Courses	Math ACT Scores
4 YEARS	ALG 1, ALG 2, GEOM, TRIG, CALC	25.2
	ALG 1, ALG 2, GEOM, TRIG, OTHER ADV MATH	23.0
	OTHER 4 YEARS OF MATH	24.1
3 YEARS	ALG 1, ALG 2, GEOM, TRIG	22.0
	ALG 1, ALG 2, GEOM, OTHER ADV MATH	21.7
	ALG 1, ALG 2, GEOM	18.8
	OTHER 3 OR 3.5 YEARS OF MATH	19.6
<3 YEARS	LESS THAN THREE YEARS OF MATH	16.6

Source: ACT High School Profile Report Class of 2000

South Dakota students must ensure that they have the academic preparation they need to make the most of their future education and career choices. To be prepared to take advantage of those choices, South Dakota high school students should complete a college-preparatory curriculum that includes challenging coursework in the areas of English, mathematics and sciences. By doing so, they not only are prepared to continue their academic career, but they will be prepared to take advantage of future career opportunities.