Our Mission Statement
We, Forge Education, propose to develop a socially and technologically 21st century high school, providing accessible, modernized learning opportunities, reducing our environmental footprint, in order to foster a new generation of citizens. By providing learning based in STEM subjects (science, technology, engineering, and math), we will give our students the opportunities they need to succeed in the highest growing job field.

Why STEM?
STEM is the single fastest growing occupational area throughout the entire world. In order for a school to produce successful citizens it must meet the demands of the job markets at hand, which at the moment require more programmers, IT professionals, doctors, and engineers than ever. STEM subjects have also been known to help people with reasoning and perception which evident in many standardized tests such as the SAT, ACT, LSAT, and MCAT.

The STEM Building
One of our three buildings is dedicated to the STEM classes. It is complete with our own ideal science classrooms, a makerspace, green roof space, and a spacious library functioning as an open workspace.

Community Impact
The school's gym and field will be open to the public to bolster community social interactions. This can pull the community closer together around our ideal school. South of our school there is a shopping district where students can go to hang out and relax.

The Site
Our site is within a quickly developing neighborhood in Denver, Colorado. Many houses are being built in the area, but there is a lack of high schools, creating a need for youth education. Our site is 14 acres and has three buildings: the main building, STEM building, and the gym. The main building is 51,000 square feet, the gym is 64,623 square feet, and the STEM building is 79,000 square feet, in total all three buildings are 195,000 square feet. There is a shopping district directly south of the school along with a national park to the north.

Library Workspace
Open air work areas are the evolution of the workspace. By providing a space for our students to work both individually and in groups, while still allowing for social interactions, we are creating a better environment for creativity and efficiency.
**Athletics and The Gym**

The ideal school has an impressive athletic facility. Athletics promotes competition, teamwork, and healthy life choices. In a sports program a student develops discipline, integrity, resilience, and leadership.

The bleachers are used to access the top floor and the second floor, in addition to the indoor staircases. The space efficiently utilizes the roof top as a tennis court and uses spaces under bleacher as hallways and as locker rooms.

**Sustainability**

Our building is environmentally sustainable in many different ways. Our school transportation will be in the form of electric buses to reduce the carbon footprint.

A geothermal heat pump system will be used to heat/cool the school by sticking pipes in the ground and using the ground’s naturally stable temperature.

Buildings are positioned to utilize natural light sources, especially the large circular library. This reduces the amount of electricity needed for heating, cooling, and lighting.

Water harvesting is the process of collecting precipitation and directing it towards uses that do not require clean water, namely watering plants and fields, which will significantly reduce the water bill.

**Schedule Gantt Chart**

This Gantt Chart is used to show the schedule. It is an estimation for a time table which is used to keeping the build and workers on the right track. The total amount of time that it would take to complete the school is 11 months.

**Cost Estimate**

$18.5 Million

**Engineering**

Pioneer Academy features a partially underground theater supported by columns and 36x60 inch beams spanning 60 feet. These beams are upturned on an artificial hill with soil and grass.

All three buildings are concrete structures and incorporate tilt walls where applicable. The floor plan is translated upward to maintain structural continuity in the main building.

**Landscape**

Pioneer Academy incorporates an existing creek system which runs through the two parks on either sides of the campus, providing a pleasant environment to the community. On the southern portion of the school a walkway runs along the creek, populated by native plants and trees for students to enjoy. Bridges connect the athletic and academic sides of the campus which are filled with common areas for students to meet, from the outdoor amphitheater to the exterior eating area.

**Project Members**

- Sustainability Consultant – Claire Kehn
- Structural Engineer – Benjamin Negron
- Landscape Architect – Sergio Morales
- Interior Architect – Ethan Fowler
- Athletics Architect – Lauren Meyer
- Architect – Aidan Mollhagen
- Construction Contractor – Mariana Mercado
- Construction Contractor – Oscar Davenport
- Consulting Architect – Daynmon McClure

**Pioneer Academy**

A proposal by Forge Education