



# AMERICAN MUSEUM OF NATURAL HISTORY

After School Program  
Youth initiatives, Education Department

Application for: **Session 0213** November 1 – December 21, 2012

**APPLICATION DEADLINE: Thursday, October 11 2012**  
**Notifications will be sent the week of October 15, 2012**

Every year, the **After School Program** offers courses to students in high school interested in the sciences. There are courses in anthropology, astrophysics, earth science, genetics, biodiversity and more. Each course makes use of the Museum's resources through hall visits, lab and collections tours, talks and lectures by scientists, and hands-on activities.

**Exploratory** courses are introductory-level courses for students to explore their diverse interests. These courses are open to students in the 9th-12th grade. Some of these courses can be used as prerequisites for Science Research courses.

**Science Research** courses are intensive courses on current scientific research in the fields of comparative biology, anthropology, and the physical sciences. Completion of three Science Research courses is a prerequisite for application to a year of mentorship with a Museum scientist through the **Science Research Mentoring Program** (SRMP). These courses are open to students in 10th-12th grade.

The After School Program offers five sessions throughout the school year. Each session is six weeks long. Courses meet once or twice a week from 4:30 to 6:30 PM. Students may attend only one course per session. Unless otherwise stated, the fee for an after school course is \$150 for a once-weekly course and \$300 for a twice-weekly course. **We have a very generous policy of granting fee waivers based on need. If you are requesting a fee-waiver please complete the Fee-Waiver Application form included in this packet.** If payment is due, a notification will be sent to the student stating the amount and the due date.

For additional information on registration policies and course offerings, visit:

<http://www.amnh.org/learn-teach/grades-9-12/after-school-program>

## Submit application to:

American Museum of Natural History  
Education: After School Program  
Central Park West at 79<sup>th</sup> Street  
New York, NY 10024  
(t) 212-496-3529  
(f) 212 769-5329  
[hsprograms@amnh.org](mailto:hsprograms@amnh.org)

Applications must be received by **October 11, 2012**

*Please contact the After School Program Coordinator at 212-496-3529 or [hsprograms@amnh.org](mailto:hsprograms@amnh.org) if you have any questions or need assistance with the application.*

The Museum's Youth Initiatives programming is generously supported by the leadership contribution of  
**New York Life Foundation.**

## Course Catalog

***Exploratory Courses – Introductory level courses where you can explore diverse interests.***

### ***Sculpt-A-Saurus***

Students will explore the world of the Dinosaurs from the inside out in this sculptural class. They will learn how to represent and identify major structural landmarks and muscle groups of the legendary "terrible lizards" while creating their own miniature Dinosaur to take home at the end of the course. This class includes on-site preliminary drawings of the Museum Dinosaur exhibits and the opportunity to see and touch real dinosaur fossils. Students will learn about the skeletal systems of Dinosaurs through observation and sketching, then translate these drawings into wire armatures that will eventually be sculpted upon until a miniature Dinosaur is realized. Finally, the sculpted figures will be textured and painted based on the patterns of living animals and current scientific thinking.

***Meeting Times: Tuesdays and Thursdays: 4:30 PM to 6:30 PM***

***Meeting Dates: 11/1, 11/8, 11/13, 11/15, 11/20, 11/27, 11/29, 12/4, 12/6, 12/11, 12/13, 12/18***

### ***Cosmology***

Cosmology is the study of the Universe as a whole – what it is, what's in it, how it came to be, and what the ultimate fate of it is. Today, Cosmologists study things like the Big Bang, Dark Energy, and the shape of the Universe. There are also cosmologies from other cultures and parts of the world, which describe the heavens in relation to their view of the cosmos. In this class, you'll learn about both aspects of cosmology – see how different cultures represent their cosmologies through exhibits from around the Museum, and learn about how scientists study the Universe and what we have learned (and what we don't know!).

