

SATURDAY

SCIENCE ACADEMY //

2019 ANNUAL REPORT



Charles R. Drew University
of Medicine and Science

A Private University with a Public Mission

Office of Pipeline and School Partnership Programs

1731 EAST 120TH STREET, LOS ANGELES, CA 90059

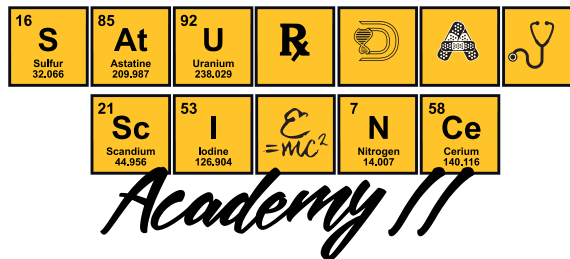
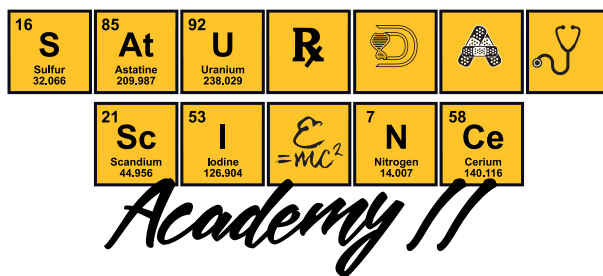


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ACKNOWLEDGEMENT

Thank you for your contributions and commitment to Saturday Science Academy II at Charles R. Drew University of Medicine and Science. CDU's Saturday Science Academy II (SSA II) is the core of CDU's pipeline programs, which begins in preschool and extends through a student's senior year in high school. In 2019, Saturday Science Academy II had many accomplishments and served youth from Orange County to Los Angeles to the San Gabriel Valley and beyond. In this report, you will find updated information about SSA II and some highlights from 2019.

ACKNOWLEDGEMENT

FROM THE EXECUTIVE DIRECTOR



From the Saturday Science Academy II team and the Department of Pipeline and School partnership programs we want to thank everyone for their support. Thank you for your contributions and commitment to Saturday Science Academy II at Charles R. Drew University of Medicine and Science. CDU's Saturday Science Academy II (SSA II) is the core of CDU's pipeline programs, which begins in preschool and extends through a student's senior year in high school and into college.

We'd like to especially acknowledge the leadership of our university. President Dr. David M. Carlisle, Executive Vice President and Provost Dr. Steve O. Michael, and Pipeline Steering Committee Chair Dr. Eleby R. Washington have been instrumental to the success of our program.

We also wish to acknowledge the members of the Pipeline Steering Committee, Senior VP Minniefield and the Office of Strategic Advancement, Perrilla Johnson-Woodard and the Office of Sponsored Programs for their unwavering support and dedication. We are also grateful to the College of Medicine, led by Dean Dr. Deborah B. Prothrow-Stith, the College of Health and Science, led by Dean Dr. Hector Balcazar, and the Mervyn M. Dymally School of Nursing, led by Dean Dr. Diane Breckenridge, for their contributions to our mission and to our community. Student Affairs and Enrollment Management made the transition from High School to undergraduate education seamless for three of our Pipeline students, which is our first time ever enrolling Pipeline students into an undergraduate program. To all the parents, teachers, mentors, families and community stakeholders who support our efforts we acknowledge your contributions that supported a productive learning community for underserved and marginalized youth. To the wonderful staff, Keonna Hardson-Simpon, Kristiana Franklin, Karen Wade, Alexis Cabarga, Tamyra Fisk and Anthony Reyes for their commitment to improve student outcomes, your hard work and dedication is appreciated.


