

# Welcome!



# *KAMSC*

COMMUNITY · OPPORTUNITY · RESEARCH · EXCELLENCE

# Welcome to the Kalamazoo Area Mathematics and Science Center (KAMSC)



The mission of the Kalamazoo Area Mathematics and Science Center Accelerated Program is to design and deliver educational experiences to students who will benefit from a highly rigorous, sequential and integrated exposure to mathematics, science and computer science in a supportive environment where respect for self and others is valued.

# CHALLENGE SUCCESS

*Transform the Student Experience*

- Supportive Environment
- MTSS
- Purposeful relationship building
- Advisory Council
- Student Voice



- Invested Staff
- Love of Learning
- Challenging
- Engaging
- Community Connections

# Overview of Tonight

1. Hear from students and staff about KAMSC
2. Ask Questions in a smaller setting upstairs
3. [Kamsc.org](https://kamsc.org) - “perspective student page” 



Let's hear from our  
students...

# School Day



8:00-10:27

9th & 10th  
grades



11:30-2:00

11th & 12th  
grades



Transportation

Buses from  
partner schools  
across KRESA

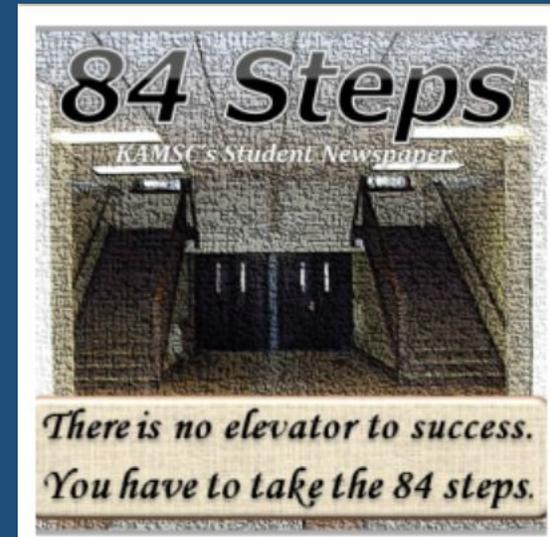
# More on the KAMSC Community

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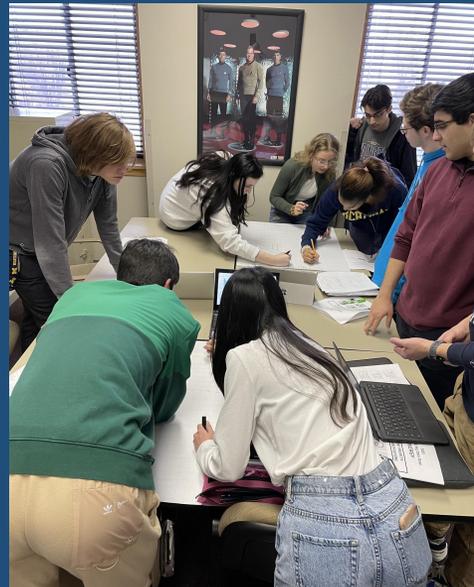
Student organizations include:

- 84 Steps (Newspaper)
- KAMSC Ambassadors
- KAMSC Earthlings
- Multicultural Student Organization (MSO)
- Student Senate

... and more!



# Special Events at KAMSC ...



- Big Data Days
- Class Clash
- Dances
- Field Trips
- KAMSC Olympiad
- Multicultural Feast
- Science-Fiction Film Festival
- Searching for Health Conference
- Spirit Week

... and more!

## 9th grade

Math

Biology

Information Technology

## 10th grade

Math

Chemistry

Computer Studies

## 11th grade

Math

Physics

Elective

## 12th grade

Math

Science Elective

Elective



# KAMSC Math Required Course Sequence

Algebra I is a program prerequisite; four years of math required at KAMSC

For most (80%) of admitted students:

- 9th Math I (Statistics & Geometry)
- 10th Math II (Algebra II)
- 11th Math III (Trigonometry & Precalculus)
- 12th AP Calculus (AB or BC)

*Transformations of functions and other mathematical concepts and skills are integrated across curriculum*

# KAMSC Math Alternate Course Sequences

*Some students may begin and/or leapfrog courses:*

2 years of ATYP?

*Potentially Skip Math III*

Algebra I, II, & 1 year of ATYP?

*Leapfrog Math II ( I  $\rightarrow$  III )*

Algebra I & Geometry ?

