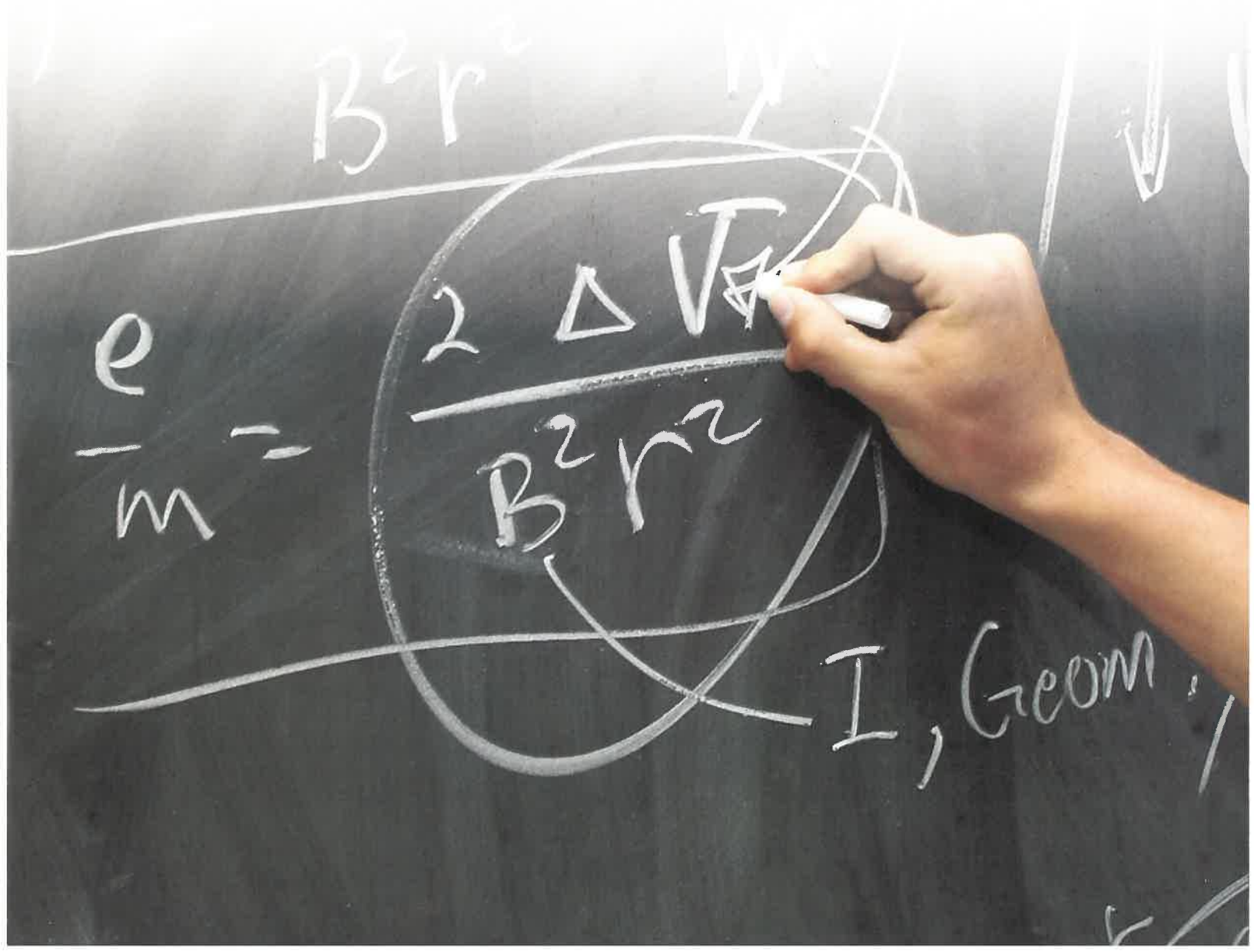


KANSAS ACADEMY OF MATHEMATICS AND SCIENCE AT FORT HAYS STATE UNIVERSITY

KANSAS' PREMIER EARLY-ENTRY-TO-COLLEGE PROGRAM
FOR HIGH SCHOOL JUNIORS AND SENIORS





MESSAGE FROM THE DIRECTOR

Dear students and parents,

On behalf of the Kansas Academy of Mathematics and Science (KAMS) staff, I want to express our appreciation for your interest in our program. I hope that you will spend some time reading the material contained in this publication. You will find that we offer a challenging curriculum in a very unique learning environment. The experience and knowledge gained from going through our program clearly differentiates KAMS students from traditional high school graduates.

Currently, we are able to offer the KAMS experience to 40 Kansas students per class. We also have an international component in which a select number of international students can participate. Our students complete their final two years of high school living and learning on the Fort Hays State University campus. KAMS students live in a residence hall and enroll in traditional college courses. You can read more about the curriculum on page 8. The admissions process

is selective and holistic. We are looking for students who are interested in the STEM (Science, Technology, Engineering, Mathematics) fields, have a strong work ethic and are looking for a challenging curriculum. If you are still reading this, the chances are we are looking for you!

One of the most exciting aspects of our program is the requirement to conduct academic research alongside Ph.D. faculty. We have students conducting research in disciplines across campus. For example, we have had students conduct research on biodiesel through the chemistry department, chaos theory through the physics department, media analysis through the political science department and precision agriculture through the agriculture department. Many of our students have worked with robots, 3-D printing, drones, rockets, lasers, high-altitude balloons and other cool tools as part of their research. We have had several students submit their research and get selected to present at state, regional and national professional

conferences. Five of our students have had their research published in peer-reviewed, scholarly journals! Our program clearly provides a unique learning opportunity.