-Eileen Forbes-Hill, MS



THE NEED

Saturday Science Academy II (SSA II) addresses two significant problems in STEMM (science, technology, engineering, math, and medicine), Health Care Professions education and career representation; 1) Increasing the presence of underrepresented minorities (URMs) in STEMM/HealthCare fields, and 2) Improving student academic performance in STEMM education and standardized testing. In 2018, 19% of underrepresented groups earned Bachelor degrees in engineering, up from 12% in 2011. URM students complete high school at lower rates and score lower on standardized exams than their peers do, often creating barriers into college (NACME)." The 2015 U.S. News/Raytheon STEM Index shows the persistent gap in STEM education and employment between genders, whites and minorities, and reports the gap is widening.

According to the National Science Foundation, the globalization of the 21st century and an increasingly knowledge-based economy intensifies the need for STEM education, particularly as STEMM skills are critical to training in the health professions. Evidence shows that as a strategy, attracting more individuals of color in the early stages of their education to meet the needs of a diverse population is effective for reducing racial and ethnic disparities in health status.

SSA II provides rigorous learning opportunities and experiences, to enhance and improve the educational outcomes of predominately African American, Latino, and other youth of color attending under-resourced and underserved schools. In a community where more than 14% of the population is unemployed, 42% have less than a high school education, and 34% live in poverty, a college education is a critical factor in determining a person's quality of life. Yet, in our surrounding underserved communities of Willowbrook, Watts, Compton, Paramount, Lynwood, and South Los Angeles, the reality is that few students graduate from high school with the courses needed for college preparation and success. The stakes are high for our youths, their future, and the socio-economic progress of our communities.

These 2017-18 statistics are for Los Angeles County Service Planning Area 6 (served by CDU pipeline programs), Los Angeles Unified-South high schools (5), and the Compton, Inglewood, Lynwood, and Paramount school districts -- districts targeted for CDU pipeline programs. ("A Service Planning Area, or SPA, is a geographic region within Los Angeles County designated by the Los Angeles County Department of Public Health).

- CAASPP Mathematics Exam (CA state math proficiency standards) - over 70% of 3rd-12th-grade students in SPA 6 did not meet the state standards for math proficiency, and; 63.7% of 11th-grade students did not meet the state standards.
- SAT - only 17% of students met the Math Benchmarks, 40% achieved the English/Language Arts Benchmarks.
- College-Going Rates for High School Completers Enrolled in College by In-State Public Post-Secondary Institution Type: Of 2,756 High School Completers, the Average College-Going Rate was 50.11%, with 7.93%, going into the University California System, 28.37%, to the California State University System, and the majority attending 2-year institutions.

In the broader context:

“...BLACK, NATIVE AMERICAN, AND HISPANIC STUDENTS are underrepresented in the nation’s medical schools. But, long before they apply for medical school admissions, most face a steep climb. That’s because students of color disproportionately attend low-performing elementary and secondary schools, and few are directed into college prep and science, technology, engineering, and math (STEM) courses...”

2 Diverse Education (12/8/16). “Researchers offer many explanations for the persistent achievement gaps...3 They attest also to the impact of interventions in promoting high achievement for minority students...”Expanding Underrepresented Minority Participation: America's Science and Technology Talent at the Crossroads, (2011).4

MSIs and the Students They Serve | Minority Serving
<https://www.nap.edu/read/25257/chapter/5>



SSA II HISTORY

SSA II was founded in the summer of 1981, by Dr. Lawrence Alfred, who welcomed students from local junior and senior high schools, as well as community colleges for the very first **Saturday Academy of Science** (now "**Saturday Science Academy II**"). The original goal of the program was "to increase the number of minority students who seek careers in the biomedical science" by informing and exposing them to the various facets of such careers." For 38 years, CDU through and SSA and

SSA II, has remained committed to that founding goal by providing unique academic programs to strengthen the academic abilities and expand the educational horizons of underrepresented youth of color.



