

CURE Combines STEM and Summer Fun

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School is out for the summer and most students are spending their days at the pool or on the beach, but for the [University of Maryland, Baltimore](#) (UMB) CURE Scholars, their summer fun happens in a laboratory.

On July 2, middle school students in the [UMB CURE Scholars Program](#)—Anatomy Curriculum Track spent the morning performing ACL and PCL reconstruction surgery on a cadaver's knee.

(View a video below.)



Orthopedic surgeon Craig Bennett, MD (right), welcomes the UMB CURE Scholars to Supreme Orthopedic Systems Lab before showing them how to perform an ACL reconstruction on a cadaver's knee.

“It was really, really fun!” said Ediri Watford, a rising seventh-grade CURE Scholar at Green Street Academy. “When I grow up, I want to be either a dentist or a pediatric surgeon. I think that this will help me because it showed me some things I might have to do as a doctor.”

The UMB CURE Scholars Program is a pilot mentoring program funded by the National Cancer Institute. The institute’s focus is on reducing racial disparities in the biomedical health care and research workforce by introducing a pipeline toward careers in STEM (science, technology, engineering, and math) to students in West Baltimore. The program begins in sixth grade and continues through high school, college, and beyond.

“You can’t start too early,” said Craig Bennett, MD, an orthopedic surgeon who led the scholars in the operation. “Surgery is one of those things where the more you do it, the more comfortable you get having those instruments in your hands, so what they did is what medical students have to do when we teach them to prepare for the operating room.”

This exciting excursion to the Supreme Orthopedic Systems Lab in Columbia, Md., was part of the middle school CURE Scholars’ three-week summer program. Each week, a different theme was introduced to help expand upon the scholars’ STEM-centered curriculum, with emphasis on health sciences. Curricula partners include: University of Maryland School of Pharmacy’s Pharmaceutical Sciences Lab; University of Maryland Emergency Management’s Stop the Bleed and CPR training initiative; University of Maryland School of Medicine’s (UMSOM) Wellness Champions for Change, STEM Champions of Baltimore, Inc.-*Black Panther* and *Hidden Figures*-themed STEM/STEAM; Leukemia and Lymphoma Society–Middle School STEM/Blood Cancers; UMB’s Community Engagement Center–Community Lunch Volunteer Program, and University of Maryland Institute of Genome Sciences.

(View [a photo gallery.](#))

“With CURE, you get to spend part of your summer break trying new things you never did before,” said Mouhamed Samb, a rising seventh-grade scholar at Southwest Baltimore Charter School. “It’s fun and you learn at the same time.”

For one week the scholars focused on pharmaceutical and genome sciences, where they were able to explore rational design and characteristics of cancer cells, learn about health care careers, and perform genomic science experiments. Another week partners with the [University of Maryland School of Dentistry’s](#) Planet Smilez program in which scholars learned more about the dental profession and even participated in a dental mold and cavity-filling lab. The program culminated with an awards ceremony in Davidge Hall.

(View [a photo gallery.](#))

Several of the scholars also learned more about coding robotics at the [University of Maryland, Baltimore County College of Engineering and Information Technology](#), where they spent a week learning how to design, build, code, and test 3D-printed projects with a focus on environmental science.

“Summer programming is important in reducing academic learning loss and encouraging scholars to excel,” said **TaShara Bailey, PhD**, the STEM curriculum coordinator for the CURE Scholars Program. “Scholars who participate in the summer program enhance their academic skills, prepare for college, build career readiness competencies, and engage in fun, recreational activities.”

The recreational activities were a bonus to this year’s summer program. The scholars enjoyed using UMB’s [URecFit](#) facility, which provided them with deep-water swim tests and other water activities as well as space to play sports in Pratt Gymnasium.

(View a [photo gallery](#).)

This gave the scholars time to play and exercise and also tied back to their studies about fitness, health, and nutrition at [UMSOM’s Center for Integrative Medicine](#). **Christine Barnabic, MS**, an education program management specialist at UMSOM, and **Gabriela Piedrahita Orozco**, a visiting research fellow, led the scholars in a lesson plan that included chair yoga and guided meditation, which helped the scholars learn more about wellness of the body, mind, and spirit. Bailey knows that this experience combined with all of their STEM research will empower CURE Scholars to become life-long advocates for health equity in their communities and avid learners about preventive measures that may help reduce the risk of cancer.

“Providing students with confidence and agency to become self-advocates is a skill they will use throughout their lives,” she said. “It is important that these topics are reviewed over the summer because they may not be taught the same in-depth study during the school year when there are competing academic interests.”

The CURE Program also supported scholars’ participation in the Middle Grade Partnership, a five-week summer education program at Gilman School. At the end of the program, Mali Baysah, a rising eighth-grade CURE Scholar at Southwest Baltimore Charter School, received an award for creative gaming, and Jasmine Margaritis, also a rising eighth-grade CURE Scholar at Southwest Baltimore Charter School, received a first-place award for her rocket design.

All of these interactive experiences not only help the students learn, but they also help their mentors and teachers do their jobs more effectively.

“Learning from hands-on experiences allows us teachers to see if the students are really grasping the material,” explained Lakisha Arrington, a CURE mentor and teacher at Franklin Square Elementary/Middle School. “Plus, it gives them the chance to be creative and innovative.”

The scholars exercised their creativity with many activities and experiments such as creating slime, unicorn volcanoes, and bottle rockets at the [University of Maryland School of Social Work](#). The scholars in cohort 3 even brought a summer treat into their scientific studies by making ice cream with liquid nitrogen.

(View a [photo gallery](#).)

Additionally, the rising ninth-grade CURE Scholars learned how to make culinary concoctions at the [Institute for Integrative Health](#), where they participated in [Mission Thrive Summer](#). The scholars were given this opportunity through [YouthWorks](#), a five-week summer program that offers thousands of Baltimore youths, ages 14-21, job experiences with nonprofit, government, and private-sector employers.

During the five weeks, the scholars learned about farming, cooking, leadership, physical activity, mindfulness, and life skills development through hands-on activities. They also learned about farm-to-table cooking and had the opportunity to put those skills to the test at the end of the program with the “Top Kitchen Crew” competition.

(View a [news story](#) about the competition.)

Meanwhile, the rising 10th-grade scholars also participated in a five-week summer program that took them all over Maryland. The scholars traveled to the [University of Maryland Eastern Shore](#) for a pharmacy-focused camp, [Loyola University Maryland](#) for a forensic science-focused camp, and [Baltimore City Community College](#) for PSAT test prep and college readiness workshops.

After wrapping up this summer of learning, the CURE Scholars will have a couple of weeks off before getting back into the academic grind of the school year. They will kick off the new academic year Aug. 24 with a “Back to CURE” cookout during which they will welcome a new cohort of sixth-graders to the program. This will be the program’s fifth cohort of Baltimore City students.

<https://youtu.be/fcNK17OOqBI>