



# Cal State Dominguez Hills STEM Program: Leading the Charge in Energy Storage Innovation

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Why Energy Storage Education Matters Now More Than Ever

California's rolling blackouts during heatwaves could become as outdated as flip phones, thanks to breakthroughs in energy storage technology. At Cal State Dominguez Hills (CSUDH), we're not just watching this revolution unfold - we're training the engineers who'll design its blueprint. Our STEM program has become a launchpad for energy innovators, combining textbook theory with real-world grid challenges.

The Battery in Your Backpack: CSUDH's Hands-On Approach

Forget dry lectures about electrons. Our students get elbow-deep in:

- Lithium-ion battery prototyping (safety goggles mandatory!)
- Solar+storage microgrid simulations using actual campus energy data
- Field trips to LA's largest utility-scale storage facilities

Last semester, a student team repurposed electric vehicle batteries into campus lighting storage - reducing energy costs by 18%. Not bad for a class project, right?

Industry Trends Shaping Our Curriculum

We're riding the wave of these emerging technologies:

## 1. Solid-State Batteries: The Next Frontier

Our materials science lab recently partnered with a Southern California startup to test ceramic electrolytes that could triple EV range. Students call it "working on batteries that'll make Tesla jealous."

## 2. Grid-Scale Storage Solutions

With California mandating 100% clean electricity by 2045, CSUDH engineers are designing:

- AI-driven load prediction models
- Modular storage systems for wildfire-prone areas
- Hydrogen storage integration techniques

From Classroom to Career: Alumni Making Waves

Meet Maria Gonzalez ('23), who leveraged her capstone project into a position at a major utility company. Her secret weapon? The thermal energy storage design she perfected in CSUDH's Renewable Energy Systems Lab - now being scaled for use in desert communities.

Government Partnerships Powering Progress

CSUDH recently landed a \$2.4M Department of Energy grant to establish a:



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Regional energy storage testing facility  
Workforce development program for underserved communities  
K-12 STEM outreach initiative

As our department chair likes to say, "We're building more than batteries - we're building career pathways."

## The Future Is Charging Ahead

With Los Angeles emerging as a clean tech hub, CSUDH students enjoy unparalleled access to:

Internships at cutting-edge storage startups  
Industry mentor programs  
Annual energy storage hackathons

The next breakthrough in energy storage technology might just come from a Dominguez Hills student tinkering in our 24-hour engineering lab. After all, today's homework could become tomorrow's grid solution.

Web: <https://silichicbaby.co.za>