***Meeting Times: Tuesdays: 4:30 PM to 6:30 PM***

***Meeting Dates: 11/13, 11/20, 11/27, 12/4, 12/11, 12/18***

### ***Bioluminescence***

What do jellyfish, mushrooms, and bacteria have in common? They can all generate their own light! This ability, called bioluminescence, has evolved many times in hundreds of different species on the land and in the sea. In this class, we will learn about the chemistry, physics, and biology of bioluminescence. We will discuss the many ways animals use light (hunting, communication, protection) and we will learn how scientists use bioluminescent protein in their research. The Museum will be our field site as we look for examples of bioluminescence and perform experiments in the lab to better understand how this amazing phenomenon works. Join us as we take an in-depth look at the spectacular natural phenomenon of bioluminescence.

***Meeting Times: Mondays and Wednesdays: 4:30 PM to 6:30 PM***

***Meeting Dates: 11/5, 11/7, 11/14, 11/19, 11/26, 11/28, 12/3, 12/5, 12/10, 12/12, 12/17, 12/19***

### ***Visual Anthropology***

The media feeds us millions of images every day. But few consumers take the time to decode these visual forms of information. Visual anthropology gives us the tools to “readjust” our eyes and examine the relationship between culture and visual representations. Our six-week course will be dedicated to exploring gender, race, and the individual through various visual media such as film, photography, and the internet. Activities will include a trip through the Museum archives, critiques of films and popular travel magazines, and the use of digital cameras to capture both photographs and film in an ethnographic setting.

***Meeting Times: Fridays: 4:30 PM to 6:30 PM***

***Meeting Dates: 11/2, 11/9, 11/16, 11/30, 12/7, 12/14***

**Science Research Courses – Intensive courses that serve as pre-requisites for the Science Research Mentoring Program.**

***Wonderful Universe***

What makes a star shine? What holds the stars in a galaxy together? What exactly is a black hole? Could spaceships travel faster than the speed of light? This class will introduce and discuss the physical laws and principles that make the Universe what it is, from gravity to electromagnetism to quantum mechanics. We will meet some bizarre and unfamiliar objects along the ride, such as pulsars, cosmic rays, and dark matter. **This course is a pre-requisite for the Museum’s Science Research Mentoring Program (SRMP), funded by NASA under Grant No. NNX09AL36G. The course is offered free-of-charge under this grant.**

***Meeting Times:*** Mondays and Wednesdays: 4:30 PM to 6:30 PM

***Meeting Dates:*** 11/5, 11/7, 11/14, 11/19, 11/26, 11/28, 12/3, 12/5, 12/10, 12/12, 12/17, 12/19

***Secrets of the Solar System***

This class will take you on a grand tour of the solar system, from Mercury and the moons of Saturn, to asteroids and comets. How did such a diversity of worlds come to be? Like space detectives, we will follow the clues and try to unravel the secrets of the solar system’s formation and evolution.

**This course is a pre-requisite for the Museum’s Science Research Mentoring Program (SRMP), funded by NASA under Grant No. NNX09AL36G. The course is offered free-of-charge under this grant.**

***Meeting Times:*** Tuesdays and Thursdays: 4:30 PM to 6:30 PM

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***Tree of Life***

This course will cover the diversity of life on earth through the tree of life, or the study of how living things are related. Students will learn how scientists use both physical and molecular characteristics of plants and animals to classify and name species, as well as determine how different species are related to one another. Through the study of specimens, students will learn the major characteristics of species from bacteria through plants and animals. **This course is a pre-requisite for the Museum’s Science Research Mentoring Program (SRMP) in biology, evolution, conservation genetics, biodiversity and anthropology. The course is offered free-of-charge.**

