

2013 CEFPI Utah  
**Educational Facility  
Innovation Award**

**Neil Armstrong Academy**

Granite School District  
Neil Armstrong Academy  
New Primary School/Special School Program (STEM) Categories  
James H. Day, AIA





# NEIL ARMSTRONG ACADEMY


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science . technology . engineering . math

**A**sks Tyler Howe, Principal at the new Neil Armstrong Academy, why this project is outstanding and he'll refer you to his teachers who say they'll never go back to the old classrooms and ways of teaching after experiencing the quality and flexibility provided by this facility's technology-rich environments. Tyler himself was deeply impressed on the very first day of school by the diversity of effective educational settings. He recalls simultaneously observing the entire fifth grade interacting with one another and their teachers over tablet hardware, while all three STEM labs were full to the brim with eager students exploring new learning pathways, and both large group studios were hosting collaborative instruction that broke across traditional "cells and bells" constraints. Armstrong students and teachers are truly experiencing an enhanced educational experience. And Utah School Districts are taking notice asking school administrators on an average of two times per week to host tours of this innovative educational facility.

**Narrative - Why this project is outstanding, and how it fosters exceptional student and teacher engagement (page 1)**

Armstrong teachers are also busy exploring all the new ways they can use the building. Recently, in partnership with local area botanists, they gathered in the greenhouse to instruct students in proper planting procedures after having utilized the STEM labs to guide students through the anatomical dissection of a flower bulb. Scientists and engineers from both Chevron and Boeing have visited, challenging students to expand their understanding of the world around them. In a joint mathematics/art project, kindergartners used the labs to scrape out and decorate pumpkins after having estimated and then verified the quantity of seeds in each squash. Access to the building's roof gave each science class an opportunity to build and operate their own barometers in a roof terrace area pre-wired and ready to accommodate a full weather station. In Tyler's words, they are out of the "sit and git" setting and into new and meaningful ways of learning.

New ways of learning are accompanied by the sharing of ideas and discoveries. Each week Armstrong sixth graders head up the video production of a weekly episode of ABC (Armstrong Broadcasting Corporation) news that brings the latest happenings to the classrooms and homes of the school's student body, teachers, and parents. They direct the whole operation from the media center's production rooms sitting in as anchors, on the scene as reporters, and working the cameras and microphones. Neil Armstrong STEM Academy clearly demonstrates Granite School District's commitment to providing forward-looking education to the West Valley City community. 

**Narrative - Why this project is outstanding, and how it fosters exceptional student and teacher engagement (page 2)**


**S**chool District engagement was a high priority in the design process for the new Neil Armstrong Academy. Multiple charettes that drew upon the experience of neighboring school principals and district specialists in the areas of science, math and CTE curriculum created an understanding of program delivery methods focused on science, technology, engineering and mathematics. The process determined important educational adjacencies, created an understanding of local energy and environmental issues and sustainable solutions, generates opportunities for community activism through the newly established Armstrong Community Council and explores pathways to partnering with area professionals and university resources.

Multiple educational diagrams were developed that placed a number of learning environment features at the top of our development goals. Included were the following objectives; technology-rich classroom settings will be amply supported by alternative learning areas; all learning environments will be enhanced with natural daylight; the outside will be brought in through greater building envelope transparency and framed views; and outdoor lab and gathering spaces will support interior learning centers.

**Narrative – Planning process, stakeholders and goals (page 1)**

While the early workshops addressed the educational plan for Neil Armstrong Academy and the STEM curriculum, later workshops addressed multiple spatial diagrams that explored critical adjacencies and floor/site plan development. Every effort was made to maximize square footage devoted to learning space while reducing or eliminating dedicated circulation. Numerous interior and exterior learning sites were developed and care was taken to promote ease of access and flexibility in use.

Other key development issues focused on student and teacher comfort, allowing them to interact and perform at their best. These included; a well-insulated building envelope, localized classroom level control of HVAC systems, low VOC in building finishes, and the use of indirect/low glare LED lighting. Technology was seamlessly integrated into the school building giving students access throughout the facility and allowing teachers to utilize the latest state-of-the-art teaching and presentation processes. Infrastructure was carefully designed to accommodate future advances and development in technology.

District stakeholder participation continued through the traditional phases of schematic design, design development, and construction documents thus ensuring suitability of all final space layouts, adjacencies and equipment/technology accommodations. 

