

ChiS&E

Chicago
Pre-College
Science and
Engineering
Program

**Celebration
of our
2021 ChiS&E Seniors**

A Message from Chi S&E

Listening to the trends can be discouraging. According to a survey from the Pew Research Center, Black and Hispanic workers remain underrepresented in the science, technology, engineering, and math (STEM) workforce including in computing jobs, which have seen considerable growth in recent years. And the current higher education pipeline suggests a long path ahead for increasing diversity, especially in fields like computing and engineering.

Yet, here in Chicago we have fought hard against the conventional wisdom, and our efforts are paying off. Chicago Science & Engineering (ChiS&E) is one of the brightest stars in cultivating the STEM journey for Black and Latino students in the country. Founded just 10 years ago the first graduates who participated in ChiS&E's STEM enrichment programs are making their secondary education choices and it's clear the program has had an indelible impact on them. Over 90% of ChiS&E students surveyed said the program had a positive impact on their educational journey. And during their final year of high school, they are enrolled in advanced math and science courses, with many in pre-calculus, calculus, and AP calculus, and a good number in AP physics.

Black enrollment in STEM fields — science, technology, engineering, and math — is among the issues that urgently demand attention, said Cato Laurencin, CEO of the Connecticut Institute for Clinical and Translational Science. "We need to move from talking about the issue of Blacks in STEM and systemic racism to making concrete changes," Laurencin said.

We could not agree more, and we are proud to report that 80% of ChiS&E program participants surveyed are planning on majoring in STEM, with 32% choosing "science," 26% "engineering," and 21% "computer science". And their choice of institutions is as varied as the students themselves with schools in Illinois, the Midwest south and east coast as well as HBCUs ensuring their impact will be felt nationwide.

Exposing students to high achieving, successful people of color in the sciences and engineering was key to influencing this next phase of our students' lives. The average student participating in ChiS&E says the program exposed them to STEM concepts many times long before they learned them in school, and that they were exposed to multiple careers in STEM that greatly influenced their college and career choices.

Here's how one of our graduates remembered the Summer STEM Enrichment Program she took in 8th grade, " The summer program I participated in before 8th grade was so much fun... I made friends that I am still in contact with today.... I learned algebra in a way I would not encounter in school for years. The program also influenced my decision to take engineering as a class this year."

If you're lucky as part of a program like this, you get to ignite the 'spark' that sets the trajectory of a young person's life. At ChiS&E we do that every day and I could not be prouder of our students, or more hopeful for their bright futures. Congratulations to all the 2021 graduates from ChiS&E and we can't wait to see how you change the world.

Kay Volt

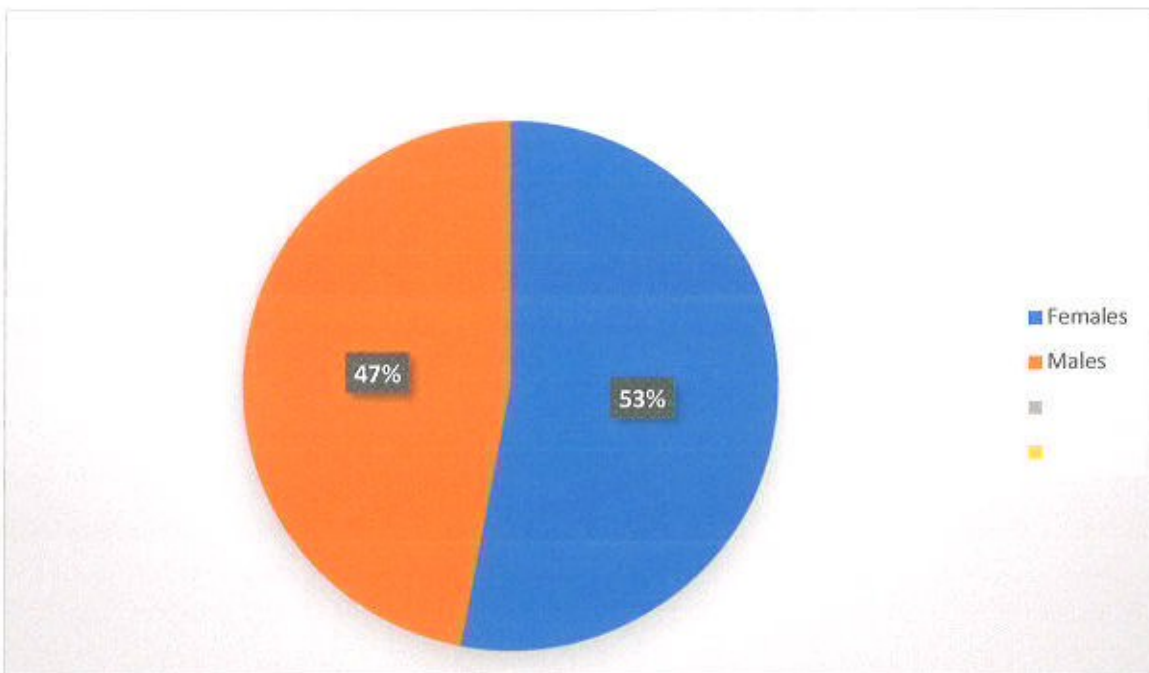
Chair, Chicago Pre- College Science & Engineering Program