I could fill this entire brochure with the awards and accomplishments that our students have achieved or the amazing opportunities available to KAMS students (I did fail to mention the partnership with the Daejeon Science School for the Gifted, South Korea, which allows KAMS students the opportunity for international experiences), but I would rather have you visit and see it for yourself. Please call us and we'll arrange a tour of the facility, campus and the residence hall. Visiting students and families will spend a day with our student hosts and meet the entire KAMS family.

I look forward to seeing you on campus soon,

Dr. Roger W. Schieferecke

KANSAS ACADEMY OF MATHEMATICS AND SCIENCE (KAMS)

KAMS is an early-entry-to-college program that allows academically talented and motivated high school juniors and seniors who are interested in math and science to live at Fort Hays State University (FHSU) and attend a residential academy. The Kansas Academy

of Mathematics and Science was established in 2006 by the Kansas Legislature with the enactment of Senate Bill 139. The first class of KAMS students enrolled in fall 2009. Students receive hands-on research opportunities, leadership development, civic engagement

opportunities and co-curricular activities to develop the whole student. FHSU offers students excellent academics, modern lab facilities and small classes taught by Ph.D. faculty.



FORT HAYS STATE UNIVERSITY

Fort Hays State University (FHSU) is located in Hays, Kansas, on Interstate 70 halfway between Kansas City and Denver. The on-campus population is more than 5,000 students. FHSU is a Liberal Arts University established in 1902 and offers more than 60 degree programs. There is a 17:1 student to faculty ratio and an average class size of 20-25 students. FHSU offers small class sizes and faculty members who know each student on a personal level.

The campus offers many activities to get involved in from over 100 student organizations to more than 200 intramural activities. FHSU offers many free services to students such as a fully equipped Wellness Center, admission to

all FHSU Athletics and tutoring services at the Kelly Center. The Encore Performing Arts Series is a unique cultural experience that hosts off-Broadway performances. A few past performances include: Joseph and the Amazing Technicolor Dreamcoat, The Adventures of Sherlock Holmes, The Legendary Count Basie Orchestra, Robot Planet Rising, Mark O'Connor & Friends: An Appalachian Christmas, The River: Ethel & Robert Mirabal, Cirque Zuma Zuma, and Annie.

