Introduction to STEAM

This course introduces ninth graders to the principals of STEAM (Science, Technology, Education, Art, and Mathematics). Students participate in STEAM challenges using the design process that builds on their own interests, ideas, and environments.

Students will learn new skills in:

- 3D printing
- Robotics
- Coding
- Architectural design
- Urban Planning
- A variety of different STEAM software

> **I co-created and co-teach this course at Brooklyn Emerging Leaders Academy (BELA) in Brooklyn, NY (2019)**

Essential Questions/Understandings:

- How can I persevere through challenges and learn from my mistakes?
- How can I teach myself new skills and communicate my learning process to others?
- What is innovation and how can I apply my own vision to new and existing challenges?
- How can I use STEAM to create the world that I want to live in?
- How do I present my work to different types of audiences?
- How can I leverage the strengths of my peers when I face a challenge?
- How can I support others when they confront their own challenges?

Unit	Description	Dates
Unit 1: The Design Process	In teams, generate a solution to a problem that you want to solve using the design process. Focus will be placed on the collaboration and building a team.	8.26 - 10.9
Unit 2: My Dream Home	Construct and 3D print a prototype of your dream home while learning dimensions, scale, and metric conversions.	10.10- 11.20
Unit 3: The Innovation Lab Part 1	In teams, innovate and alter preexisting designs and inventions to personalize or improve their function.	12.3 – 1.17
Unit 4: The Innovation Lab Part 2	Continue to develop your innovations from Unit 3 or choose something new to innovate.	1.27- 3.13
Unit 5: The 6th Borough	Design a 6th borough for your dream home to live in. You will identity, design, and build what you need and want in your dream borough.	3.16- 5.1
Unit 6: The Design Process: Pitch Competition	Using all aspects of STEAM learned over the year, create a new solution to a problem in the world that you care about. Develop a prototype and participate in a pitch competition. ,	5.4 – 6.18