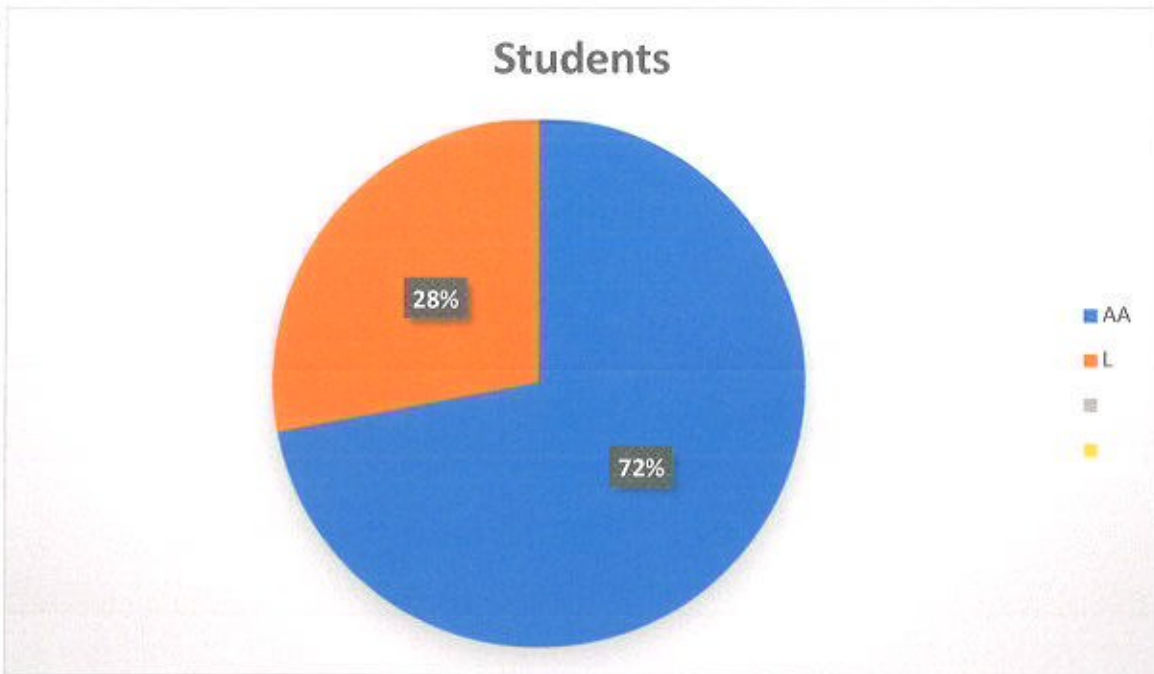
A Message from Chi S&E Continued

Like Board Chair, Kay Volk, I look forward to seeing how you will change the world. This is a pivotal moment for ChiS&E. We have many students who have been in ChiS&E since Kindergarten. This commitment is a tribute to the parents, teachers, and mentors who supported and encouraged our ChiS&E Seniors over the years. Yes, this is a true celebration of our ChiS&E students' "Grit".

Kenneth Hill
President & Founder

Profile of first cohort of 79 ChiS&E Seniors by gender and race.





AA- African Americans
L- Latinos



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Chicago Public Schools

LBJ STEM Education and Research Center

University of Illinois at Urbana College of Engineering

University of Illinois at Urbana College of Education

Riverbend Math Community Center

Toyota Technological Institute

University of Chicago Department of Chemistry

University of Chicago School of Molecular Engineering



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CHICAGO PRE-COLLEGE SCIENCE & ENGINEERING PROGRAM | CHIS&E INSTRUCTORS AND STAFF



