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SUMMER PROGRAMS IN MATHEMATICS

This list represents some of the best summer programs offered in mathematics. Although there are many other programs, I limited the list to those that Stuyvesant students have attended or are highly recommended by reputable organizations such as ARML, the American Regional Mathematics League. ARML sponsors the national mathematics competition that the New York City Math Team competes in each spring at Penn State. The programs listed below are for students who excel in mathematics and truly love doing mathematics.

1) The first program, one of the most popular among Stuyvesant students, is in New York City at CCNY and is FREE. The **Macaulay Honors Summer Scholars Academy** provides highly motivated high school students an opportunity to enroll in challenging mathematics or science courses. This program meets for six weeks, four days a week, Monday through Thursday, from 9 AM to 4PM. Math Academy students enroll in two mathematics courses and all students attend a daily hour-long lecture by guest scientists and mathematicians. The day includes a problem solving session where the students study math team type problems and hone in on developing their problem solving skills. Stuyvesant students highly praise this program.

2) The second program that many Stuyvesant students attend is **HCSSiM**, the Hampshire College Summer Studies in Mathematics, in Amherst, Massachusetts. This is a rigorous 6-week program, where students are actively engaged in learning, doing and sharing mathematics. Professor David Kelly involves the students in his love of the number seventeen and yellow pigs. This program is popular with Stuyvesant students.

3) **PROMYS** is a program in mathematics for young scientists. It is designed to encourage motivated high school students to explore the creative world of mathematics. Problem sets are accompanied by daily lectures given by research mathematicians. Each summer, approximately 60 high school students from around the country gather on the campus of Boston University for six weeks of rigorous mathematical activity.

4) The **Ross Program**, held at Ohio State University, is an intensive eight week summer course for ambitious high school students talented in mathematics. It is designed to encourage motivated students to explore mathematics; students become immersed in a world of mathematical discovery.

5) The **Research Science Institute** (RSI), sponsored by the Center for Excellence in Education, is a highly selective, academically rigorous program. Approximately 80 students participate in a six-week practicum at **MIT** focused on advanced research in the areas of mathematics, engineering and related scientific disciplines.

6) The **Awesome Math Summer Program** is a three-week camp designed to hone high school students' mathematical problem-solving skills up to the Olympiad level. This program is for mathematically gifted students. They accept approximately 120 students and are located on the campus of the University of Texas in Dallas.

7) **Canada/USA Math Camp** is an intensive five –week summer program for mathematically talented students. Part of the student application includes a Qualifying Quiz. Each student in the program designs a program of study reflecting his or her own mathematical interests and ambitions. The location changes from year to year. Math Camp 2009 will be held at the University of Puget Sound in Tacoma, Washington.

8) **The Texas Math Works Honors Summer Math Camp** is a 6-week residential program for talented high school students in grades 9-12 at Texas State University. The goal is to engage students in doing mathematics at a high level, to teach students to reason rigorously and precisely, and to develop questioning minds.

If you are considering math camp for your child, please be cautious. Check the number of years the camp is in existence, the credentials of the instructors and ask for references. Internet makes it easy to research quality programs.

Finally, do not feel that your child must attend an expensive summer program to get accepted into the college of his or her choice. **Summers spent working, volunteering and traveling are also looked upon favorably by universities and colleges.**

If you have any questions please feel free to contact me.

Maryann Ferrara

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1) HCSSiM: Hampshire College Summer Studies in Mathematics: http://www.hcssim.org/

Hampshire College, Amherst Massachusetts
2009 dates not yet available. 2008 dates were June 29-Aug 9.
Most students come after 10^{th} or 11^{th} grade, but will consider applications from younger students. "with demonstrated motivation and achievement"
Description:"...a rigorous math program that is both demanding and expanding. Participants are expected to spend a major portion of each day actively engaged in learning, doing, and sharing mathematics. The daily schedule includes 4 hours of class meetings each morning, Monday-Saturday, the Prime Time Theorem in the afternoon, and problem sessions in the evening. Afternoons are devoted to rest, recreation and informal study. Participants have unparalleled access to faculty members in both formal and informal settings, and many form lifelong friendships and collaborations with fellow students and faculty."

2) PROMYS: Program in Mathematics for Young Scientists at Boston University: http://www.promys.org/

Dates: June 28-Aug 8, 2009; rolling admission, applications accepted till May 30.
High school students in grades 9 through 12, who will be 14 years old by June 28, may apply.
Description: "PROMYS is a challenging program designed to encourage ambitious high school students to explore the creative world of mathematics. Each summer, approximately 60 high school students from around the country gather on the campus of Boston University for six weeks of rigorous mathematical activity. Through their intensive efforts to solve an assortment of unusually challenging problems in Number Theory, participants will practice the art of mathematical discovery."

