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SUCCESS IN SCHOOL

GRADUATION FROM COLLEGE

Why Mathematics?

SUCCESS IN COLLEGE-LEVEL SCIENCE

SUCCESS IN FINDING A JOB

FINDING THE BEST JOBS

PREPARATION FOR THE WORKFORCE

SUCCESS IN CAREER

KCM – facilitating teacher growth for state-wide student success in mathematics:
Coaching/Intervention/Adult Education

Located at Northern Kentucky University; supported by the Kentucky Council on Postsecondary Education and the Kentucky Department of Education <<http://KENTUCKYMATHEMATICS.ORG>>

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Success in Early Mathematics = Success in School

Mastery of early mathematics concepts (numeracy) is the most powerful predictor of later learning. While reading and attention skills have predictive value, there was no evidence that social and behavioral skills predict later school success.
Duncan et. al.

“Mathematics - the unshaken Foundation of Sciences, and the plentiful Fountain of Advantage to human affairs.”
~Isaac Barrow

Success in High School Mathematics = Success in College-level Science

“...school preparation in any of the scientific disciplines -- biology, chemistry, or physics -- boosted college performance in the same subject. **Also, students with the most coursework in high school mathematics performed strikingly better in their introductory biology and chemistry courses in college;** introductory college-level physics performance also

benefited. Conversely, little correlation was seen between the amount of high school coursework in biology, chemistry, or physics and college performance in any of the other disciplines in this trio.”
Sadler and Tai.

“Go down deep enough into anything and you will find mathematics.”
~Dean Schlieter

Success in High School Mathematics = Graduation from College

“...students who complete Algebra II are **more than twice as likely to graduate from college** as students who lack such preparation.” *Evan et. al.*

Preparation for College = Preparation for the Workforce

“While it is true that some students will go directly into the workforce after high school, new research suggests that the skills needed to get and keep good jobs — both white collar and blue collar — are very similar to what colleges demand of incoming freshmen. In fact, most well-paying jobs today require an additional credential beyond a high school diploma.”

American Diploma Project

Success in High School Mathematics = Success in Career

“The majority of workers who earn \$40,000 or more annually have two or more high school credits at the Algebra II level or above.” *Achieve Inc.*

“The essence of mathematics is not to make simple things complicated, but to make complicated things simple.”
~ S. Gudder

Success in Mathematics = Finding the Best Jobs

Jobs in mathematics or jobs requiring mathematics are routinely rated as the **Best Jobs**. Les Krantz, author of *Jobs Rated Almanac*, rated 200 different jobs based on: environment, income, employment outlook, physical demands, and stress. The top three jobs were: **Mathematician, Actuary, and Statistician.**
Careerscast

Success in Mathematics = Finding a Job in a Growth Area

“The National Science Board indicates that the growth of jobs in the mathematics-intensive science and engineering workforce is outpacing overall job growth by 3:1.” *National Science Board*

Success in Mathematics = Finding a Job!

While jobs in the growth areas of Science, Technology, Engineering, and Mathematics (STEM) require a strong grounding in mathematics, there are many careers outside STEM that require a mastery of mathematics. Here are some examples: **Construction, Farming, Pharmacists, Physicians and Physicians**

Assistants, Respiratory Therapists, Carpenters, Electricians, Bank Tellers, Cashiers, Medical Assistants, Air Traffic Controllers, and Automobile Mechanics.
Nancy Saffer

“Mathematics, rightly viewed, possesses not only truth, but supreme beauty.”
~ Bertrand Russell