

Want to learn about animals, the environment, forests, food, robots, and much more? **Advanced Studies at Fernbank Science Center** may be for you.

This unique experience, available to all high school students, offers hands-on investigations into a variety of specialized areas of science. Students will have the opportunity to study with expert instructors, working in well-equipped laboratories or traveling to the field, seeing plants and animals in their natural habitats. These courses are provided tuition-free to all DeKalb County School District students. The courses are available to students outside of DeKalb County on a space-available basis. Contact the science center for more information.

To apply, students must submit an application obtained from their school counselor or downloaded from our website. To be considered, students should have a high interest in the subject area, complete the application, submit a recommendation form from a science teacher or counselor, and provide a brief statement explaining why they wish to enroll in the course. Please note that the Center's policy requires students to have good attendance. Participants may be dropped from a course after three absences. Please see the detailed course descriptions below. If the minimum number of students is not enrolled before the first week of the semester, the class will be canceled. If interested, students will then have the opportunity to enroll in a different class. Students must provide their own transportation to the science center.

Please read the detailed course descriptions carefully.

*Additional classes may be offered depending on instructor availability. Please check our website for updated offerings.

Fall Semester

Science of Food

This is a multi-disciplinary course designed to introduce students to the field of food science. The course content covers many aspects of food production from farm to table. These include agricultural practices, processing, food safety, nutrition, new product development, packaging and sensory evaluation. Students will develop technical skills in microbiology, chemistry and physical science through many lab activities. Additionally, the class will visit regional food production and research facilities.

Instructor: Ms. Stacy Byrd

Day/Time: Tues. and Thurs., 3:00 - 5:30 p.m.

One Saturday field trip

Prerequisite: Biology

Credit: 1 Carnegie Unit



Fall Semester(continued)

Field Based Environmental Science

Examine how the earth is one interconnected system of abiotic and biotic components as you explore the environment in this hands-on/field based, tactile approach to learning experience. Each class session will involve field work to enhance the understanding of concepts discussed in the classroom. Students should be prepared to perform practical in class laboratory and outside investigations.

Instructor: Doug Hamby

Day/Time: Tues and Thurs, 3:00 – 5:30 p.m.

Prerequisite: Biology

Credit: 1 Carnegie Unit

Ecosystems Alive

Ecosystems will be examined in the field from the perspective of a naturalist. A variety of natural communities in Atlanta will be explored. This is a field course, so students will be exploring wetlands, lakes, streams and forests up close and personal!

Instructor: Mr. Chris Showalter

Day/Time: Mon. and/or Thursdays, 3:00 - 5:30 p.m.

One required Saturday field trip

Credit: 1 Carnegie Unit

Forensic Science*

Examine the tools and scientific techniques used to solve crimes.

This class will have a primary focus on the chemical aspect of forensics. Techniques include DNA, blood splatter, arson and explosive analysis. Field trips include possible visits to the GBI and DeKalb County Courthouse.

Instructor: Mr. Adrian Elliott

Day/Time: TBA Field trips may be scheduled during school hours.

Prerequisite: Chemistry

Credit: 1 Carnegie Unit

*Same course offered fall or spring - choose one



Spring Semester

Ornithology: The Study of Birds

Explore the lives of birds from an ecological perspective. Learn methods used to study birds in the field. Take field trips to various habitats in Georgia. Students will have the opportunity to see and touch real, live birds!

Instructor: Mr. Chris Showalter

Day/Time: Mon and Thurs 3:00 – 5:30 p.m.

Credit: 1 Carnegie Unit

Animal Science

This course is designed for students who have an interest in animals, particularly domesticated and companion animal species. The course explores topics in anatomy and physiology, growth and development, behavior, nutrition, health and breeding. The course is ideal for students who are interested in a career in veterinary medicine or animal care and management. There are several field trips planned to animal care facilities.

Instructor: Ms. Stacy Byrd

Day/Time: TBA 3:00 – 5:30 p.m.