*Skip Math I*

*Course transcripts, 8th grade teacher recommendation, a placement test, and/or a discussion with the Director may be needed to accelerate or bypass the standard math progression*

# KAMSC Math Elective Course Offerings

Courses offered as math electives  
(concurrent with Math III and/or Calculus):

AP Statistics

Discrete Math

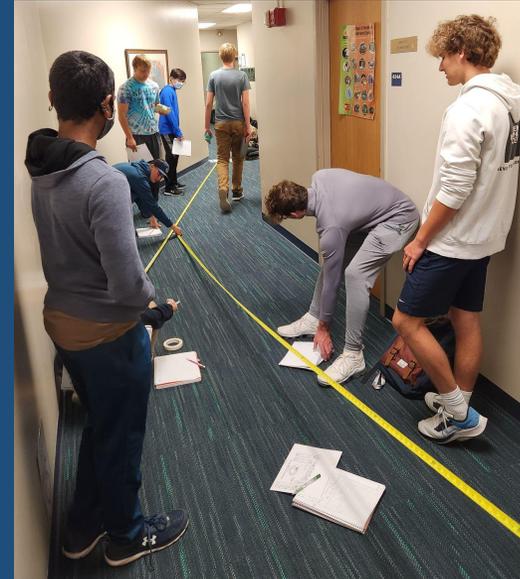
Courses offered as math electives  
(after successful completion of Calculus):

Advanced Calculus

AP Physics C / Advanced Physics

AP Computer Science

Discrete Math / Advanced Computer Science



# Additional Math Opportunities

## American Mathematics Competitions

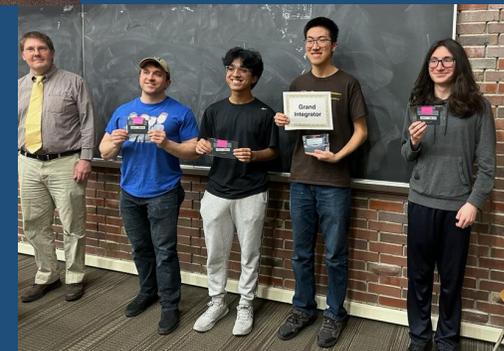
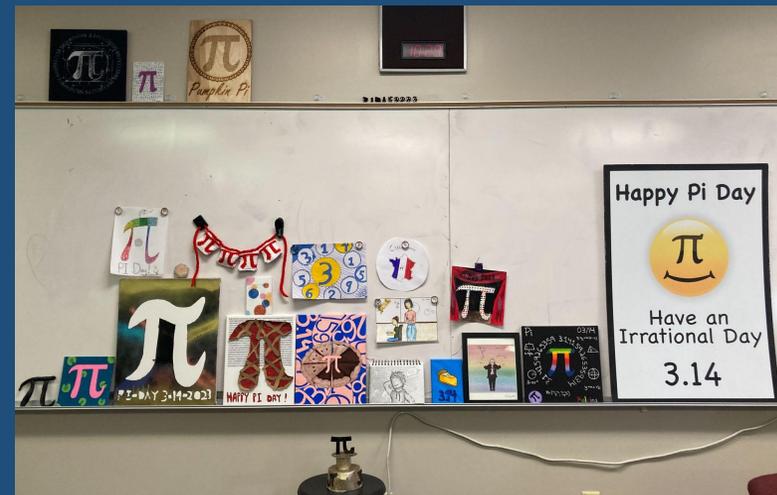
All 9th & 10th graders compete;  
Optional for 11th & 12th graders

## Michigan Math League Contests

Optional for 11th & 12th graders

## Additional Opportunities at Student Request

Lectures, Test Prep Sessions,  
Other Contests & Competitions



# Major Topics for KAMSC Honors Biology Include:

- Introduction to Scientific Skills
- Ecology
- Chemistry/Biochemistry
- Cell Biology
- DNA replication and Protein synthesis
- Biological Systems and Anatomical Comparisons
- Genetics
- Transformations in Energy and Matter
- Evolution
- Authentic Research Opportunity



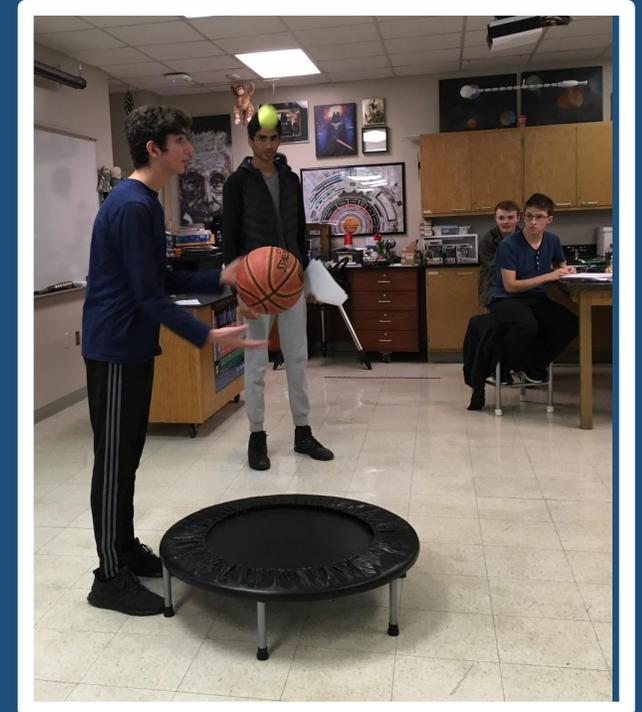
# KAMSC Science Required Course Offerings:

9th: Honors Biology

10th: Honors Chemistry

11th: Honors Physics

12th: Elective



# KAMSC Science Elective Course Offerings:

## Biological Sciences

AP Biology  
AP Environmental Science  
Human Genetics  
Microbiology  
Biomedical Science  
Zoology & More

## Chemical Sciences



AP Chemistry  
Biochemistry  
Organic Chemistry  
Materials Science

## Physical Sciences

AP Physics C  
Geology  
Astronomy



# Additional Science Opportunities:

- Research Team
- KAMSC 'Olympiad'
- American Chemical Society Exam
- Searching for Health Conference
- Big Data Days
- Introduction to Science Inquiry
- HOSA
- All Honors Classes, AP Chemistry, AP Biology, and AP Physics have embedded research experiences.



# Technology at KAMSC



Platform Independence

Evaluating Tech Tools

STEM - Based Education

Soft Skills for Academia & Beyond

# Required Computer & Technology Courses

## 9th Grade INFORMATION TECHNOLOGY

- Cross-Curricular Projects
- Exploring Technologies
- Developing Skills



## 10th Grade COMPUTER STUDIES

- Collaboration & Coding
- Number Bases & Computer Math
- HTML & Website Design
- AP CS Principles Exam prep



# Additional Computer & Technology Opportunities



## 11th / 12th Grade ELECTIVES

- AP Computer Science A
- Advanced Computer Science
- Discrete Mathematics

## Programs, Collaborations & Competitions

- USACO
- ACSL
- Cybersecurity

& So Many More!



# Research Program

- 9th Grade- Literature Review in Biology
  - Skills focus: finding/reading scientific literature, synthesizing a well-supported answer to a research question, time management, critical thinking
  - 6 month individual project
- 10th Grade- Experimental Design in Chemistry
  - Skills focus: background research, designing and carrying out experimentation, reporting results, assessing sources of error, group dynamics
  - 5 month group project
- 11th Grade and 12th Grade - Course-based Projects
- Research credit awarded





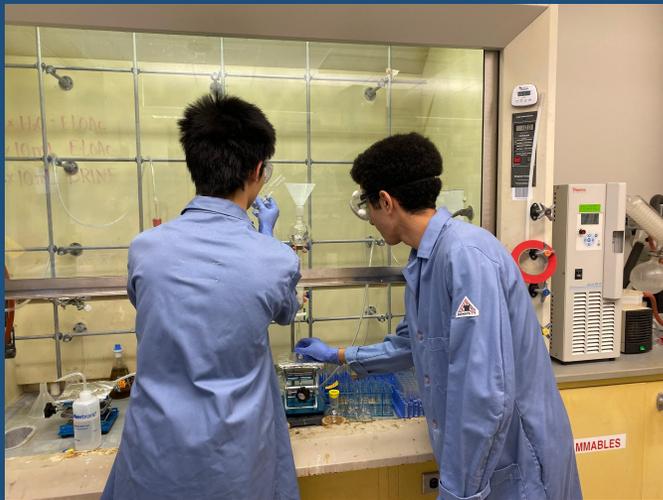
# Sharing Research

- Each year students make posters, write research papers, and present their research findings during Project Day
- Students develop strong communication skills



# Research Team

- Work with a mentor in academia or industry
- Real-world research opportunity
- Option for 11th-12th grades
- Present at Southwest Michigan Science and Engineering Fair



High school students Anna Puca and Julia Strauss from the Kalamazoo Area Math and Science Center worked in collaboration with a group of WMU students.

# College & Career Preparation 2000+ Alumni



Jamila McKenzie,  
Process Engineer, Pfizer



Dr. Smita Krishnaswamy,  
Associate Professor, Yale  
University



Product Manager at  
Q-CTRL



Mitchell Coulter,  
Technical Program  
Manager, Hubspot



Dr. Allison Arwady, Director,  
National Center for Injury  
Prevention and Control



Jordan Klepper, Comedian,  
The Daily Show



Raj Brueggemann,  
Director at Disney  
Television Animation



Ericka Lozon, Offshore Wind  
Research Engineer at the  
National Renewable Energy  
Laboratory



Dr. Brian Yagi, Assistant  
Professor, Johns Hopkins  
Medicine



Matt Scogin, President of  
Hope College

## Next Steps...

[Kamsc.org](https://kamsc.org) “perspective students”



- Sign up to take the assessment - **next step**
- Watch the video reviewing other application components and the timelines
- Review the timeline

# Thank you!

- Upstairs for Q & A



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