Mr. Felix Bahena

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Ms. Maria Castaneda

Ms. Ashley Campbell

Ms. Tracey Carter

Dr. Kendall Coleman

Mr. Rueben Coleman

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Mr. Johnny Razor

Ms. Bridgette Rudolph

Ms. Yamelette Sosa

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Mr. Melvin Slater

Ms. LaTina Taylor

Ms. Marlene Tyler

Ms. Rosa Vilchis

Dr. Qiana Walker

Ms. Soyini Walton

Ms. Karen Washington

Ms. Monica Washington

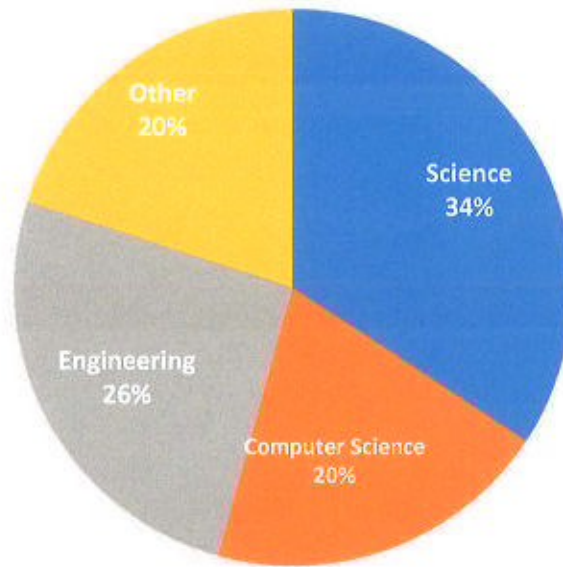
Ms. Suzanne Wasson

Ms. Lucy Wordlaw

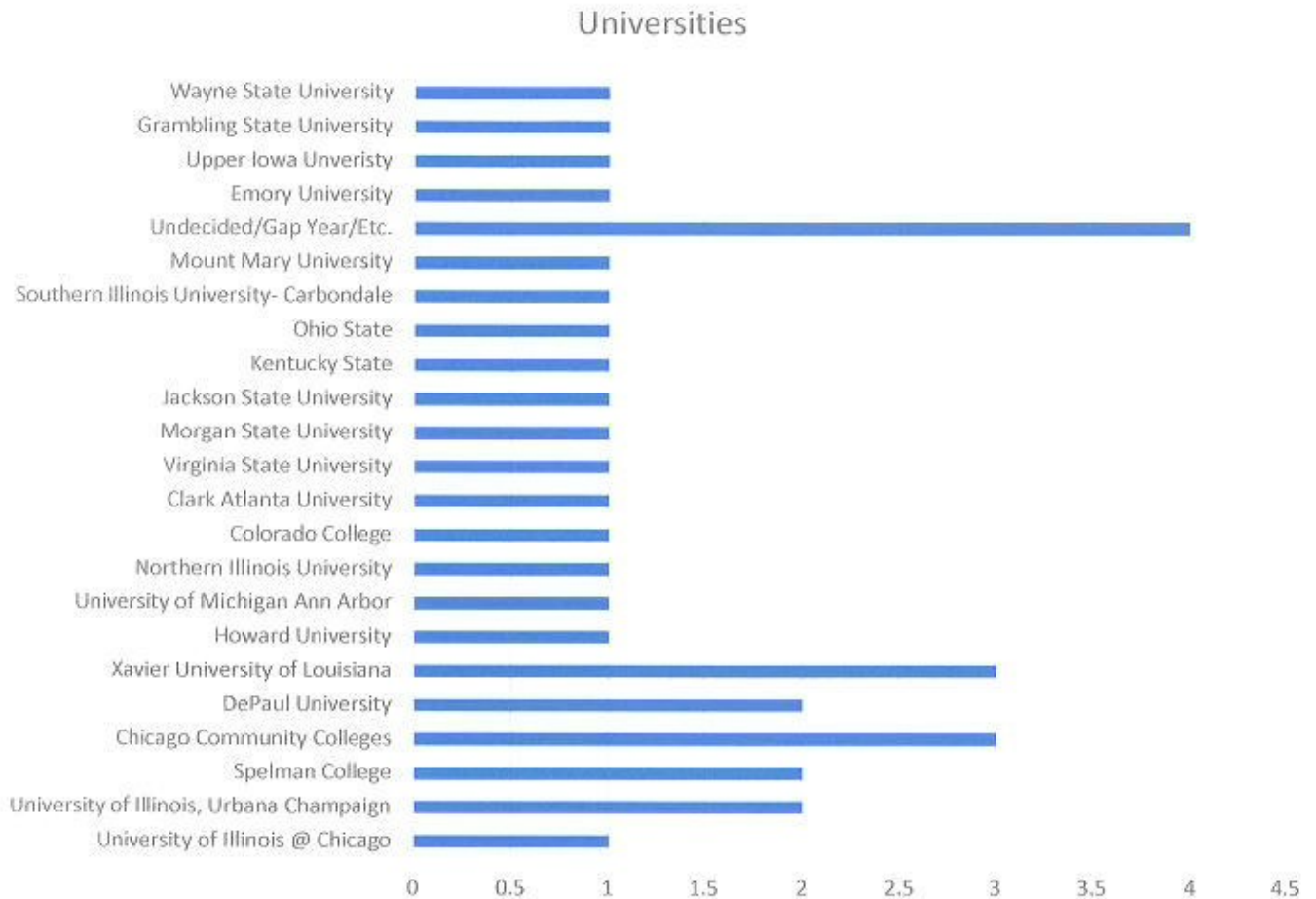
Survey of ChiS&E's Seniors

ChiS&E recently identified 80 current 12th graders and students who had participated in prior years and were now seniors in high school. Of those contacted, approximately half responded and provided valuable information on the impact of ChiS&E on their educational journey. The respondents had participated in ChiS&E at different points in their K-12 education and for different lengths of time. However, it was evident from their responses and comments that ChiS&E has made a positive, indelible mark on them as STEM learners. On a scale of 1 to 5 regarding the positive impact of ChiS&E on their educational journey, over 90% chose a 4 or 5. In response to the question regarding their planned major, 33% indicated "science," 26% indicated "engineering," and 21% indicated "computer science"—a total of 80% in a STEM field. Their college choices varied, with nine planning to attend universities and colleges in Illinois, some planning to attend Historic Black Colleges and Universities, and others expecting to attend public and private colleges across the Midwest, south, and east coast. Now concluding their final year of high school, they are enrolled in advanced