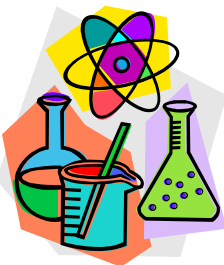


CULTIVATING ACADEMIC TALENT



COURSE DESCRIPTIONS
2007 – 2008



COURSES

1. Adventures in Biology Spring semester only
2. Algebra Fun
3. American Girl Experience
4. Bridge
5. Cats & Dogs (Lions & Tigers & Bears)
6. Ecology of New Jersey Fall semester only
7. **Express Yourself through Musical Theater - Two semester course**
8. Geology – NEW!
9. I Object! The Mock Trial Experience – Fall semester only
10. Junior Engineering
11. Learning to Quilt through Quilting
12. Magic in Food Chemistry
13. Make a Difference
14. Math Magic
15. Reach for the Stars Fall semester only
16. Sensational Scrapbooking
17. Social Studies Through Film
18. Techno Magic
19. Writing on the Computer
20. You Are Here

C.A.T. COURSE DESCRIPTIONS

ADVENTURES IN BIOLOGY

(Spring Semester Only)

Students will explore various fields of biology including zoology, botany, taxonomy, genetics, human biology, and ecology. Activities will include work with monocular and binocular microscopes as well as dissection.

OBJECTIVES:

- To understand the environment.
- To develop proper techniques in using certain scientific instruments.
- To develop observation and investigative skills.

ALGEBRA FUN

Algebra Fun? You bet it is! Try “Hands On Equations” using dice and pawns to balance problems. Find out that $2x + (-x) + 3 = 2(-x) + 15$ is a snap to do.

OBJECTIVES:

- To develop a system which provides students with a strong foundation for later algebraic studies.
- To help students realize that higher levels of math are not as mysterious as they sound.

AMERICAN GIRL EXPERIENCE

What was it like to be a girl long ago? The American Girl Collection takes you inside the world of girls who lived during exciting times in the past. You may be familiar with Molly, Samantha, and Felicity, if so, come and learn more about the time period in which they lived. Crafts of various eras, customs, and historical events will also be explored.

OBJECTIVES:

- To explore the genre of historical fiction.
- To discuss key historical events and learn the role of women and children during specific time periods of American History.
- To develop craft projects of various American eras.

BRIDGE

American Contract Bridge Association

Bridge is a mental sport that can be played for a lifetime. Learn to play a card game that is played all over the world and will give you an opportunity to win scholarship prizes. Competitions in Nutley and throughout our area will be planned.

OBJECTIVES

- To develop logic skills
- To improve memory and concentration.
- To enhance the growth of imagination.

CATS, DOGS & (Lions & Tigers & Bears)

Do you want to learn more about the animals who share our planet? Field trips, art projects, literature and fundraisers for animal groups will all be an important part of our class. Join other children who want to learn more and actively do more to help animals.

OBJECTIVES

- To understand that all animals deserve to be treated with kindness.
- To help students recognize how their actions affect the Earth and its animals.
- To develop character education while teaching animal welfare.

ECOLOGY OF NEW JERSEY

(Fall Semester Only)

The class work will include the principles of ecology. Field trips will provide “hands on” experiences in understanding these principals. A series of five ALL DAY field trips are planned to take the students from mountains to beaches, from forests to swamps, and from wild New Jersey to the most densely populated areas.

Students must be dressed for fieldwork regardless of the weather, bring lunch, and be prepared to hike. Only students who are willing and able to get DIRTY and WET should take this course. (Parent chaperones are welcome)

LIMITED ENROLLMENT

OBJECTIVES

- To develop an understanding of the basic principles of ecology.
- To assess current environment problems and their solution.
- To experience specific methods of scientific sampling.

‘EXPRESS YOURSELF’ through Musical Theater
(Two-semester course)

Come and experience musicals from 1890 to the present combining music and dialogue. Learn a variety of techniques used in musical theater and apply those techniques to an actual musical theatre production at the end of the workshop.

All students will be able to participate in all aspects of musical theater. They will have the opportunity to play a role and memorize lines, perform in the chorus, and/or help out backstage. Students will experience the audition process and roles will be assigned depending on the results of the audition.

Unlike previous C.A.T. classes, our musical theater class will begin in September and run right through to April with the usual holiday breaks in between. We are looking for students who understand what commitment means and will commit to these Saturday classes from the first class until the final production in April 2007.

NEW!

GEOLOGY

Students will explore topics that relate to the origin, history, and structure of Earth. The topics will include: Exploring Maps/Globes, Investigating Earth's Composition, Identifying Natural Processes that have shaped Earth's Surface, Water and Pollution, Monitoring Weather Conditions, Exploring Alternative Energy Sources, Brainstorming ways to improve Earth's Environment, and Investigation of our Solar System. The students will conduct experiments and explore all topics utilizing the Scientific Method.

I OBJECT! – THE MOCK TRIAL EXPERIENCE

(FALL ONLY)

Interested in law? Have you ever wanted to be involved in a trial as a lawyer, judge, or jury member? If so, this is the class for you! First you will learn the basics of the trial process, as well as the roles of the main trial participants. Then, act in the rotating positions of judge, juror, lawyer, clerk, and witness as you and your team build your case. Finally, you will engage in a real trial against the opposition to see who has prepared the better case. The class will feature multiple trials as the session goes along so everyone will have the opportunity to fill almost every role. Field trips, videos, and guest speakers will be used to build, extend, and apply the knowledge and skills developed in the classroom.