***Meeting Times:*** Tuesdays and Thursdays 4:30 PM to 6:30 PM

***Meeting Dates:*** 11/1, 11/8, 11/13, 11/15, 11/20, 11/27, 11/29, 12/4, 12/6, 12/11, 12/13, 12/18

***Mechanisms of Evolution***

This course will teach the evidence for and mechanisms of evolution, beginning with the history of evolutionary theory. Students will learn the ways that the genetic makeup of a population can change over time, and how new species are formed. This class will also introduce students to evolutionary systematics and cladistics, or how scientists study the evolutionary relationships between living things. **This course is a pre-requisite for the Museum’s Science Research Mentoring Program (SRMP) in biology, evolution, conservation genetics, biodiversity and anthropology. The course is offered free-of-charge.**

***Meeting Times:*** Mondays and Wednesdays: 4:30 PM to 6:30 PM

***Meeting Dates:*** 11/5, 11/7, 11/14, 11/19, 11/26, 11/28, 12/3, 12/5, 12/10, 12/12, 12/17, 12/19

## Course Selection Page for Science Research Courses

Complete ALL fields requested below or your application will not be accepted.

Please note: Courses fill up quickly! Space is very limited. Submission of an application is not a guarantee of admission into a course, regardless of financial need. No students will be admitted without an acceptance letter and a completed permission slip and medical form, which will be mailed only to accepted students.

**Exploratory courses are open to students living in or attending 9-12<sup>th</sup> grade (or homeschool equivalent) in New York City.**

**Science Research courses are open to students living in or attending 10-12<sup>th</sup> grade (or homeschool equivalent) in New York. If you are currently in 9<sup>th</sup> grade, you may apply for an Exploratory course in the After School Program.**

### Part A.

If you are applying to a Science Research course for the first time, you must provide a complete and current transcript, including Regents scores. Please have your transcript mailed directly to the address provided below.

### Part B.

List the courses you are applying to in order of preference. You will only be accepted to ONE course per session. See website for full course descriptions. All courses meet 4:30-6:30 PM.

1.	_____	_____
	Course Title	Meeting Day(s)
2.	_____	_____
	Course Title	Meeting Day(s)
3.	_____	_____
	Course Title	Meeting Day(s)
4.	_____	_____
	Course Title	Meeting Day(s)

**DOUBLE CHECK TO SEE THAT YOU HAVE NEATLY PROVIDED US WITH ALL REQUESTED INFORMATION!** Call us at 212-496-3529 or email us at [hsprograms@amnh.org](mailto:hsprograms@amnh.org) if you have any questions!

Send form to: American Museum of Natural History  
Education: After School Courses  
Central Park West at 79th Street  
New York, NY 10024  
Fax: 212 769-5329

## Student Information

If you have completed the following forms this school year, you do not need to do so again.

### Student Applicant's Information

Name: \_\_\_\_\_  
Last First Middle

Birth date: \_\_\_\_/\_\_\_\_/\_\_\_\_ Age: \_\_\_\_\_  Male  Female Current Grade or equivalent level: \_\_\_\_\_

Language(s) spoken at home: \_\_\_\_\_

Home Address: \_\_\_\_\_  
Number and Street Apt#

\_\_\_\_\_ City State Zip code

Phone: Home (\_\_\_\_\_) \_\_\_\_\_ Cell (\_\_\_\_\_) \_\_\_\_\_  
(Area Code) + Number (Area Code) + Number

E-Mail (1): \_\_\_\_\_ E-Mail (2): \_\_\_\_\_

With whom do you live?  Parent  Legal Guardian  Other (Explain) \_\_\_\_\_

### Parent/Legal Guardian #1 Information

Name: \_\_\_\_\_  
Last First Middle

Relationship with Applicant:  Parent  Legal Guardian\*

*\*If you have marked Legal Guardian, please explain relationship with child.*

Grandparent  Aunt/Uncle  Brother/Sister  Other (Describe) \_\_\_\_\_

Home Address: \_\_\_\_\_  
Number and Street Apt#

\_\_\_\_\_ City State Zip code

Phone: Home (\_\_\_\_\_) \_\_\_\_\_ Cell (\_\_\_\_\_) \_\_\_\_\_  
(Area Code) + Number (Area Code) + Number