math and science courses, with many in pre-calculus, calculus, and AP calculus, and a good number in AP physics. When asked to comment on the question of "How has ChiS&E impacted your educational journey," they often responded "Taught me things before my school did," and "I have been exposed to multiple careers within the STEM field." These were the impacts most commonly mentioned. They also mentioned the opportunity have a mentor to help with college choices and decisions, and to hear from scientists and engineers in the field. Here are the comments of a student who recalls fondly his participation in ChiS&E's Summer STEM Enrichment Program as a rising 8th grader: "The summer program I participated in before 8th grade was so much fun, along with educational. I made friends that I am still in contact with today.... I learned many algebra topics that I would not encounter in school for years. One of my favorite memories is learning how to factor polynomials, and eventually making a poster about it.... That summer is one of the reasons why I consider math fun. The program also influenced my decision to take Engineering as a class this year."

ChiS&E 12th Grade "Class of 2021" College Majors

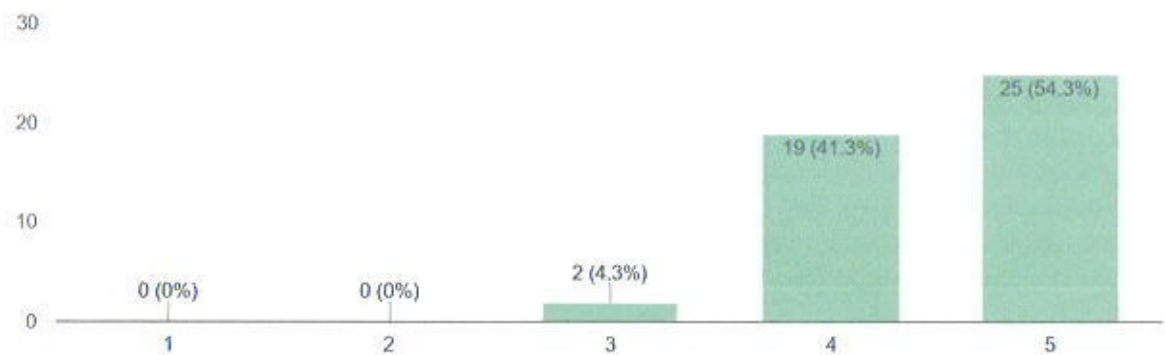


■ Science ■ Computer Science ■ Engineering ■ Other



Do you feel the CHiS&E program enhanced your learning? If so, on what scale?

46 responses





Gabriela Bautista, Lane Technical H.S.
DePaul University
Anticipated Major: Public Science and Law

How has ChiS&E impacted your Educational Journey?

With ChiS&E I was exposed to multiple careers in the STEM field, and it was because of ChiS&E that I was ahead in my math skills and interpretation as well as being a regionals winner in the FIRST LEGO League Robotics Challenge team for Lane Tech H.S.



