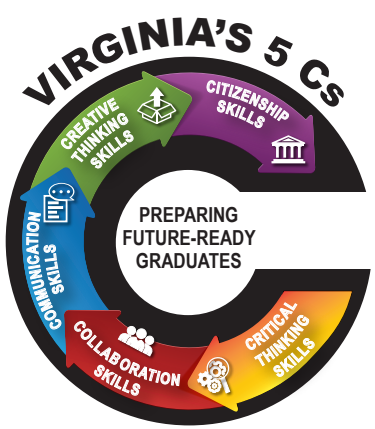
VIRGINIA MATHEMATICS PATHWAYS INITIATIVE

MODERNIZING TODAY'S MATHEMATICS EDUCATION TO PREPARE STUDENTS FOR THE NEXT GENERATION OF JOB OPPORTUNITIES

ENHANCING MATHEMATICS FOR ALL STUDENTS



The demands of today's workforce for core skills, data literacy, and the 5 C's require redesigning the current mathematics curriculum to focus on core skills and deeper mathematical thinking.

MATHEMATICS PATHWAYS

Creating pathways that build upon essential mathematics concepts

- Data Analysis
- Mathematical Modeling
- Functions and Algebra
- Spatial Reasoning
- Probability

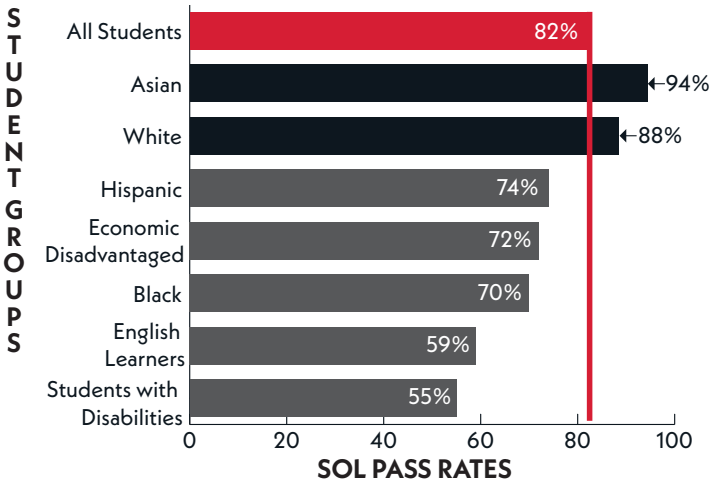
VMPI PROJECT GOALS

1. Improve equity in mathematics learning opportunities
2. Empower students to be active participants in a quantitative world
3. Encourage students to see themselves as knowers and doers of mathematics
4. Identify K-12 mathematics pathways that support future success
5. Collaborate with multiple stakeholders to advance mathematics education

CREATING EQUITABLE LEARNING OPPORTUNITIES

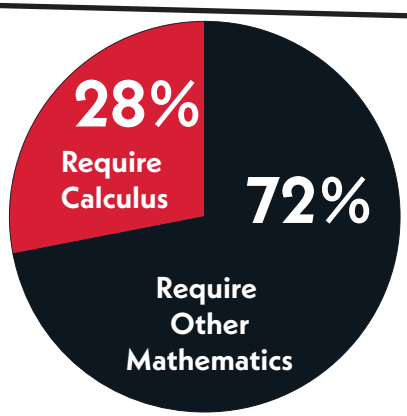
Increasing opportunities and removing barriers for every student through mathematics learning to achieve their education and career goals.

MATHEMATICS SOL PASS RATES - SPRING 2019



SOURCE: August 13, 2019 VDOE News Release

NOT ALL COLLEGE MAJORS NEED CALCULUS!



EVERYONE IS A MATH PERSON!

VIRGINIA DEPARTMENT OF EDUCATION
VIRGINIA IS FOR LEARNERS

FOLLOW THE "MATH PATH"!

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FOUNDATIONAL MATHEMATICS CONCEPTS GRADES K-7

- Number & Number Sense
- Computation and Estimation
- Measurement and Geometry
- Probability and Statistics
- Patterns, Functions, and Algebra

ESSENTIAL MATHEMATICS CONCEPTS GRADES 8-10

(2 HS Mathematics Credits)

- Data Analysis
- Mathematical Modeling
- Functions and Algebra
- Spatial Reasoning
- Probability

ADVANCED MATHEMATICS CONCEPTS GRADES 11-12

(2 HS Mathematics Credits)

Modules may be mixed and matched to total two credits and taken in any order except where pre-requisite knowledge may be necessary.

1/2 Credit Course Options

Data Modules	• Data Science • Probability and Statistics
Design Modules	• Geometry and Design • Trigonometric Applications
Analysis Modules	• Applications of Advanced Algebra • Precalculus- Focus on Functions
Modeling Modules	• Mathematical Modeling • Financial Modeling
Computing Modules	• Discrete Mathematics for Computing • Sets and Logic

1 Credit Course Options

Some courses may include Dual Enrollment and Advanced Placement

- Quantitative Reasoning
- Computer Science
- Calculus
- Statistics
- International Baccalaureate

CAREER CLUSTERS

- Agriculture
- Architecture
- Arts
- Business
- Education
- Energy
- Finance
- Government and Public Domain
- Health
- Hospitality and Tourism
- Human Services
- Information Technology
- Law
- Manufacturing
- Marketing
- STEM
- Transportation

DIRECT ENTRY

COLLEGE

TRADE SCHOOL

MILITARY

TENTATIVE VMPI TIMELINE

2020-2021	Develop Essential Concepts
2021-2022	Revision Committee – Draft 2023 Math SOL
2022-2023	Board of Education Review of Draft 2023 Math SOL
2023-2024	Board of Education Approval Request 2023 Math SOL
2024-2025	Crosswalk Year 2023 Math SOL
2025-2026	Full Implementation 2023 Math SOL Math Essential Concepts Course Implementation
2026-2027	New Graduation Requirements

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