**Narrative – Planning process, stakeholders and goals (page 2)**

**D**istrict-driven programming placed at the heart of the building multiple STEM labs equipped to connect students to both inside and outside resources where they can explore scientific and engineering concepts and create projects that expand understanding and interest. Resource, storage, and teacher work rooms flanking these labs form a central spine that terminates on each floor with a Multi-Media Activity space where students undertake teacher-guided project exploration in a computer-rich setting.

The central spine is flanked by learning studios grouped by grade level to promote collaboration between teachers and foster greater interaction among students. Each learning studio features raised flooring throughout - a first for Utah! This flooring system provides virtually unlimited flexibility for instructors to adapt their learning space to the most up-to-date tools available. Large group instruction spaces placed at the juncture between the learning studios and the larger/louder areas of the building accommodate team teaching opportunities and STEM demonstrations by outside scientists and engineers. These spatial/adjacency planning concepts promote collaboration and create flexibility in fostering the desired STEM/project based learning environment.


**Narrative – How the completed project accomplished desired methodology and goals (page 1)**

Building material choices and infrastructure system selections reinforce the STEM curriculum and promote interest in the scientific and engineering principles employed in the design of the structure. Transparent walls and ceilings placed at the building's central circulation provide glimpses into otherwise hidden mechanical systems that temper the learning environment within which students and teachers engage. The building's central stairwell spells, in American Standard Code for Information Interchange (ASCII), the acronym "STEM" in each of its punched out steel risers prompting questions about mathematical communication pathways. Natural daylight and geothermal energy demonstrate a commitment to energy conservation while educating students in the options and benefits of sustainable choices.

Outdoor landscapes, both hard and soft, promote student connectivity to the larger natural environment. Site components integrate with the school's science curriculum and selected plantings promote interest in and exploration of native environments by re-creating multiple habitats common in Utah including Riparian, Foothills, and Alpine Meadow varieties. Teachers further student's interaction with their native natural surroundings within the school's greenhouse located immediately exterior to the learning studios wing.

**Narrative – How the completed project accomplished desired methodology and goals (page 2)**

As mentioned above, a section of the building's roof has been made accessible to science students and pre-wired and structured to accommodate a fully functioning weather station. In partnership with the University of Utah's Atmospheric Science Department, the weather station will not only allow teachers and students to see, study, question, manipulate, and interpret the collected data but will also provide much-needed weather data from the northwest region of the Salt Lake Valley.

In every detail from the building's siting and exterior material aesthetic to the interior learner-focused lab and classroom settings, Neil Armstrong Academy is equipped to provide students with a STEM-based education designed to excite their pursuit of the same subject matter during their secondary education and beyond. 