To schedule an individual campus visit, call 785-628-4690 or email kams@fhsu.edu.



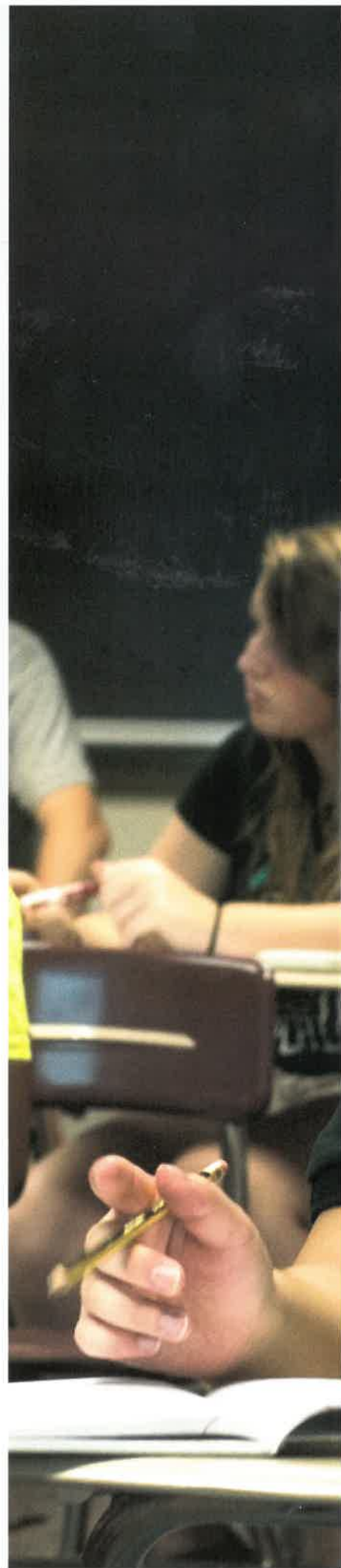
HAYS, KANSAS

Hays has a population of more than 20,000 and is located halfway between Kansas City and Denver on I-70. Hays has many distinctive qualities such as the Downtown Chestnut Street District's unique boutiques and one-of-a-kind restaurants. It hosts art gallery walks that are held in the spring, summer and fall.

Hays also has a mall with an eight-theatre movie complex and a wide range of restaurants from sit down to fast food with a variety of cuisines. The

community hosts a Frost Festival with a night parade and a chance to win a shopping spree. In addition, the annual Wild West Festival is held over the 4th of July weekend with concerts and a carnival and concludes with a fireworks show.

If you like to be outside, there are hiking, biking and fitness trails along with two disc golf courses and two golf courses. There is always something going on in the community where students can get involved.



KAMS Q&A



Marisa – Wellsville, KS

Q: Would you recommend the KAMS program?

A: I would definitely recommend the KAMS program. It gave me so many opportunities that I did not have access to in high school. It gives students a unique experience of being able to live and learn with like-minded peers who share a passion for knowledge. The curriculum is heavy with math and sciences, but also has some room to explore classes that interest you. The faculty and staff are committed to the success of the students and go out of their way to help in any way they can. The KAMS program is a challenging but very rewarding opportunity that I highly recommend.



RESIDENTIAL HALL

KAMS students are housed on campus in Custer Hall. Custer Hall is a co-ed residential hall that is divided by floors, with males on one floor and females on another. Rooms are shared by two KAMS students. The residential hall has been equipped with security measures to keep the students safe. A card swipe system allows access to the students' floors, lounge area and recreation room. The only students who can access the floors and wings are KAMS students with their swipe card. There is also a sign in/out system and a building, hall and floor curfew. A resident advisor

lives on each floor to supervise students and help with the integration into college life. The Custer Hall director also lives in the building with the students. Students are allowed to bring a vehicle to campus with parental permission.

