

SCIENCE TEACHING OPPORTUNITIES

Physics, Engineering, & Related Courses

- Summer 2007 -

- Who:** Johns Hopkins University – Center for Talented Youth – CTY
- What:** We are seeking enthusiastic science teachers, graduate students, and undergraduate students to work in our summer programs. CTY offers intense 3-week academic programs for highly talented elementary, middle, and high school students from across the country and around the world.
- Where:** Residential site locations around the country: California, Hawaii, Massachusetts, Maryland, New York, Pennsylvania, and Rhode Island
Day Site locations in the Baltimore – Washington and Los Angeles areas.
- When:** Session 1: June 21 – July 14
Session 2: July 14 – August 4
Instructors and teaching assistants can work one or two sessions.
- Why:** CTY staff work with exceptional students, make contacts and friendships with dynamic colleagues, and gain valuable experience in a rigorous academic setting.
- Salary:** Instructors start at \$1970 – \$2970 per 3-week session.
Teaching Assistants start at \$1050 per 3-week session.
Room and board are provided at our residential sites.
- Classes:** 12 – 18 students
Each course has an instructor and teaching assistant.
- Budget:** \$780 – \$1500 per 3-week session for lab consumables.



Visit:

www.cty.jhu.edu/summer/employment

- Review full job descriptions and responsibilities
- Learn about additional opportunities
- 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.

Investigations in Engineering

This course exposes students to the excitement and challenges of scientific investigation and engineering application. Students do more than calculate the solutions to well-posed, simplified problems. Rather, they are asked to translate problems often encountered by engineers (problems having no readily apparent solutions) into ones which can be approached and methodically resolved.

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.

Introduction to Astronomy

Covers topics as wide ranging as planetary science, solar physics, stellar evolution, and general relativity. The course takes on a comprehensive study of stars and stellar classifications starting with the sun and ending with exotic remnants, such as neutron stars, black holes, and quasars. Students also investigate the history of this ancient discipline, from Stonehenge to the Hubble Space Telescope.

Astronomy

Similar in scope to the Introduction to Astronomy course, this course explores in more depth the physics and mathematical concepts integral to the science of astronomy.

Flight Science

From the sketches of Leonardo da Vinci to the expeditions of Amelia Earhart, humans have long struggled to unlock the mysteries of flight. In this course, students join scientists and explorers, past and present, as they study aeronautics in both the natural and man-made worlds.

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.

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 first covers the principles governing naturally occurring radioactive decay and the decay of radioactive substances produced by man. Students learn about isotopes, the concept of half-life, and the mechanisms of nuclear reactions, and employ these principles and concepts to understand technologies such as carbon-14 dating, bone scans, radiation treatments for cancer, and the effects of radiation exposure.

For more information please see our website:

www.cty.jhu.edu/summer/employment

e-mail ctysummer@jhu.edu, or call **410-735-6185**.