**Narrative – How the completed project accomplished desired methodology and goals (page 3)**

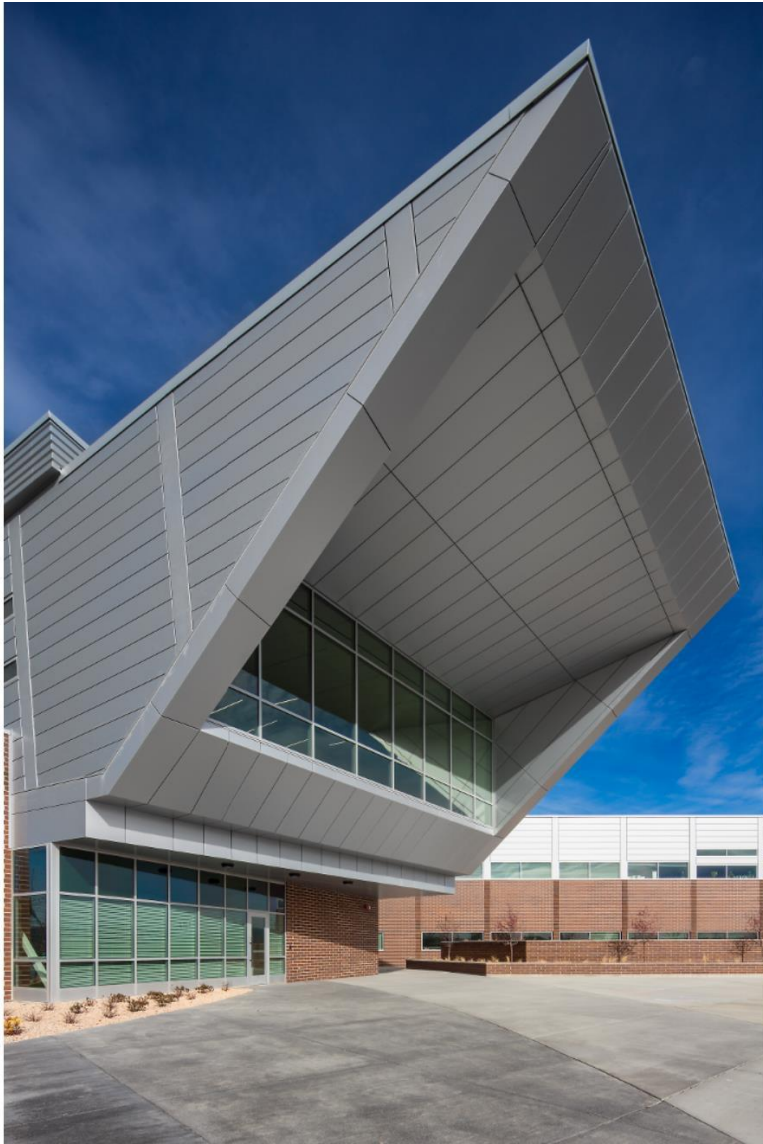




A truly unique aesthetic informs this modern campus setting



Strong forward-looking forms evoke thoughts of new learning opportunities



Modern building materials wrap technology-rich learning environments





In use every day all day long - at Armstrong's heart are heavily equipped STEM labs that foster individual and group learning