There are two cafeterias on campus: One in McMIndes Hall, located across the street from Custer Hall and the other is located in the Memorial Union. The Memorial Union also offers a Starbucks and Union Station/ Tiger Market, which includes Pizza Hut, Tiger Express, Soup and Salad Bar and Sono.



ACTIVITIES

Students are encouraged to get involved on campus!

There are more than 100 clubs and organizations students can get involved with on campus. Students can also participate in over 200 different intramural activities.

Here are just a few of the organizations students have participated in:

Fort Hays Honor Society
Pre-Med Club
Custer Hall Council
Orchestra
Marching/Pep Band
Student Government Association
Chemistry Club

Astronomy Club
Model United Nations
Fringe Theatre Company
Chess Club
Color Guard
Chorus
Christian Challenge
Big Brothers Big Sisters
Quiz Bowl
Habitat for Humanity
Gay-Straight Alliance
Intramurals
Agronomy Club
Archery Club
Biology Club
Career Services
Sternberg Geosciences Club
Nursing Club





KAMS Q&A



Luke – Lawrence, KS

Q: What was your experience like with the KAMS program?

A: Coming to Hays to attend KAMS, I have been able to further myself not only academically, but also as a person. While getting a jump start on my higher education has been a great opportunity, being in KAMS has also allowed me to discover who I am outside the classroom in a way that is not possible at the high school level. Being able to make close friendships with my peers, as well as the faculty, has been an experience that has impacted my life for the better in a unique way.

SAMPLE CLASS SCHEDULE

JUNIOR YEAR

Fall Semester

- Pre-Calculus
- University Chemistry I and Lab
- Earth, Space, Science Research and writing
- English Composition I
- U.S. History before 1877

Spring Semester

- Calculus I
- Principles of Biology
- English Composition II
- U.S. History after 1877

SENIOR YEAR

Fall Semester

- Calculus II
- STEM Elective
- Physics for Scientists and Engineering I
- Elective course of interest
- Departmental Research and Writing

Spring Semester

- American Government
- Computer Science Elective
- STEM Elective
- Social Studies Elective
- Departmental Research and Writing

COURSE OFFERINGS

PHYSICS

- Physics for Scientists and Engineers II and Lab
- Analog and Digital Electronics
- Modern Physics

MATHEMATICS

- Elements of Statistics
- Calculus III
- Advanced Calculus
- Linear Algebra
- Differential Equations
- Discrete Structure

BIOLOGY

- Botany
- Zoology
- Microbiology
- General Microbiology

GEOSCIENCE

- Introduction to Geology
- Historical Geology
- Elements of Physical Geology
- Climatology
- Elementary Meteorology
- Introduction to GIS
- Intermediate GIS
- Advanced GIS
- World Geography

COMPUTER SCIENCE

- Computer Science II
- Foundations of Computing
- Computer Operating Systems
- Systems Architecture
- Java Programming

CHEMISTRY

- University Chemistry II and Lab
- Organic Chemistry I and Lab
- Organic Chemistry II and Lab
- Chemical Analysis

APPLIED TECHNOLOGY

- Introduction to Computer-Aided Drafting
- Introduction to STEM Applications

AGRICULTURE

- Animal Science
- Agronomic Crop Sciences and Lab

*This is a sample class schedule. Depending on the student's area of interest, they will have the option to take second tier STEM electives, as outlined above. Students can earn up to 68 hours of college credit.