SSA II OVERVIEW

SSA II is a Next Generation Science Standards-based year-long 24-week program conducted in three programmatic phases throughout the academic school year; Human Physiology and Anatomy, Marine Biology and Plant Life, and Physical Science, Global Health, and Biomedical Engineering. A 4-week summer mathematics program is offered to students, to encourage reinforcement and retention of academic knowledge gained throughout the academic year. Students are provided with two hours of tutoring each Saturday to increase Proficiency in English and Language Arts and Math. SSA II consists of two academies—the Junior Academy, serving Pre-K to 7th Grade students—and the Senior Academy, serving 8th Grade to 12th grade students.

SSA II incorporates Next Generation Science Standards as its base educational framework and is open to students in pre-kindergarten through 12th grade. Similar programs for students typically engage students at the high school level. However, SSA II enrolls students early in their academic career to encourage early interest, involvement, increased college matriculation rates, connect youth with volunteer and mentorship opportunities, to increase Proficiency in English and Language Arts and Math, to provide students with skills necessary to become employable and to provide students with improved outcomes in STEMM and health care career education. The academic agenda evolves from the Charles R. Drew University Mission Statement, "To conduct education, research, and clinical services in the context of community engagement to train health professionals who promote wellness, provide care with excellence and compassion, and transform the health of underserved communities."



Students are engaged in their school communities through community service collaborative partnerships with local school districts/schools, teachers, and parents/caregivers.

SSA II follows best practice program models and incorporate three unique features:

parent involvement, community engagement, and Kindergarten to 12th grade student participation. Research demonstrates parent involvement as a critical component of student academic success. Parents are actively engaged through coordinated program support activities as a way to increase program retention and support of student activities. Teachers for this program are local college students who are volunteering their time to give back to the community. Students in the program are able to connect with college students, learn about their experiences and are motivated to see themselves represented in the teachers they engage with on a weekly basis.



STRATEGIC PLAN ALIGNMENT

CDU's Strategic plan provides the University community, its stakeholders, and its partners with a roadmap for the University's trajectory for the next 5 years. That trajectory is one of growth in both academic programs and enrollment while remaining true to CDU's commitment of service to underserved and underresourced communities.

The plan articulates a revised Vision, Mission, and Values that reaffirm and strengthen CDU's longstanding foundational principles and sets forth a bold statement for the future of our University. It utilizes eight Strategic Themes and accompanying Objectives that clearly articulates how the University will proceed toward achieving this future, ensuring that Charles R. Drew University of Medicine and Science will be an institution of excellence and accomplishment. The overall theme and thrust behind this iteration of strategic planning is to lay the foundations for repositioning CDU as a growing, research intensive, comprehensive medical and health professions University committed to building upon its historic legacy of:

- 1 *Training health professionals to serve underserved, underresourced communities*
- 2 *Enhancing the diversity of the health professions*
- 3 *Expanding undergraduate and graduate enrollment*
- 4 *Increasing access to outpatient health care in South Los Angeles and similar communities*

SSA II is enhancing curriculum to ensure alignment with Next Generation Science Standards (NGSS) and the CDU Strategic Plan 2016-2020. Saturday Science Academy II clearly aligns with these strategic themes:

THEME 6

Reposition the University as a Student-Centered Institution that Offers a Unique Education, Student Life and Residential Experience

- Enrich the student experience by enhancing co-curricular, bridge programs by funding to support scholarships
- Increase experiential educational opportunities for students to actively engage in local and community health through public policy, research and social justice initiatives

THEME 7

Regenerate and Refocus the Campus Climate and Culture as a Responsive, Caring, and Enterprising Community

- Create programs that enhance campus spirit and pride
- Recognize and celebrate achievements that further the University's mission
- Promote programs that integrate CDU values into daily operations

THEME 8

Adopt and Expand Strategic Networking, Partnership, and Engagement with the Community, Institutions, Organizations, and Governments

- Align and develop community partnerships and collaborations while also facilitation community programs that support the surrounding communities
- Develop programs and partnerships with local high schools, community colleges and universities to strengthen and expand CDU's academic pipeline for the increase in student outreach and admission

“SO HAPPY
I PARTICIPATED”

-Agwazim Basil
Parent

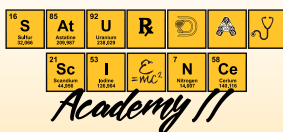


ACTIVITIES and ACTIVITY OVERVIEW

In 2019, SSA II implemented several programs and initiatives carefully engineered to support our mission—to close the gap in the underrepresentation of people of color in STEM and health care professions and to address the significant and unique challenges in STEMM education and career representation. Our activities served the youth, their families, and the greater South Los Angeles community and contributed to student learning, parent involvement, and overall community commitment.

