the stars challenge

WINTER 2013

inspiring future innovators

KEY DATES

December 21:
Applications due

December 28:
Notification of acceptance by e-mail

January 2:
Tuition is due

Week of January 7:
Classes start

Apply on-line at www.starschallenge.org

Mission

The Stars Challenge is a science enrichment program for top 6th, 7th, and 8th graders hosted by Monmouth University. Our goal is to involve more middle school students in science and technology. Developing top notch scientists, engineers, and mathematicians is critical to maintaining America's lead in technology and innovation.

Electricity really does flow through these wires.

Our goal is to nurture stuents' passion and curiosity about science. We start with excellent teachers who lead creative, hands-on classes. Working in small groups, students tackle real world problems and see how they can make a positive impact on society though science and technology.

The Stars Challenge

We'll be starting our 8th year this winter. So far, we've taught 57 courses which have been attended by 840 students from about 40 different schools. The classes are filled with energy and excitement as students explore areas of science that interest them in a risk-free environment.

Winter 2013 Courses

Ms. Hui will be teaching her wildly successful **Forensics** class for 6th grade investigators. If you love solving mysteries, this class is for you.

For 7th graders, Mr. Roche and Ms Gross will coordinate our exciting new course: **Patterns in Nature**. Several exceptional educators will share their favorite lessons related to patterns observed in the natural world, be they biological, physical or mathematical. What patterns most intrigue you? Come explore why natural patterns can be such beautiful math, science, and art.

Mr. Coe will be offering **Explore the Universe** to 8th graders who are curious about the larger universe we live in. Ever wonder if there's life somewhere out in the vast universe?

Mr. Valente will take 7th and 8th graders on an exploration of the physical world in **Explore, Imagine, and Build.** Each week you'll investigate and discover the rules that govern the physical properties of the world around you. You'll design and build projects that demonstrate your discoveries.

More detailed information can be found on our web site, www.starschallenge.org. Send us email (chappell@starschallenge.org) or call (732-530-1061) if you have any questions.

Students taking their first look at Jupiter in Explore Our Universe.

Winter 2013 Logistics

Classes will meet on the campus of Monmouth University for 10 weeks beginning January 7. Classes meet from 6 p.m. to 8 p.m. Tuition is $500. Some needs-based scholarships are available. Please see our web site for more details and to use our on-line application.

COURSES

TO APPLY visit www.starschallenge.org

FORENSICS - 6TH GRADE

Did you ever wonder how investigators solve crimes? Do you enjoy watching episodes of CSI? Well, this course is for students who love solving mysteries. Each session will provide students an opportunity to build investigative skills and work like a crime scene investigator. Students take active roles as characters in the mysteries. Student-sleuths will analyze physical evidence and debate possible hypotheses. We will learn how to use evidence to reconstruct a crime scene. Labs will show students how to analyze lipstick samples, fiber samples, and mystery powders. If mysteries have always intrigued you, and you would rather be actively solving them than just reading about them, then this forensics course is perfect for you. This course will be taught by Ms. Shirley Hui, science teacher at Cedar Drive School in Colts Neck. Classes will be on Monday evenings from 6 to 8 at Monmouth University starting January 7.

PATTERNS IN NATURE - 7TH GRADE

Have you ever found yourself intrigued by the ripples in sand, the spirals in a seashell, or the symmetry of a butterfly's wings? Maybe you are drawn to the fractals in snow flakes or the meandering path of a stream. Patterns in Nature will draw on the expertise of talented educators who will share their passion for Fibonacci's sequence, fractals, symmetry, molecules and maybe even the chaos evident in nature. The course will culminate in a student-directed project drawing on the patterns in nature that are of most interest to you. We will challenge you to use color, light, form, shape, shadow, and pattern to create ephemeral, natural art and document your work with digital photography. The course will be led by two High Technology High school faculty members, Mr. Michael T. Roche and Ms. Sarah Mulhern Gross. Classes will meet on Monday evenings from 6 to 8 starting January 7.

EXPLORE, IMAGINE AND BUILD - 7TH and 8TH GRADE

While watching your favorite television show, a news alert flashes a warning about possible tornadoes or electrical storms sweeping across your town. How will you protect yourself, your family and your house? Why are roller coasters so much fun? Why can't you walk on a planet ten times the mass of the Earth? Why would space travelers be crushed if a spaceship accelerated to almost the speed of light (even though you see this all the time at the movies)? How does a karate expert break boards with their hands? You'll find out by taking this course. Each week you'll investigate and discover the rules that govern one or two physical principles. Then you'll explore the ideas yourself by creating and building devices that illustrate these ideas. You will take these devices home to amaze your friends, family or teachers or use them to compete in class competitions. The winning team gets tasty donuts! This course will be taught by Mr. John Valente, physics teacher at the Marine Academy of Science and Technology (MAST). Classes will meet on Monday evenings from 6 to 8 beginning January 7.

EXPLORE THE UNIVERSE - 8TH GRADE

"I learned that you can never dream, think, or imagine too big when it comes to the universe. With all that is unknown in our vast, vast universe, at least one of my crazy ideas is bound to be real." This quote by a former student captures the essence of this astronomy course. You'll ask the questions that have puzzled you as you look into the vastness of the night sky. You'll find as you discover some answers, even more questions will arise. This course will be taught by Mr. Marc Coe, science teacher at Cedar Drive School in Colts Neck. Classes will meet on Tuesday evenings from 6 to 8 beginning January 8.

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