RESEARCH

Research is a built-in component of the KAMS curriculum. This element gives the students an important foundation that will enhance the learning experience. While conducting their research, the students will work with Ph.D. faculty that will mentor and foster a positive environment. Students will gain improved critical-thinking and problem-solving skills. Students have presented their research at the Regional, State and Intel International

Science and Engineering Fair, the Kansas Academy of Science, and the American Association of Cereal Chemistry Conference. Sample topics from previous students include:

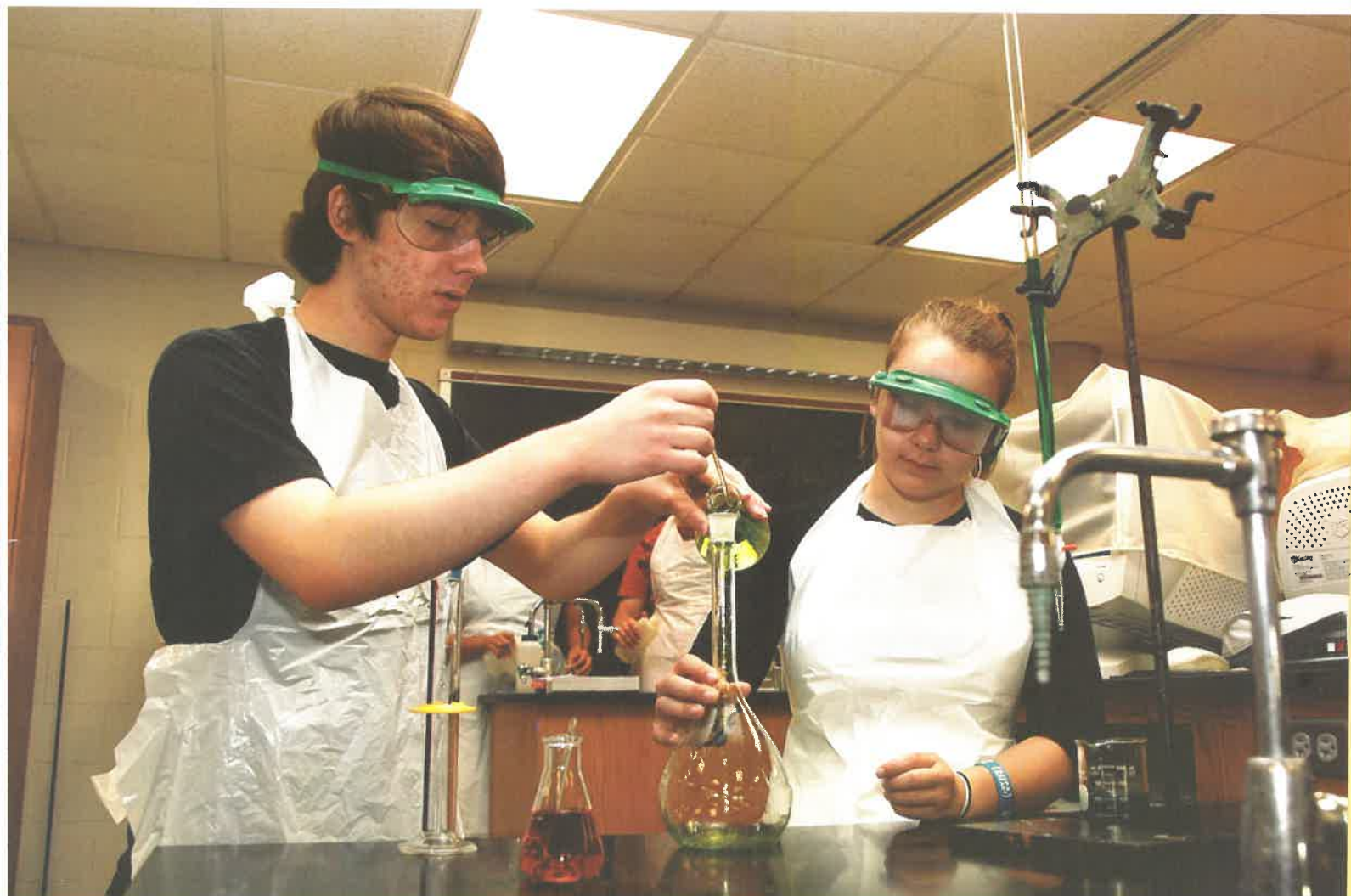
- Effect of cellular towers on osprey migration.
- Effects of carbon dioxide and sea surface temperature on coral bleaching.
- Determining exoplanet habitability based on habitable index ranges.
- Glacial Melt and the decline of polar bear population numbers.
- Effects of triclosan exposure on growth of *lemna minor*.
- Relating the number of sunspots and bulk solar wind speed during solar cycle 23.
- Rise in seismic activity due to wastewater injection in comparison to subsurface faults.

