A well-trained scientific workforce is essential to the nation’s economic vitality. Currently, policy makers, educators, and business leaders are deeply concerned about the quantity and quality of American youth in line to pursue careers in science and engineering. In consequence, there has been an increased pressure on the education system to take a more proactive approach in preparing youth for careers in science, technology, engineering, and mathematics (STEM) fields. To this end, schools generally offer two types of STEM courses: academic and applied. Academic STEM courses include math and science courses that comprise the traditional academic curriculum, such as algebra, geometry, calculus, biology, chemistry, and physics. Applied STEM courses, on the other hand, stress the application of academic concepts to “real world” job experiences while incorporating quantitative skills, logic, and problem solving. There are two main strands of applied STEM in the high school curriculum: computer/information sciences courses and engineering technologies courses. This study examines relative merits of taking applied STEM courses in high school in preparing youth for careers in STEM fields. Specifically, this project makes use data from the recently collected Education Longitudinal Study of 2002 to assess whether applied courses influence math achievement in high school, STEM fields of study (for college enrollees), and jobs with STEM applications (for non-college youth).