

Anne Arundel County Public Schools • Office of Gifted/Talented/Advanced Programs



Summer
2005 **Advanced
Study
Program** at the United States
Naval Academy

The Advanced Study Program is sponsored and funded by Anne Arundel County Public Schools through the Gifted/Talented/Advanced Programs Office. Public school students may attend courses during the fall and spring semesters of the school year. During a special summer session, the program is also open to non-public schools.

The program consists of advanced studies in mathematics, computer applications, humanities, and the sciences for

grades 6–12. Each semester's program consists of a variety of short courses dealing with subject-specific topics of current interest that extend learning opportunities and stimulate thinking and creativity.

Students are nominated by their school's content teachers and guidance counselors. In addition, students must be presently enrolled in the grade range of 6–12.

Purpose

The purposes of this program are to:

- extend the mathematics, humanities, computer science and science education of gifted and talented students;
- expose students to interesting and challenging topics which, while outside the standard school curricula, are accessible to those with high ability and motivation;
- encourage the development of reasoning processes necessary in mathematics, science, and humanities;
- provide the opportunity for students to study in the environment of an institution of higher education or research;
- introduce students to college educators and to related opportunities; and challenge students' creativity and task commitment while working with mentors on research projects.

Student Eligibility

Your child has been nominated for participation in the Advanced Study Program on the basis of having demonstrated ability in the following areas:

- has demonstrated a high level of mathematics competency
- develops creative and new solutions to standard problems
- is not afraid to try to solve a problem without prior knowledge or demonstration
- applies required information and strategies to new and unfamiliar problems

- is able to observe, analyze, and generalize mathematical relationships
- reasons well both inductively and deductively
- expresses mathematical ideas clearly and accurately in both-written and oral form
- possesses a high degree of self-motivation and self-direction
- applies mathematics skills in science problem solving
- demonstrates above average ability to understand abstract concepts and relationships
- uses scientific approach when seeking possible solutions
- persists when outcomes do not meet student predictions
- demonstrates divergent thinking and makes unique associations
- demonstrates a positive attitude and interest in science
- expresses curiosity about why things happen
- retains and uses previously learned information and skills
- questions scientific observations and explanations

The program consists of rigorous courses of study. Students enrolled in advanced level programs at the school may be nominated by the staff. Prerequisite course requirements, where indicated, must be met. Students may request consideration for a total of three courses. The staff emphasizes that students not indicate interest in a course for which they are not committed to attend all sessions. This results in students not attending and depriving other students of the opportunity.

Courses requested by fewer than ten students will be canceled. Please note: Due to the high level of interest in the program, nominated students cannot be guaranteed placement. Every attempt will be made to provide selected students with their first choice; however, it is not unusual for students to be assigned a course identified as their second or third choice.

Attendance

Attendance is taken at each class meeting. The names of students successfully completing a course are submitted to the school. Students absent from two or more meetings are not considered as completing the course and their names are not forwarded. However, students may and are encouraged to attend the remainder of the classes.

Transportation

Transportation to and from classes must be arranged by the student's parents. Courses are taught on the campus of the United States Naval Academy.

Due to heightened security, under current procedures vehicles are allowed to enter USNA if either:

(a) the vehicle displays a valid DOD decal and the driver or a passenger shows a current DOD ID

or

(b) the driver shows a special temporary pass that has been issued for that driver and that vehicle.

Information about how to apply for a USNA vehicle pass will be sent after classes are filled.

Summer 2005 Courses

H-5 Current Topics In International Relations

This course is an introductory analysis of basic factors influencing international politics, organization and law. This course examines the origins and importance of the international issues facing the new administration, including the Middle East, North Korea, global terrorism, economic threats, and the global environment.

Dates: August 1,2,3,4,5

Time: 4:30 p.m. - 6:30 p.m.