Multi-layered, transparent and welcoming environments





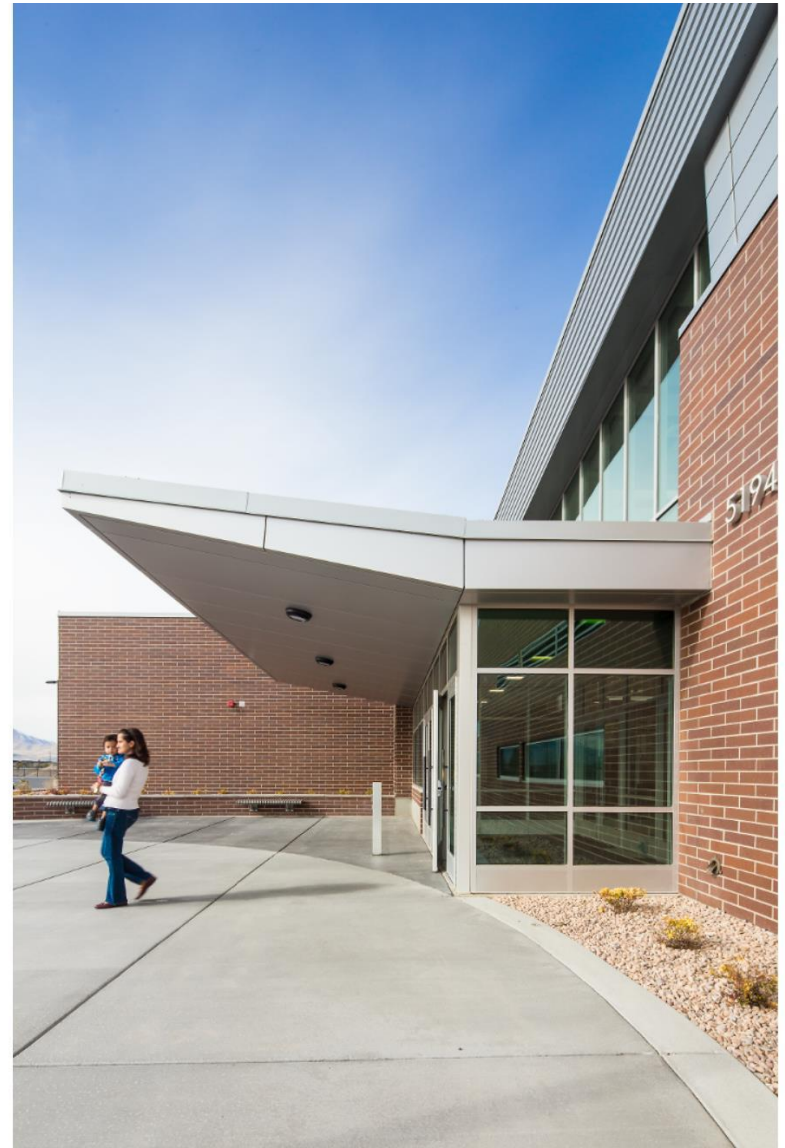


Open, colorful, and inviting circulation pathways



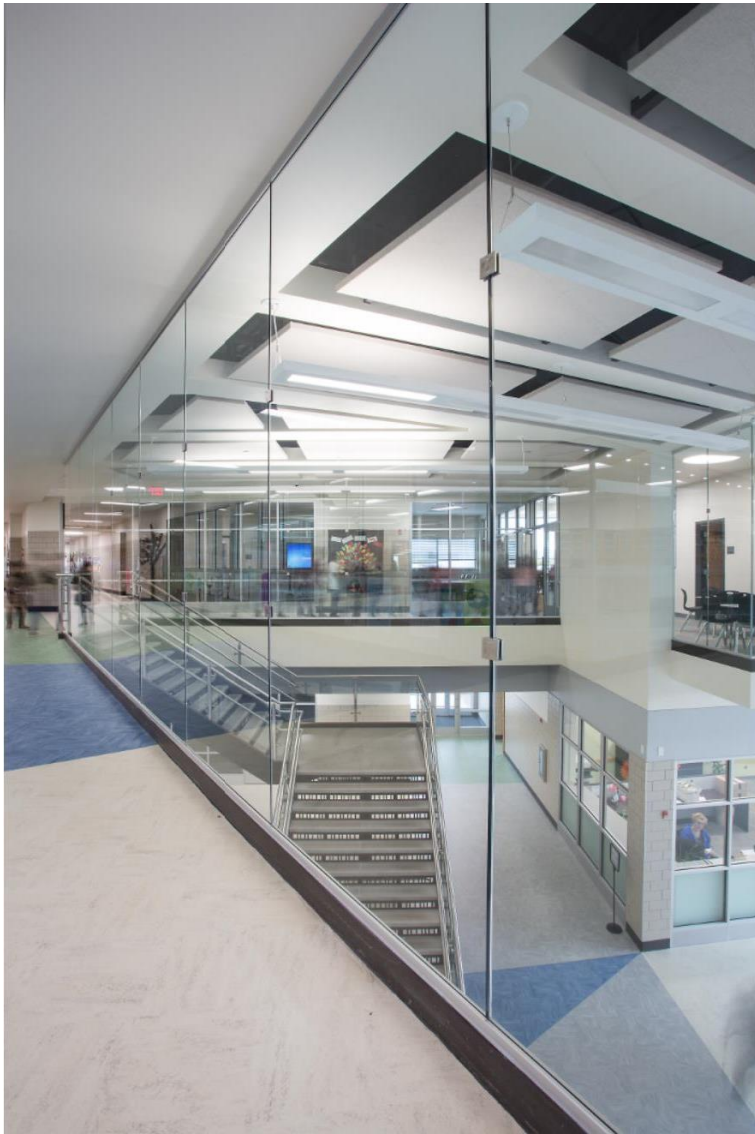
Ample transparency – key to both interior and exterior learning opportunities