E-Mail (1): \_\_\_\_\_ E-Mail (2): \_\_\_\_\_

### Parent/Legal Guardian #2 Information

Name: \_\_\_\_\_  
Last First Middle

Relationship with Applicant:  Parent  Legal Guardian\*

*\*If you have marked Legal Guardian, please explain relationship with child.*

Grandparent  Aunt/Uncle  Brother/Sister  Other (Describe) \_\_\_\_\_

Home Address: \_\_\_\_\_  
Number and Street Apt#

\_\_\_\_\_ City State Zip code

Phone: Home (\_\_\_\_\_) \_\_\_\_\_ Cell (\_\_\_\_\_) \_\_\_\_\_  
(Area Code) + Number (Area Code) + Number

E-Mail (1): \_\_\_\_\_ E-Mail (2): \_\_\_\_\_

**Applicant's Educational Information**

**Middle School Attended**

District Borough Number (DBN): \_\_\_\_\_ Name of School: \_\_\_\_\_

Address: \_\_\_\_\_

Number and Street

City

State

Zip code

Phone: (\_\_\_\_\_) \_\_\_\_\_

(Area Code) + Number

**High School Currently Attending**

District Borough Number (DBN): \_\_\_\_\_ Name of School: \_\_\_\_\_

Address: \_\_\_\_\_

Number and Street

City

State

Zip code

Phone: (\_\_\_\_\_) \_\_\_\_\_

(Area Code) + Number

Graduation Yr. \_\_\_\_\_

**All above information is required for application to be considered.**

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**General Student Applicant Information**

1) Are you a former Urban Advantage Student?     Yes     No     I don't know

2) Have you attended any other programs at the Museum?     Yes     No    Please check all that apply:

Early Adventures & Explorations

Adventures in Science

Summer Science Institute

Lang Science Program

Saltz Internship Program

Other: \_\_\_\_\_

Science & Nature Program

(Camps, Weekend Special Exhibit Workshops, Robots in Space, etc.)

After School Program

Science Research Mentoring Program (SRMP)

Other Research Mentoring Programs. Explain \_\_\_\_\_

Museum Education & Employment Program

3) Have you visited one or both of the following? If yes, please identify by checking as it applies.

The Discovery Room

The Sackler Laboratory

4) Do you have any siblings that have attended programs at the Museum?     Yes     No

If yes, please tell us their name(s), current age(s), and program(s) attended

Name

Age

Programs

1)

2)

3)

5) How did you hear about this program?

From a staff member at the Museum

School teacher

Direct mailing

Fellow students

AMNH News Letter. (explain)

From a Museum staff member who visited your school

Web

Flyer or handout

Other (explain) \_\_\_\_\_

## **Self Identification**

*As an educational institution AMNH receives requests from governmental agencies, accrediting associations, college guides, newspapers, and our own college/university communities, to describe the racial/ethnic backgrounds of our students. In order to respond to these requests, we ask (but do not require) you to answer the following two questions:*

**1. Please check one or more of the following options that you identify with.**

- American Indian or Alaska Native
  - Asian (including Eastern Asian e.g., China, Japan, and Korea)
  - South Asian (including India, Pakistan, Cambodia, Philippines, and Vietnam)
  - Middle Eastern/Persian
  - Black or African American (including African and Afro-Caribbean)
  - Native Hawaiian or other Pacific Islander
  - White (including Portuguese, Brazilian, Spanish)
  - Hispanic (White)
  - Hispanic (Black)
  - Mixed
- 

**Student Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

***The American Museum of Natural History encourages participants/students of any race, color, religion, sex, sexual orientation, or national and ethnic origin to apply to its programs and activities. The Museum is an equal opportunity institution and does not discriminate on the basis of race, color, religion, sexual orientation, or nationality and ethnicity.***