3) The Awesome Math Summer Program: http://www.awesomemath.org/index.shtml

Dates: July 6-27, 2009 at University of Texas, Dallas; also July 31-Aug 21 at University of California, Santa Cruz.
Grades 7-11; 120 students and 10 faculty.
Description: "A three-week intensive summer camp for mathematically gifted students from around the globe. This is an initiative in response to numerous requests from parents and teachers of bright students who have not yet shone at the Olympiad level, as well as of those wishing to expand what they have learned in programs such as MATHCOUNTS. These talented students wish to hone their problem solving skills in particular and further their mathematics education in general. Many of our participants seek to improve their performance on contests such as AMC10/12, AIME, or USAMO."

4) The Ross Program held at the Ohio State University: http://www.math.ohio-state.edu/ross/

Dates: June 22 - August 14, 2009 (8 weeks)
Location: Ohio State University
Eligibility: First year students range in age from 14 to 18, although exceptions are made in some cases.

Description: "...an intensive summer experience designed to encourage motivated pre-college students to explore mathematics....The central goal of the Ross Program has always been to instruct bright young students in the art of mathematical thinking and to inspire them to discover for themselves that abstract ideas are valuable and important. First year participants take the basic course in number theory. For most students, this is the first time they are asked to consider entirely new questions, to develop methods that they have not seen before, and to justify every answer."

5) Canada/USA Math Camp: http://www.mathcamp.org/

Dates: July 5 to August 9, 2009
Location (this year): University of Puget Sound in Tacoma, WA
Eligibility: All students must be between 13 and 18 years of age.
Description: "Canada/USA Mathcamp is an intensive five-week-long summer program for high-school students interested in mathematics. Our goals are:

- To inspire and motivate these students by introducing them to the beauty and variety of advanced mathematics
- To impart valuable knowledge and skills for the pursuit of mathematics in high school, university, and beyond
- To provide a supportive and fun environment for interaction among students who love mathematics.

6) The Texas Mathworks Honors Summer Math Camp: http://www.txstate.edu/mathworks/camps/hsmc.html

Dates: June 21-Aug 1, 2009
Location: Texas State University
Eligibility: Students entering grades 10-12. Application deadline April 30, 2009.
Description: "The Texas Mathworks Honors Summer Math Camp is an intensive summer program for outstanding high school students who are excited about doing mathematics-- the goal of the program is to develop our talented youth by providing challenging courses in a unique learning environment."

7) The Research Science Institute: http://www.cee.org/rsi/

Dates: June 21-Aug 1, 2009. (6 weeks)
Location: Massachusetts Institute of Technology
Eligibility: Students who have completed their junior year by summer 2009.
Description: "**Each summer** approximately 75 high school students gather for six of the most stimulating weeks of their young lives. Selected from the United States and other nations, these **students participate in a rigorous academic program** which emphasizes **advanced theory and research** in mathematics, the sciences, and engineering.**This is the Research Science Institute (RSI)**.
Students attend college-level classes taught by distinguished professors. Nationally recognized teachers conduct classes designed to sharpen research skills. In addition, students complete hands-n research with top mentors at corporations, universities, and research organizations.
Many RSI students use their RSI research projects as a basis for entry to science competitions, garnering top awards in the annual Intel Science Talent Search, the Siemens-Westinghouse Science and Technology Competition, and the All-USA High School Academic Scholarship.
The **uniqueness of CEE** lies in its **commitment to help RSI alumni throughout their academic careers**"

8) CCNY Summer Scholars Program: https://summerscholarsacademy.theschoolsystem.net/ssa.html

Dates: 6-week CUNY College Now summer program; 2009 dates not yet posted.

Location: Mondays through Thursdays from 9AM to 4PM at the City College of New York on 138th Street and Convent Avenue.
Eligibility: This program is open to NYC public high school students who will be entering either the 11th or 12th grades in fall 2009. Special exceptions may be made for rising 10th grade students who meet the academic eligibility criteria of the different program components.
Description: Two distinct academies, one for math and one for science.
"The Academy in Mathematics is structured to take advantage of the abilities of students who have progressed rapidly through the high school mathematics curricula. An "Olympian" cohort will be engaged on the same level as that of the American Math Competition and will be expected to have the skills required for local Math Team participation. Students in this cohort will need to have demonstrated strong math abilities and preference will be given to those who have completed the Math B Regents with distinction. A "Junior Olympian" cohort will participate in similar activities as the "Olympian" cohort and will also receive introductory training in Math Olympics. Students in this cohort will need to have completed the Math A Regents with distinction.

Math Academy students will enroll in two college credit math courses and attend a series of "Prime Time Lectures", a daily hour-long lecture by guest scientists and mathematicians. In addition to the lecture series, groups of students will be organized into teams to participate in weekly mock math team competitions. All students will enroll in Introduction to Problem Solving. The "Olympian" cohort will be given the option of selecting one of three special topics math courses. The "Junior Olympian" cohort will enroll in College Algebra and Trigonometry. The daily schedule will also include a supervised homework and lab period."

Please visit the individual program's website for further details.

Note: **Mathpath Summer Program** for Middle School students is an excellent program for 8 graders: http://www.mathpath.org/