

## Summer 2012



Join the Baruch College STEP Academy this summer. Choose from one of our four tracks in 1) *Engineering Principles of Bridges*, 2) *Experimental Science*, 3) *Science of Music* or 4) *Electrical Engineering and Astronomy*.

The summer program meets from Monday, July 9<sup>th</sup> through Thursday August 2<sup>nd</sup>. All courses meet from 9:30am to 2pm at Baruch College.

Course descriptions are provided below. More information at our website: [www.baruch.cuny.edu/step](http://www.baruch.cuny.edu/step)

**(A)**

## **Engineering Principles of Bridges**

*Instructor – Mr. Tobias*

*9:30 am → 2:00 pm*

*(Note: all day session)*



This course involves trips to [Central Park](#) and the [Brooklyn Bridge](#) to study the architecture and engineering of the bridges and arches. Mathematical concepts will be explored and applied to build several structures that will be field tested for various conditions. The class will culminate in prototype bridges that will be tested for usability, strength and aesthetic grace. The class will be a synthesis of engineering bridges that incorporates literature, art and NYC history.

---

**(B)**

## **Experimental Science**

***Instructor – Mr. Russo***

***9:30 am → 2:00 pm***

***(Note: all day session)***



Fields of science to be studied include anatomy, biology, chemistry, ecology, environmental science, and forensics. Morning sessions will be lecture-based pertaining to a field of science with experiments/labs done in the afternoon. Afternoon sessions may be either performed in labs, in nearby parks, or consist of trips to zoos and museums as needed.

---

**(C)**

## **Science of Music**

***Instructor – Kristine Varney***

***9:30 am → 2:00 pm***

***(Note: all day session)***



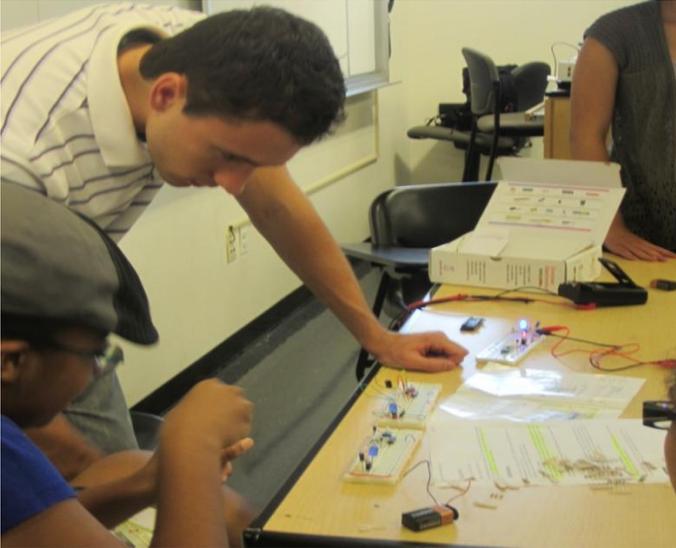
This course starts with an exploration of waves, which leads into a discussion of the physics of sound waves. From there we will explore the science of sound and music. We will address a variety of topics related to music, including how it reaches and is processed by our brains; what its major components are; why different types of music make us feel a certain way; and how various musical instruments use wave properties to make sounds.

*\*No musical knowledge is required, though a love of listening to music is strongly recommended\**

---

**(D)**

**Electrical Engineering**  
***Instructor – Kirill Tsyba (Alex)***  
***9:30 am → 11:30 am***  
***(Note: morning session)***



Students will walk away from the class with basic knowledge of electricity, become knowledgeable in electrical components, have the ability to design and construct a basic electrical circuit, and then have the ability to draw and read electrical schematics.

*\*Having taken physics prior to this class is a plus, but is not required.\**

**Astronomy**  
***Instructor – Nikolett Doczi***  
***12:15 pm → 2:00 pm***  
***(Note: afternoon session)***

Discover our Solar System!  
Learn about the Sun, our planets, the galaxies and the technologies used to study them. Our exploration of the universe will involve some museum trips.