"One of the most exciting aspects for KAMS students is the opportunity to engage in research with faculty and peers. I have worked with students on engineering projects for high-altitude balloons, studying cosmic ray counts

or collecting bacteria from 15 miles up. Our faculty are excellent in mentoring students from a starting question to a final presentation at state, regional or national meetings. KAMS students not only gain a solid foundation in

STEM, they get to apply what they are learning to discovering more about the world."

— Dr. Paul Adams
Dean, College of Education



COSTS

Tuition, fees and textbooks are provided by KAMS for students currently attending a public school in Kansas. This is provided through state funding and state appropriations.

TUITION AND FEES

(UP TO 68 CREDIT HOURS):

- Paid for by state base aid.

BOOKS AND SUPPLIES:

- Provided by state appropriations.

COMPUTER:

- Issued for use during school year.

ROOM AND BOARD:

- Approximately \$7,699, which is the responsibility of the student and family (can be split up in six different payments).

*Meal plan includes open access to the McMindes Cafeteria and \$900 dining dollars to be used elsewhere on campus.



KAMS STATISTICS

AVERAGE INCOMING SOPHOMORE ACT:

27 Composite

AVERAGE OUTGOING SENIOR ACT: 32

AVERAGE INCOMING SOPHOMORE GPA: 3.95

AVERAGE HOURS COMPLETED UPON GRADUATION: 72

AVERAGE HOURS TAKEN PER SEMESTER: 17

AVERAGE NUMBER OF HOURS STUDYING PER WEEK: 35





KAMS Q&A



Norelia – Goodland, KS

Q: What do you hope KAMS helps you achieve in the future?

A: My career goal is to go to medical school to become a medical doctor. Biomedical research has a significant positive impact on medical school acceptance. During the summer leading up to, and throughout my senior year, I received a K-INBRE Research Scholarship to work with Dr. Kobayashi on a project to find the mRNA gene expression for dyslipidemia in channel catfish. The research opportunity wouldn't have been possible without KAMS. Ultimately, the KAMS experience will help me to achieve my goal of opening a primary healthcare clinic in an undeserved rural area.