The table below highlights the sessions and signature events SSA II hosted for 2019-

ACTIVITY	DATE	#ATTENDEES	OCCURENCE
Junior White Coat Ceremony	January 2019	230	Annually
Winter Session: Plant Life and Marine Biology	February - April 2019	161	8 Weeks / 9AM – 12PM
Aquarium of the Pacific (Field Trip)	April 2019	185	Annually
Spring Session: Physical Science, Global Health, and Biomedical Engineering	April - June 2019	164	8 Weeks 9AM – 12PM
Discovery Cube (Field Trip)	June 2019	129	Annually
UCR Tour (Field Trip)	June 2019	15	Annually
Family Night	August 2019	153	Annually
Summer Session: Math Camp	July - August 2019	60	4 Weeks / 9AM – 12PM
Fall Session: Human Anatomy and Physiology	September - November 2019	178	8 Weeks / 9AM – 12PM
Career Day	September 2019	171	Annually
CPR Training	September 2019	31	Annually
Let's Move!	October 2019	168	Annually
San Diego Museum of Man (Field Trip)	November 2019	25	Annually
MOXI Museum (Field Trip)	November 2019	184	Annually
Critical Thinking Course	February - November 2019	122	24 Weeks / 12PM – 12PM
Tutoring	February - November 2019	120	24 Weeks / 12PM – 2PM
Parent Workshops	February - November 2019	461	10 Workshops 1.5 hours each



DATA and STATISTICS

Collecting demographic information about the population we serve is crucial in helping us continue with our mission. The data below represent information regarding the youth served from January 2019 to December 2019.

SESSION NUMBERS

SSA II recruits students for our program at school, colleges and community events held in close proximity to CDU's campus. Our partners at the neighboring school districts are encouraged to share the program with their students and parents. Due to the growing popularity of SSA II, we implemented a waiting lists for some of the grades.

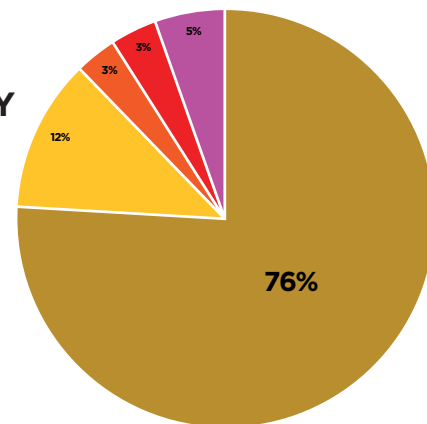
	WINTER 2019	SPRING 2019	SUMMER 2019	FALL 2019
Total Youth	161	164	60	178
Return, from Previous Session	123	129	48	148 (SP and SU)
New this Session	38	35	12	30
Total in Tutoring/Critical Thinking	66	68	36	72
Total Unique Youth Served in 2019	236			

STUDENT DEMOGRAPHICS

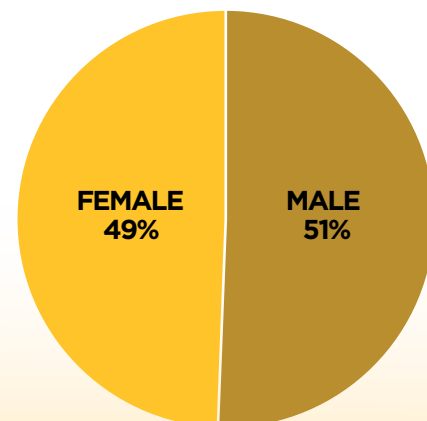
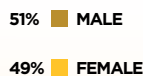
Race and Ethnicity

SSA II is a culturally diverse program that addresses local needs of national importance, transforming the lives of at-risk, underrepresented and socioeconomically disadvantaged youth. The program provides unique academic and experiential programming and mentorship to define a clear educational pathway to personal and professional success. In so doing, SSA II meets the critical local need for academic enrichment programs for underserved and underresourced communities.