JUNIOR ENGINEERING

Students will design and build solutions to various problems that they will be given. The participants will learn how to use tools, machines, and materials safely to construct their solutions. When developing solutions students will apply concepts of mathematics, science, and arts. Students will walk away with a better understanding of how technological things work and how to approach problems creatively.

LEARN TO QUILT THROUGH QUILTING

(Regular attendance required to complete quilt)

This program is meant for the serious student who wishes to learn the basics of the sewing machine, fabrics, and the age old process of sewing. The history of quilting will also be discussed as well as various quilting techniques. Bring your enthusiasm to learn something new using fine hand-eye coordination and it is sure to make this a lifelong hobby for you. The very first class will include a trip to the fabric store to purchase materials.

Students must supply their own portable sewing machine, fabric and batting.

OBJECTIVES

- To discuss, compare and analyze different fabrics.
- To learn to operate a sewing machine as well as sewing by hand to produce a finished quilted product.
- To increase fine hand-eye motor skills.

MAGIC IN FOOD CHEMISTRY

Learn about time management, safety, and careful food preparation while honing your math skills! A variety of exciting recipes will be covered while learning how to present dishes with flair.

OBJECTIVES

- To develop the ability to select foods needed to maintain a well nourished body.
- To develop an understanding of the physical and chemical properties of food.
- To develop skill in observation and evaluation of results obtained in experiments.

MAKE A DIFFERENCE

Students will become “today’s heroes” by organizing and implementing hand-on community service projects. Classroom activities will focus on developing self-concept, communication skills and interpersonal relationships through art projects, journal writing and group work. Weekly field trips will expose students to different types of service projects designed to benefit people, animals and the environment. Students will reflect on each experience and share their reactions with the group.

MATH MAGIC

Students will solve a variety of challenging problems utilizing number theory, logic, reasoning, geometry, measurement, and other mathematical concepts. Ideas and applications, which arise in the solutions, will help to broaden individual mathematical awareness. Computer software, calculators, various games and printed materials will aid students in their solutions and discoveries.

OBJECTIVES

- To develop problem solving skills.
- To develop logical thinking.
- To develop mathematical awareness.

REACH FOR THE STARS: Introduction to Astronomy **(Fall only)**

This course will introduce students to the world of astronomy. Students will become familiar with constellations, star charts and the planets. By using the star lab portable planetarium students will be introduced to the night sky, change of seasons and the moon. This course will inspire future study of the science of the stars.

OBJECTIVES

- To become aware of seasonal changes in the night sky.
- To learn myths and legends of other cultures including the Greeks and Native Americans.
- To encourage further study of astronomy as a career.

SENSATIONAL SCRAPBOOKING

Do you have great pictures from your last birthday party? Do you have a great shot of yourself making the winning goal? Did you take great pictures on your last vacation? What did you do with those pictures? Rather than keeping them in a regular photo album or putting them in a drawer – capture those memories by displaying them in a scrapbook!

As you build your own scrapbook, learn various techniques such as: journaling, color blocking, embellishing, layout design, paper tearing, and matting and framing. **Students must supply their own photographs**

OBJECTIVES

- To enhance the growth of imagination and creativity.
- To increase fine motor skills.
- To develop journal writing skills.

SOCIAL STUDIES THROUGH FILM

Explore history with the use of film. The region, country, and topographical features used as the setting in the motion picture will be examined. The interaction of the people of the era of the motion picture will be scrutinized first to be sure the film uses an accurate portrayal of people in that period and second to compare the time period to life today. Finally, the economic and political climate of the motion picture will be viewed if applicable as well as any political overtones the motion picture may have had on society.

OBJECTIVE

To have a better understanding of history, geography, sociology, economics, and political science.

TECHNO MAGIC

Let the magic of the computer come alive using two Microsoft programs: Microsoft Power Point and Microsoft Publisher. These two programs allow students to create innovative presentations to be used in or out of school and art to be shared with peers and adults alike. Students will be able to create a PowerPoint presentation and present their presentation to the class. Furthermore, students will learn how to create greeting cards, newsletters, postcards, and signs using Microsoft Publisher. Each student will get a taste of what the computer can offer him or her using tools of technology to their advantage.

OBJECTIVES

- To understand the Microsoft programs PowerPoint and Publisher.
- To apply technology to the classroom and personal use.
- To create a presentation using Microsoft PowerPoint.
- To create a greeting card, sign and newsletter using Microsoft Publisher.

WRITING AND THE COMPUTER

Writing is a powerful instrument of thought. This course will concentrate on the five steps of writing while utilizing the computer as a word processor. Students will practice keyboarding and compose a story.

OBJECTIVES

- To develop writing skills by brainstorming, drafting, revising, and editing.
- To synthesize writing into printable, publishable form.
- To evaluate the finished product.

YOU ARE HERE

Students will explore the world using the five themes of geography: location, place, human/environment interaction, movement and regions. Students will also visit specially designed geographic websites to learn about the people and diverse cultural aspects of the world we live in.

OBJECTIVES:

- To develop map reading skills.
- To understand the geographic makeup of the planet.
- To understand how people interact with each other and the planet.
- To explore how humans move in global environment.
- To understand how different regions develop and grow.