

CENTER FOR LEADER DEVELOPMENT IN SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS



West Point
READY 

READY TO SERVE. READY TO LEAD.



Many of the challenges facing our world today—climate change, pandemics, energy technologies, bioterrorism, and natural disasters, to name just a few—are, at their heart, scientific opportunities. Increasingly, they are political considerations as well, and help us make meaningful contributions to public policy and informed voting decisions. Yet the United States is experiencing a critical shortage of mathematicians, scientists, and engineers which threatens our nation’s ability to develop and advance its industrial base and compete internationally.

Responding to this national need, the Center for Leader Development in Science, Technology, Engineering & Mathematics (CLDSTEM) is dedicated to attracting and retaining STEM talent for West Point, the Army, and the country. Its programming focuses on introducing STEM to students at the pre-college level, supporting cadet leadership development and retaining talent at the post-graduate and professional levels. In this way, the center addresses the entire pipeline—from primary and secondary students to experts and emerging scholars.

Cadets, and the officers they will become, have an added arena where technical understanding is critical to success: the battlefield. The complexities of today’s new operational environment require a higher level of scientific literacy than ever before. Emerging fields, such as biostatistics, space science, and cyber science, will undoubtedly have a tremendous impact in the military domain. Without a strong foundation in these disciplines, our ability to field relevant forces rapidly enough to keep pace with—indeed, to stay ahead of—evolving threats will be jeopardized. Moreover, without growth and talent in these areas, our nation’s ability to develop and advance its industrial base and to compete internationally will be at stake. This reality affects us all, but it is keenly felt in the modernizing Army, which depends increasingly on science and technology.

STEM education comprises courses ranging from microbiology to statistics, and from chemistry to computer programming. Currently, approximately 50 percent of cadets major in a discipline that falls under the rubric of STEM education, and 100 percent of cadets, even as non-STEM majors, still take a substantial amount of coursework in STEM disciplines. The Center for Leader Development in STEM sets out to facilitate the

advancement of national educational priorities, and help build a sustainable base of soldiers and citizens who can make substantial and meaningful contributions to the STEM field.

AT A GLANCE

The Center for Leader Development in STEM serves both the United States Military Academy and the nation by inspiring students to choose to be a part of the pool of leaders that will find solutions to challenges that confront our nation. Through mobile STEM Workshops, multi-day STEM camps at West Point, “Teaching the Teacher” Workshops in local communities, national conference and symposium participation, faculty recruitment and development, cadet mentoring opportunities, and more, the Center plays a leading national role in reforming and enriching STEM education, and improving performance.

MOBILE STEM WORKSHOPS

One of the Center’s primary initiatives focuses on outreach to middle and high school students through mobile STEM Workshops conducted nationally. These workshops, led by near-peer cadet mentors and advised by West Point Faculty volunteers and cadet mentors, effectively encourage, empower, and prepare students to pursue studies and career paths in STEM fields. Through fun, hands-on learning activities such as programming circuits, piloting drones, designing bridges, building robots, calculating flight paths, and even solving “escape room” challenges, mobile STEM workshops give young people an opportunity—sometimes for the first time in their lives—to interact with college students and military personnel, to picture themselves in college and in a STEM-related profession, and to find enjoyment in applied science.

The cadets that participate gain valuable experience through service, mentoring, and leadership as they help develop and teach the workshops alongside faculty. The program also serves as an opportunity to share information about West Point.

WEST POINT STEM CAMP



"My son has always been strong in math and science, but this was his first engineering project and I think it opened up the possibility of another career track. My thanks to you, the staff, and all the cadets who made the USMA STEM program a success!" —Parent

"I loved how we had different modules and could talk with each Cadet member freely and how we could debate about science." —Camper

"While in middle school, came to West Point for Summer Leader Experience (SLE) in high school, so I had a few opportunities to see the Academy before I was a cadet. I was fairly set on going to West Point, but any doubts I had were washed away with SLE. The days were really productive, and the program opens your eyes a bit to what is feasible to achieve at West Point." — Daniel Echeveste, West Point Class of '21

PROGRAM IMPACT

Since it began in 2012, the Center has grown exponentially, increasing the number of students reached from just under 500 annually to over 1,250 in 2019. Since 2016, CLDSTEM has performed more than 160 mobile STEM workshops across the country, supporting more than 7,100 middle school and high school students in over 43 states.

The Center for Leader Development in STEM workshops are a unique leadership opportunity for cadets. To date, 350 cadets have participated in the CLDSTEM programs, serving as small group leaders as well as hosts to groups that attend the STEM Camps at West Point. During STEM workshops, the cadets are challenged to teach and lead by example, and they have the opportunity to educate the next generation on the importance of their roles in STEM for the betterment of the world. The workshops give cadets the opportunity to inspire students to know that their goals are within reach with the right mindset and determination.

The United States Military Academy at West Point is one of the country's most highly regarded undergraduate engineering schools, requiring competency in STEM among all its cadets. West Point has always placed a strong emphasis on

STEM, this perspective fuels innovation and strives to equip our students with the skills and knowledge to make significant contributions to the global STEM community.

As the nation's first public engineering college, West Point is uniquely qualified to achieve the vision of creating the next generation of STEM leaders.

PROGRAM GOALS

The Center seeks to increase and improve:

- The number and caliber of STEM experts nationally
- The reach and impact of in-classroom STEM education
- Talent, proficiency, and leadership in STEM disciplines
- Interest among middle and high school students to pursue career paths and post-bachelor degrees in a STEM discipline
- Academic and leadership development performance of cadets studying a STEM discipline

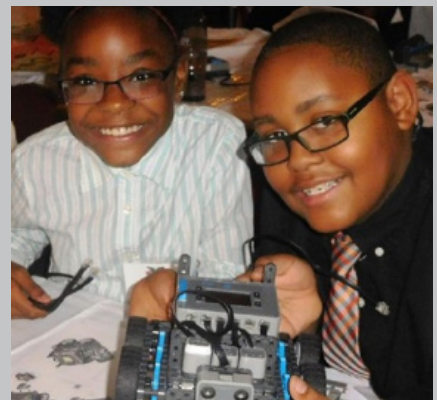




Photo: Lee Ross '73

FUNDING OPPORTUNITIES

Total Center Endowment \$5 million

Center Director Naming	\$2 million
STEM Mobile Workshop (10)	\$1.25 million endowment / \$50,000 annual
STEM Mobile Workshop (1)	\$125,000 endowment / \$5,000 annual
STEM Camp Program	\$850,000 endowment / \$34,000 annual
Near-Peer Mentorship Initiative	\$500,000 endowment / \$20,000 annual
Guest Lecture Series	\$275,000 endowment / \$12,000 annual
STEM Academy Scholars Program	\$125,000 endowment / \$5,000 annual

MARGIN OF EXCELLENCE



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