RACE/ETHNICITY



GENDER



GRADES

Each grade, from Pre-K to 7th, has their own curriculum developed in-house and aligned with the Next Generation Science Standards and California Common Core. Students 8th grade and above share curriculum—also aligned with state and national standards—with the expectation that these youth master their introductory exposure to STEMM concepts, topics, and themes.

WINTER 2019		SPRING 2019		SPRING 2019	
Grade	pct.	Grade	pct.	Grade	pct.
Pre-Kinder	7%	Pre-Kinder	7%	Pre-Kinder	3%
Kindergarten	5%	Kindergarten	6%	Kindergarten	9%
1st Grade	8%	1st Grade	10%	1st Grade	8%
2nd Grade	11%	2nd Grade	10%	2nd Grade	9%
3rd Grade	9%	3rd Grade	15%	3rd Grade	11%
4th Grade	12%	4th Grade	11%	4th Grade	13%
5th Grade	14%	5th Grade	11%	5th Grade	12%
6th Grade	8%	6th Grade	8%	6th Grade	13%
7th Grade	9%	7th Grade	11%	7th Grade	7%
8th Grade	7%	8th Grade	6%	8th Grade	9%
9th Grade	3%	9th Grade	3%	9th Grade	4%
10th Grade	2%	10th Grade	1%	10th Grade	2%
11th Grade	3%	11th Grade	3%	11th Grade	1%
12th Grade	1%	12th Grade	-	12th Grade	-
Total SR. Academy:	16%	Total SR. Academy:	13%	Total SR. Academy:	16%
Total JR. Academy:	84%	Total JR. Academy:	87%	Total JR. Academy:	84%

STUDENTS IN SPA 6

The Los Angeles County Department of Public Health has divided communities within the county into eight different geographic areas known as Service Planning Areas (SPA). CDU is located within SPA 6—South Central Los Angeles. SSA II works to recruit youth from within our SPA as part of our mission to end health disparities in our community. The table below illustrates the number of youth from our SPA-

	NO.	PERCENT
Total SPA 6 Served	170	30%
Total non-SPA 6 Served	393	70%

	WINTER 2019	SPRING 2019	SUMMER 2019	FALL 2019
90001	0	0	0	0
90002	1	0	0	3
90003	6	0	0	4
90007	2	0	0	1
90008	11	2	0	7
90011	0	0	0	0
90016	5	0	0	1
90018	1	1	0	3
90037	0	0	0	0
90043	4	3	1	3
90044	5	4	0	11
90047	4	3	1	8
90056	0	0	0	1
90058	0	0	0	0
90059	5	0	0	7
90061	2	1	0	4
90062	0	0	0	0
90220	5	0	0	5
90221	0	1	0	2
90222	2	1	0	4
90248	0	0	0	3
90255	0	0	0	0
90262	5	1	0	5
90723	1	1	1	1
90746	0	0	0	17
Total	59	18	3	90

PERFORMANCE MEASUREMENTS

In using pre-assessments and post-assessments to gauge the knowledge of students, SSA II staff determined 92% of students who participated in SSA II improved their overall grades and knowledge in the STEMM field. Students actively participating in hands on science activities and being exposed to STEMM curriculum lead to an increase in scores across all grade levels.

The table below highlights the percentage of improvement for all students in both academies for each session. That is, the table illustrates the percentage of students who earned a higher score in their post-assessment taken at the end of their session in comparison to their pre-assessment taken on the first day of the session.