Location: To be announced

Instructor: Prof. Rodney Tomlinson

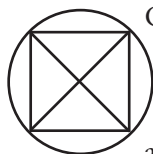
Sessions: 5

Class size: 15

Prerequisite: None

Recommended for students in grades 8–12

M-1 Games, Graphs And Puzzles



Can three utilities—water, electricity, and gas—connect their lines to three houses without criss-crossing each other's lines? Can this figure be drawn without lifting your pencil off the paper and without retracing any lines?

The answer to these questions will be discovered by the class as special cases of a wide class of problems. Some other famous games and puzzles such as NIM, the 15 puzzle, the triangle peg jump and the cross peg jump (marketed by Gabriel under the name HI-Q) will be examined in a mathematical way.

Some topics covered are: definition of a graph; characteristics of graphs; Eulerian circuits in graphs; Hamiltonian circuits in graphs; planarity of graphs; impossibility of various puzzles (the utilities problem, the 15 puzzle); solutions for solitaire puzzles (triangle peg jump, cross peg jump, instant insanity); and strategies for two person games (NIM, the 15 game, dice games).

Dates: August 1,2,3,4,5

Time: 1:30 p.m. - 3:30 p.m.

Location: To be announced

Instructor: Prof. Craig Bailey

Sessions: 5

Class size: 15

Prerequisite: None

Recommended for students in grades 6–9

S-6 Forensic Geology

Sherlock Holmes, the great fictional detective, once used his limited knowledge of geology to solve a crime. Students will investigate a number of cases and deduce the solution from an analysis of the physical evidence. Basic information on the origin, properties and distribution of man-made and naturally occurring earth materials, geological processes and methods of laboratory analysis will be provided as a basis for the students' efforts.

Dates: Session I: August 1,2,3,4,5

Session II: August 8,9,10,11,12

Time: Both Sessions: 4:30 p.m. - 6:30 p.m.

Location: To be announced

Instructor: Prof. Douglas Edsall

Sessions: 5

Class size: 12

Prerequisite: None

Recommended for students in grades 7–9

S-5 Science of Music and Synthesizers

This course module is designed for students with a basic understanding of mathematics and music. Students will learn in a lab-like environment the basics of creating sounds with synthesizers and obtain a basic understanding of Fourier Series and how to manipulate them using electronics. Basic music theory will be presented in terms of how instruments play and why they sound like they do.

Dates and Times: Session I: August 1,2,3,4,5

4:30 p.m. - 6:30 p.m.

Session II: August 8,9,10,11,12

1:30 p.m. - 3:30 p.m.

Location: To be announced

Instructor: Prof. Kevin McIlhany

Sessions: 5

Class size: 12

Prerequisite: Completed or currently taking Mathematics Seven

Recommended for students in grades 7–9

The Application Process

Complete the application form and return it to the Gifted/Talented Office **by July 6, 2005**. There is a \$25.00 registration fee for the summer program.

If you have any questions, call the G/T/AP Office at 410-222-5433.



Advanced Study Program Application Form

Directions:

Complete the information below. Select two courses you would like to take and list as your first and second choice. If you are selected, you will be mailed a registration form with the specific date/time/place of the course plus an application for a vehicle permit to drive onto the Naval Academy grounds.

Please Print

Student Information

Name	Grade
School	
Home Street Address	
City	Zip
Home Phone	E-mail Address

Course Information

1st Choice:

2nd Choice:

Parent/Guardian Permission (signature required)

The parent/guardian:

- Agrees to provide transportation to and from the U.S. Naval Academy
- Has reviewed the course selections and concurs with the choices
- Understands the attendance policy to qualify for successful completion of the program
- Understands there is a \$25.00 registration fee to be submitted with the application

Parent/Guardian Signature

Is student currently on an IEP or 504 plan? Yes _____ No _____

Mail to: **Gifted/Talented/Advanced Programs Office**
Anne Arundel County Public Schools
2644 Riva Road, Annapolis, MD 21401

Please return this form to the Gifted/Talented Office by July 6, 2005.



ANNE ARUNDEL
COUNTY PUBLIC SCHOOLS

for every child

Eric J. Smith, Ed.D.
Superintendent of Schools

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