Inside and out – state-of-the-art in every detail





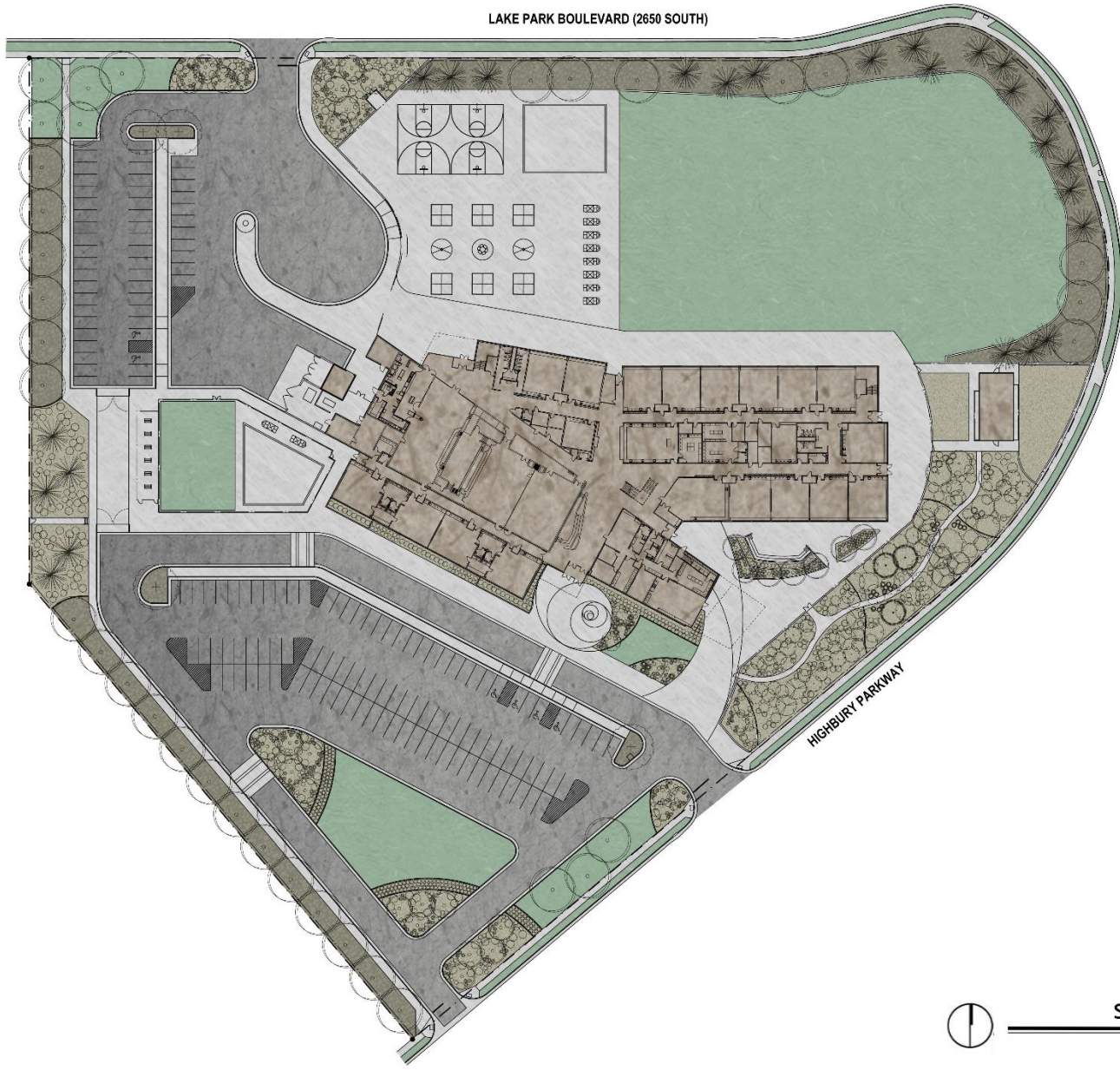
Places that foster active visual and physical interaction/participation



Neil Armstrong Academy – comprehensively equipped to inspire students in STEM-based pursuits both now and into the future



LAKE PARK BOULEVARD (2650 SOUTH)




HIGBURY PARKWAY



site plan




level 1 floor plan





level 2 floor plan

# Project Details

1. Project Name	Neil Armstrong Academy	
2. District Name	Granite School District	
3. Award Category	New Primary School/Special School Program (STEM) Categories	
4. Superintendent	Martin W. Bates	
5. Contact Person	Name:	James H. Day, AIA
	Email:	jday@graniteschools.org
	Phone Number:	385-646-4142
6. Type of Facility	New Primary School	
7. Number of Students Impacted	700	
8. Project Size	95,000 Square Feet	
9. Occupancy Date	August, 2013	
10. Design Professional	Naylor Wentworth Lund Architects	
11. General Contractor	Darrell W. Anderson Construction, Inc.	

Print, Sign, Scan and Submit with Package

Name of Project: Neil Armstrong Academy

Location of Project: West Valley City, Utah

CEFPI has your permission to:

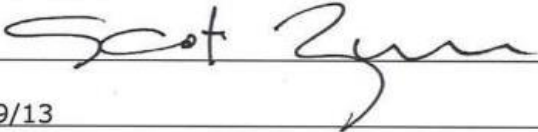
- ✓ Send photos electronically to jury members (required for entry).
- ✓ Display photos in the award winners' area of the website, if selected as a finalist.
- ✓ Display photos on other sections of the website as representative CEFPI projects.
- ✓ Print photos in CEFPI newsletters.
- ✓ Print photos on CEFPI marketing materials, i.e. brochures , awards, call for entries, etc.
- ✓ Print photos and project details in the CEFPI Design Portfolio, if selected as a finalist.
- ✓ Display photos at local or regional CEFPI, UFOMA, CAE or USBA events.

Please Note: CEFPI maintains an in-house archive of school designs as part of our research library. Your information will be entered and recorded as one of those designs.

School District: Granite School District

Responsible Party/Photographer: Scott Zimmerman

Print Name: Scott Zimmerman

Signature: 

Date of Release: 10/29/13

**Photo Release: (Return SIGNED copy with your submittal)**