	WINTER 2019	SPRING 2019	SUMMER 2019	FALL 2019	AVERAGE
ImprovementPercentage	93%	90%	94%	91%	92%

STRENGTHENING the PIPELINE

Strengthening the pipeline to college is critical to address STEMM and health-professions workforce diversity. Public education in marginalized communities of color, especially in Los Angeles, is not successfully preparing these children for the rigors of post-secondary education. Overcrowded classrooms, out-of-date textbooks, and crime on campus are just a few challenges to academic success that are consistently experienced by students in Los Angeles' underperforming schools. Science and Math achievement is particularly dismal, severely limiting the supply of college-ready, STEM and health care profession-prepared students graduating from Los Angeles high schools. This is part of a national trend where a declining number of children are studying science, technology, engineering, mathematics and medicine (STEMM). Your contributions to Saturday Science Academy II:

- 1 *Helps students develop interest in STEMM and STEMM learning activities through STEMM instruction, hands-on learning, science experiments, lab work and activities, field trips*
- 2 *Provides students an opportunity to develop the capacity for productive engagement in STEM learning activities*
- 3 *Has data that demonstrates students increase their knowledge of STEMM as measured by the Next Generation Science Standards-based pre/post assessment of STEMM principles*
- 4 *Helps students come to value the goals/importance of STEMM in everyday life through STEMM instruction, mentorship, research opportunities/apprenticeships, hands-on learning, field trips, professional presentations*
- 5 *Provides students the opportunity to increase knowledge of STEMM and health care professions as measured by pre/post assessments of STEMM and health careers*
- 6 *Helps students develop interest in college attendance and a major in STEMM or health sciences through local college tours, SAT preparation, critical thinking courses, academic tutoring, FAFSA completion assistance, college application workshops, career presentations by STEMM and healthcare professionals*
- 7 *Helps ensure 12th-grade participants apply to a college or university*

"Thank you for offering the program to the children in our community."

Leona Greenwood,
Parent



STUDENTS and TEACHERS

For over 30 years, the Saturday Science Academy II (SSA II) has prepared underrepresented pre-kindergarten to 12th Grade students for academic and professional careers in health and science. Students from our neighboring communities have strengthened their understanding of STEMM through engaging, creative, and hands-on curriculum proudly aligned with Common Core and the Next Generation Science Standards. They were guided by our shared vision to provide excellent health and wellness for all in a world without health disparities.

We recognize and celebrate our SSA II students for their efforts, resilience, and accomplishments in 2019. As alumni of our program, they join an elite group of scholars who embed the values of CDU to serve our community, lead as pioneers, excel in academic performance, embrace diverse backgrounds, maintain integrity, and act with compassion. It has been an absolute privilege to serve our students and we trust they will continue to excel in the classroom and beyond.

We also recognize the many hours of service SSA II teachers and teacher assistants contributed in 2019. These high school juniors, seniors, and local college and university students make our program possible and inspire our next generation of leaders.



“ MY LOVE FOR MEDICINE INCREASES DURING EACH SESSION OF THIS PROGRAM.

It has broadened my awareness of common health issues and it has increased my understanding of human anatomy. I have learned how to take someone's blood and test glucose levels. I have learned how to take care of plants to ensure their growth and longevity. I have studied marine biology in teams, which has taught me the meaning of community. All the information I have learned from the Pipeline Programs will benefit me when I start my new path to higher education in the STEMM field. ”

-Nakya Spencer
SSA II Alumna and Teacher Assistant

“ I SEE GREAT IMPROVEMENT AND PROMISE.

If this continues to be the new norm you guys are on the right track to keep our future doctors and science professionals on the right path. KEEP KICKING IT UP! ”

-B. Jefferson
Parent

“ LOVE EVERYTHING ABOUT THE PROGRAM. KEEP UP THE GOOD WORK. THANK YOU! ”

-JAMES HENRY
KINDERGARTEN STUDENT



2019 DONORS and PARTNERS