AFTER GRADUATION

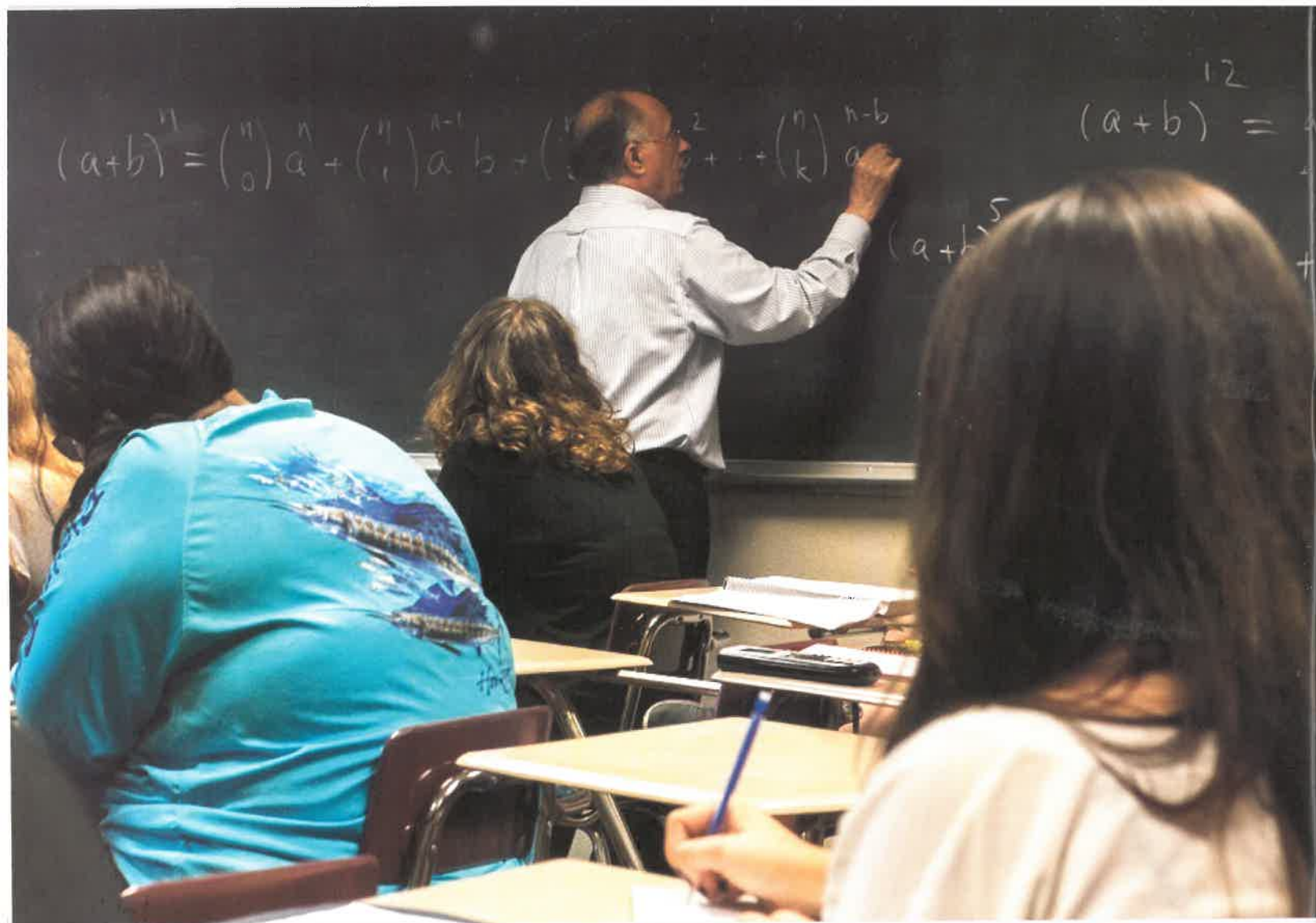
Upon successful completion of KAMS, students receive a completion certificate from KAMS and a high school diploma from their sending school. Students

will have the opportunity to continue their education at FHSU or anywhere in the United States. Students will also receive assistance with the application

process from their personal advisor. Depending on where students attend after the program, credits may be transferable.

CLASS OF 2011:	GRADS	CLASS OF 2014:	GRADS	CLASS OF 2016:	GRADS
Fort Hays State University	5	Fort Hays State University	7	Rochester Institute of Technology	1
University of Kansas	6	University of Kansas	5	University of California, San Diego	1
Kansas State University	2	Kansas State University	3	University of California, Santa Barbara	1
University of Rochester	1	Stevens Institute of Technology	1	University of Wisconsin, Madison	1
CLASS OF 2012:		Boston University	1	Milwaukee School of Engineering	1
Fort Hays State University	8	St. Louis University	1	Minerva	1
University of Kansas	3	University of Rochester	1		
Kansas State University	3	Rochester Institute of Technology	1		
Rockhurst University	1	Virginia Tech	1		
Georgia Tech	2	William Jewell College	1		
Washington University (St. Louis)	1	Wichita State University	1		
University of California, Los Angeles	1	University of Missouri at Kansas City School of Medicine	1		
Oklahoma State University	1	Stony Brook University	1		
CLASS OF 2013:		Pennsylvania State University	1		
Fort Hays State University	10				
University of Kansas	6	CLASS OF 2015:			
Kansas State University	3	Fort Hays State University	6		
Wichita State University	2	University of Kansas	2		
Iowa State University	1	Kansas State University	1		
Colorado School of Mines	1	California Institute of Technology	1		
University of Rochester	1	Massachusetts College of Pharmacy and Health Sciences	1		
Rhodes University	1				
Rice University	1				
University of Denver	1				





