ARCHITECTURE

Many celebrated architects in history (Pythagoras, Vitruvius, Michelangelo, Leonardo) were also remarkable engineers, mathematicians, and inventors. This course teaches critical skills and thinking in the same cross-disciplinary spirit. We introduce students to a variety of overlapping ideas in architecture, engineering, and math. Each concept is presented via a hands-on project. The course fosters the ability to recognize complex mathematical patterns and creatively solve challenging real-world problems.

Some of our curriculum' topics:

- Multiple engineering challenges involving structural engineering (materials, columns, bridges, skyscrapers, simple and compound machines).
- Various topics from two- and three-dimensional geometry, introduction to modelling, spatial thinking, and analysis.
- Explore various forces, such as tension and compression.
- Learn about and prototype various canonical buildings while exploring arches, a variety of domes, columns, beams, and other structural elements.
- Become an innovator! Could you design your own measuring instruments? Could the axel of the wheel be moved without compromising the wheel's efficiency? Could you design your own building materials? Could you design with light? Could you design architecture that moves?





