

ADDING IT UP

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WHY HIGH SCHOOL STUDENTS NEED MATH

It is that time of the year when all the eighth grade students are signing up for their freshmen classes. I encourage you to take the time to look over what your students are planning to take next year, especially checking to make sure that they are taking an appropriate course in mathematics which for incoming freshmen is either Algebra I or Geometry depending on what class they took this year. You might be asking, "Why does my child need to take math classes?" Whether your child plans to go to college or not, math, especially four years of math, in a high school student's life is an essential for student development and later achievement.

SUCCESS IN COLLEGE

Four years of math education is imperative for later success of a student in earning a college diploma. First, colleges will be looking for ACT or SAT scores of students who are applying. Both of these standardized tests include testing of certain basic math skills such as Geometry, Algebra I, and Algebra II skills. Students who continue their math education into Pre-Calculus and Calculus will fine-tune these skills even more. Secondly, not taking

enough mathematics in high school can limit your career options and make college learning harder

DID YOU KNOW?

Waseca High School gives seniors the opportunity to take Calculus I and Statistics as Advanced Placement classes. In these courses, students can earn college credits for free by completing an end of the year test.

(Anderson, 2006). Also, not getting to a certain level of math in high school means students will have to make up for their lack of math in college through remedial math classes. These classes can be tough to fit into an already over-booked college schedule causing "two-thirds of students who take remedial math courses (to) drop out without earning their degree" (Achieve Inc., 2005). Finally, every college, whether it is a two-year vocational college, technical college, or a four-year college will require students to take at least one credit-earning math class. In fact, most four-year colleges require more than one math course for a variety of majors. It will be much easier for the student to complete a college-level math class if they have the knowledge base to take courses such as Calculus or Statistics in college.

The highest level of math in high school is the strongest predictor of BA achievement:

Level of Math Taken in High School	Percent of Students attaining a BA
Calculus	83%
Pre-Calculus	75%
Trigonometry	60%
Algebra II	39%

(Achieve Inc., 2005)

SUCCESS IN THE WORKFORCE

One common misconception is that students who do not plan to go to college do not need to take math classes. Quite the contrary, today's workforce requires students to gain mathematical reasoning



skills. It has been found that the amount of math needed for a job that offers a salary sufficient to support a family of four requires “a comparable level of math skills in algebra, geometry, data analysis and statistics as colleges do” ([Achieve Inc., 2005](#)). This means that at least three years of math, to at least the Trigonometry/Pre-

Math Classes Give You...

- Adaptation abilities
 - Mathematical reasoning
 - Problem-solving skills
 - Creativity
 - Intelligence
 - Future preparation
- ([Anderson, 2006](#))

calculus level, is now a requirement for today’s workforce. Also, in today’s technologically advanced world, employers are looking for employees who

can learn to operate machinery and computers. These operations require “solving multiple-step math problems and presenting solutions in the appropriate unit of measure or dimension” ([Achieve Inc., 2005](#)). Along with this, having more math in high school makes you a better, in higher-demand employee that many companies will want.

FOUR-YEAR MATH LEGISLATION?



As of 2007, Minnesota requires three math credits in Algebra, Geometry, and Probability/Statistics. Some states, however, have found that implementing a four-year math legislation has increased the effectiveness and success of their high schools ([Achieve Inc., 2005](#)). Minnesota is constantly reviewing and changing their requirements for math and other subjects. In considering whether or not to require four years of math in high school involves careful weighing pros and cons:

Pros

- **Graduation requirements for math are currently falling behind college-entry requirements and well-paying job requirements.**
- **Not taking four years of math stops students from pursuing certain careers or education levels.**
- **High school seniors who don’t take math lose problem-solving skills.**

Cons

- **Students cannot take as many electives as they could have with fewer required math classes.**
- **More math teachers will be needed and they are already in high demand.**
- **Not all students need four years of math so requiring them to take it is unnecessary.**

([The University of Texas at Austin, September 2006](#))

Thank you for reviewing this information. If you have any questions or comments about this newsletter or high school registration, feel free to call my office at (507) 835-7288 or email me at bwilker@gac.edu.

References

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