Kenneth Burnett, Lindblom Math & Science Academy
University of Illinois Urbana, Champaign (UIUC)
Anticipated Major: Computer Science

How has ChiS&E impacted your Educational Journey?

ChiS&E exposed me to new forms of math, science and engineering. It also prepared me for higher level math and science classes in my school. It helped spark my interest in computer science.



Maia Penn, Dyett College Prep H.S.
Spelman College
Anticipated Major: Health Science

How has ChiS&E impacted your Educational Journey?

ChiS&E taught me things before I learned them in school.



George Estefania, Little Village High School Multicultural
Academy of Scholarship
University of Illinois (UIC) or Malcolm X College
Anticipated Major: Art

How has ChiS&E impacted your Educational Journey?

ChiS&E has been extremely helpful throughout my whole life, I grew up knowing much of life's wonders and being wiser to the common fellow. It has changed who I am as

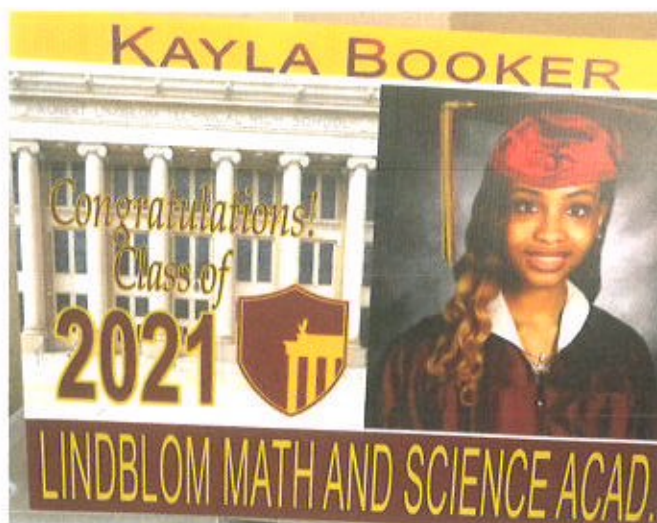


Tina Adams, Benito Juarez Community Academy
Clark Atlanta University
Anticipated Major: Pre-Nursing

How has ChiS&E impacted your Educational Journey?

CHiS&E always taught me things that I had not learned yet in my class and that knowledge helped me pass the class so easily!

a person and has prepared me for a life filled with new and unique opportunities.



Kayla Booker, Lindblom Math & Science Academy
Wayne State University
Anticipated Major: Biology

How has ChiS&E impacted your Educational Journey?

I was exposed to several types of Engineering. I am still an introvert, but ChiS&E helped me to have the confidence to speak up during projects I've worked on. I am more confident in presenting my point of view.

In what ways has the CHiS&E program been beneficial for your child?

Shannon Hendrix

ChiS&E Forced My Child To Socialize And Venture Out To Become A Little More Independent. She Experienced New Ideas And Places.

William Penn	ChiS&E engaged my daughter in critical thinking.
Myrna Perez	My child has benefited from ChiS&E's many seminars. Via these seminars she has learned about different research projects in the STEM field. She was exposed to men and women of color working in the STEM field which helped her to see herself represented in this field. ChiS&E has also exposed my daughter to information on how to pursue post graduate degrees in the STEM field. Thank you for allowing my child to participate in this amazing program
Margarita González	My daughter was exposed to various of material before her classes ever started talking to her about it. The math she learned in ChiS&E helped her a lot at school, she was able to fly through her classes and receive excellent grades as well.
Euel Bunton	Raised STEM literacy; provided hands-on learning; provided outstanding teachers and learning experiences; improved our children's grades in math and science; one child on dean's list, the other on honor roll; provided early exposure to college and university environments; promoted children's taking ownership of their own learning through project based learning; promoted cooperative learning through experiments; promoted self confidence in students learning ; promoted growth mindset in learning that a failure is an opportunity to keep trying and learn from one's mistakes, promoted interest and decisions in STEM careers.
Edward Cain	The ChiS&E program benefitted my children by challenging them and taking their Monday-Friday school to a realistic and real-world level. Being able to create things and see them work was very eye opening and being able to use their minds to produce was really big!
Marquis Dreyer	The ChiS&E program exposed my child to various types of Engineering. It was a great help with developing a critical thinker and team worker. My child in particular was very shy but the ChiS&E program helped her to be confident and comfortable expressing her ideas. It helped her to experience Engineering camps and other science camps. She was even selected for a selective enrollment school. Although, she has chosen to study medicine, we will always treasure being a part of the very first class with ChiS&E.
Valerie Cotton	Math scores went up high. Never had a problem in math classes.