APPLICATION PROCESS

Admittance into the KAMS program is evaluated with a holistic view.

THERE ARE MANY CRITERIA THAT ARE TAKEN INTO CONSIDERATION ON THE SELECTION OF STUDENTS:

- Overall GPA
- ACT/SAT scores and breakdown in specific areas
- GPA in relevant classes
- Class rank
- Student essays
- Leadership qualities
- Maturity and motivation

REQUIREMENTS TO ATTEND THE KANSAS ACADEMY OF MATHEMATICS AND SCIENCE:

- Must be a high school sophomore or the equivalent to be eligible to apply to the program
- Receive a score of 23 ACT/1590 SAT
- Successfully complete Algebra II and Geometry

INTERNATIONAL STUDENTS MUST ALSO HAVE ONE OF THE FOLLOWING MINIMAL TOEFL SCORES:

- Paper-based test (pBT) score of 540 or Computer-based test (cBT) score of 220 or Internet-based test (iBT) score of 70.

TO BE CONSIDERED FOR THIS OPPORTUNITY, STUDENTS CAN PREPARE AHEAD OF TIME BY DOING THE FOLLOWING:

- Take ACT/SAT in fall of sophomore year or earlier.
- Complete Pre-Calculus and Chemistry if possible.
- Complete Trigonometry if possible.
- Complete all Physical Education and Foreign Language credits.
- Complete all school-specific credits.

To view and download a copy of the application, visit fhsu.edu/kams/us-application.

KAMS CHECKLIST

Contact us at 785-628-4690 or visit us on the Web at fhsu.edu/kams for more information.

☐ ATTEND AN

INFORMATION SESSION:

A session will be scheduled at a location near you. To find dates and locations, visit: fhsu.edu/kams/Information-Sessions/

☐ VISIT CAMPUS:

Your day will include a campus tour, Q&A with current students, visitation of a class, tour of the KAMS facilities, and any additional information you will need. To schedule an individual campus visit, call 785-628-4690.

☐ TAKE THE ACT/SAT:

A score of a 23 ACT/1590 SAT or above is a requirement for admission into the KAMS program.

☐ PREVIEW DAY:

Attend KAMS FREE Preview Day. This is a great opportunity to see academic departments, student life, extracurricular activities and more. Register online at www.fhsu.edu/kams/Preview-Day.

☐ COMPLETE THE APPLICATION PROCESS:

Premier Deadline: December 15, rolling deadline thereafter.

- Complete Session 1 (online) at fhsu.edu/kams/Online-Application/
- Complete the Short Answer and Personal Essay
- Complete Extracurricular Activities, Awards & Honors, and Courses
- Parent or Guardian Statement
- Certification of Accuracy Page
- Teacher/Mentor Evaluations
- Official School Records Report
- ACT Student Report

☐ AFTER YOU HAVE BEEN ACCEPTED TO THE KANSAS ACADEMY OF MATHEMATICS AND SCIENCE:

- Apply to FHSU
- Register to be placed in classes and complete the Calculus Readiness Exam
- Housing Contract

☐ FEES ASSOCIATED WITH KAMS ONCE ADMITTED TO THE PROGRAM:

- \$30 application fee to FHSU
- \$60 registration fee
- \$40 housing application deposit