One Saturday field trip

Prerequisite: Biology

Credit: 1 Carnegie Unit

Forensic Science*

Examine the tools and scientific techniques used to solve crimes. This class will have a primary focus on the chemical aspect of forensics. Techniques include DNA, blood splatter, arson and explosive analysis. Field trips include possible visits to the GBI and DeKalb County Courthouse.

Day/Time: TBA Field trips may be scheduled during school hours.

Prerequisite: Chemistry

Credit: 1 Carnegie Unit

Oceanography

Come explore the world's oceans! In this course, students will use a multi-disciplinary approach to study the physical, geological, chemical, and biological components of the oceans, including the features of the ocean floor, ocean circulation, marine ecosystems, and the relationship between the atmosphere and the oceans. Several field trips are planned, including one weekend trip to the coast.

Instructors: Dr. Kate Wejnert

Day/Time: Tues. and Thurs. 3:00 – 5:30 p.m.

Two Saturday field trips

Credit: 1 Carnegie Unit

*Same course offered fall or spring - choose one



Both Semesters (Full-Year)

(Students sign up for both semesters)

Advanced Placement Physics C

A two-semester course in calculus-based physics for prospective science and engineering majors. Our course emphasizes experimental work and problem solving and can give successful students a year of college credit.

Instructor: Mr. Michael Dowling

Day/time: Mon. and Thurs., 3:30 - 6:00 p.m.

Prerequisite: Calculus (concurrently), Physics (recommended)

Credit: 1 Carnegie Unit

Robotics and Engineering

This project-based course will introduce students to basic CAD principles used in the robotics industry and present the interrelationship of various technology systems. We will use AutoDesk Inventor software to design robotic components, interface with a CNC router and construct with appropriate tooling. The students will utilize current technology to develop an understanding of skills required for designing and constructing a robot that has to perform specific functions. The students will have an option of working with the LINKS Robotics team during second semester. More information will be provided by Dr. Huffman, the instructor.

Instructor: Dr. Debi Huffman

Day/time: Wednesday 4:00 - 6:30 p.m.

Saturdays 1:00 - 4:00 p.m. Additional time TBD.

Credit: 1 Carnegie Unit



For additional information contact:

Fernbank Science Center

678-874-7102

or visit our website at

<http://fernbank.edu>

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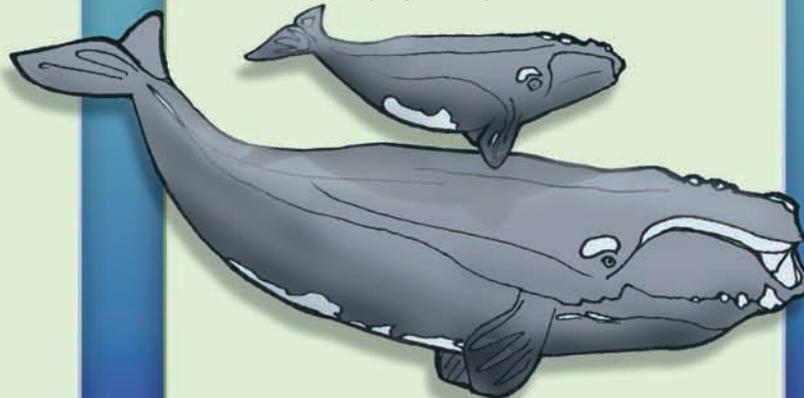
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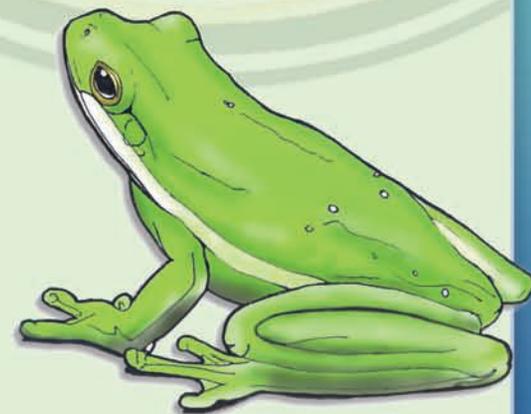
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ANNIVERSARY
1967-2017
**Advanced
Studies**



2018 - 2019