

## SCIENCE TEACHING OPPORTUNITIES

Physics, Engineering, & Related Courses

- Summer 2008 -

- Who:** Johns Hopkins University Center for Talented Youth (CTY) seeks outstanding science teachers, professors, graduate students, and undergraduate students to work in our summer programs.
- What:** CTY offers challenging 3-week academic programs for highly talented elementary, middle, and high school students from across the US and around the world.
- Where:** Residential sites in California, Hawaii, Maryland, Massachusetts, New York, Pennsylvania, and Rhode Island. As well as in China, Mexico and Spain.  
Day Site locations in the Baltimore-Washington, DC, Los Angeles, and San Diego areas.
- When:** Session 1: June 26 – July 19  
Session 2: July 19 – August 9  
*Instructors and teaching assistants can work one or two sessions.*
- Why:** Teach what you love, work with exceptional students in small classes, learn from talented colleagues, and enjoy a generous lab budget.
- Salary:** Instructors: \$2100 – \$3000 per 3-week session, based on experience.  
Teaching assistants: \$1100 per 3-week session.  
*Plus room and board at our residential sites.*
- Classes:** 12 – 18 students  
*Each course has an instructor and teaching assistant.*



Visit:

**[www.cty.jhu.edu/summer/employment](http://www.cty.jhu.edu/summer/employment)**

- Learn more about the program and courses
- Find full job descriptions and responsibilities
- Download an application

You can also contact us at **410-735-6185** or **ctysummer@jhu.edu** for more information.  
*Johns Hopkins is an Equal Opportunity Employer. Women and minorities are encouraged to apply.*

# JOHNS HOPKINS UNIVERSITY

## Center for Talented Youth Brief Course Descriptions

### **Fast-Paced High School Physics**

Covers material ordinarily included in a year-long, algebra-based introductory course in high school physics (the usual prerequisite for honors or AP Physics).

### **Principles of Engineering Design**

Key principles of engineering design are explored primarily through the construction of working models. Through this hands-on learning process, students gain exposure to fundamental topics in physics and chemistry, including basic atomic structure, kinetic theory of gases, Newton's laws of motion, kinetic and potential energy, electrical current, and work.

### **Science and Engineering**

Through hands-on activities demonstrating basic physics, students examine Newton's laws and delve into other elements of engineering and mechanics. Students in this course explore various approaches to problem solving in math and physical science.

### **Inventions**

In this course, students dismantle gadgets to figure out how things work and use ordinary household items to create new inventions. Throughout this process of inquiry, discovery, and problem solving, students explore not only the how and why of various discoveries and inventions, but also the impact they have had on society across the centuries.

### **Astronomy /Introduction to Astronomy**

Students investigate topics as wide ranging as planetary science, solar physics, stellar evolution, general relativity and the history of astronomy.

### **Flight Science**

Students investigate the four forces of aerodynamics—weight, lift, thrust, and drag—as they develop an understanding of the physics of flight.

### **Electrical Engineering**

Offers students an introduction to the field of electrical engineering. Students learn the basic physical science behind circuits and electronics, including electrical current, voltage, resistance, conductivity, work, energy, power, and magnetism.

### **Nuclear Science**

This course covers the principles governing atomic and nuclear structure, radioactivity, and nuclear processes. Students employ these principles to understand technologies such as carbon-14 dating, treatments for cancer, nuclear reactors, and the effects of radiation exposure.

### **Investigations in Engineering**

Designed by engineering faculty at JHU, students in this course address open-ended problems as they learn to methodically apply principles of engineering to answer questions that have not obvious solutions.

### **Engineering Design: Architecture in Spain**

Taking advantage of the rich and varied architecture of Madrid, this course looks at structures from the perspective of an engineer. Students examine the physics and chemistry behind how buildings are constructed.

For full course descriptions and sample syllabi please visit our website:

**[www.cty.jhu.edu/summer/employment](http://www.cty.jhu.edu/summer/employment)**

e-mail [ctysummer@jhu.edu](mailto:ctysummer@jhu.edu), or call 410-735-6185.