



STEM LEARNING ENVIRONMENTS

Modernization Project: Ernest McBride High School, Long Beach Unified School District

Ernest McBride High School shows how modernization can make a difference when school facilities are planned and designed with educational programs in mind.¹ With input from the local community, McBride High School was converted from a middle school into a small learning community with capacity for 1,000 high school students.²

McBride Engineering Academy is one of three academic pathways that students can pursue at this twenty-first-century facility. McBride also offers career pathways in Criminal Justice and Investigation and Health and Medical, providing students with well-rounded choices in career technical education.³

Environmentally sustainable features at McBride High School include a new energy-efficient, water-cooled central plant and rooftop solar photovoltaic arrays that allow the campus to generate up to half of its electrical power. Skylights and large windows provide abundant daylighting complemented by energy-saving lighting controls with occupancy sensors and automatic dimming. Storm water is diverted to the playfields for groundwater regeneration and cleansing, a practice that meets the state's Water Quality Management Plan.⁴

Facility Features That Support STEM Learning and Career Technical Education:

- A 350-seat lecture hall that is similar to a college lecture hall, and a "main street" in the center of campus designed for the flow and safety of pedestrians⁵
- Learning spaces with flexible furniture and campus-wide Wi-Fi, both of which create learning environments that take students beyond the limitations of a traditional classroom
- Three academies built as separate, specialized spaces, with career labs where students demon-



Photo by Mark Savage, Long Beach Unified School District

strate learning through projects, team collaboration, and connections with industry partners⁶

- An engineering lab where students utilize state-of-the-art technology to learn mechanical, electrical, and aerospace engineering and design
- Roll-up doors that connect the engineering classroom to the outdoor courtyard, where students can test robotic models and utilize additional instructional space for small-group work
- A health medical lab that resembles a hospital—a hands-on learning environment where students can earn Certified Nursing Assistant or Emergency Medical Technician certifications
- A fully equipped forensic crime lab, a police academy lab, and an outdoor obstacle course for career pathways in law enforcement
- Simulated crime-scene environments that help students make real-world connections with mathematics, science, history, and English as they actively learn about criminal investigations⁶

1. California Department of Education (CDE), *Educational Specifications: Linking Design of School Facilities to Educational Program* (Sacramento, CA: CDE, 1997).

2. Ernest S. McBride High School, James D. MacConnell Award Submittal (Long Beach, CA: 2015).

3. CDE, *California Career Technical Education Model Curriculum Standards* (Sacramento, CA: CDE, 2013).

4. Long Beach Unified School District, "Measure K School Bonds, Building for 21st Century Learning: Ernest S. McBride Sr. High School Fact Sheet" (Long Beach, CA: September 2013).

5. Long Beach Unified School District, "McBride High: A Model 21st Century School" (Long Beach, CA: UPDATE Newsletter, Fall 2013).

6. Long Beach Unified School District, Secondary Schools Office, "Ernest S. McBride High School: Three Pathways—One Vision" (Long Beach, CA: n.d.).