AWESOMETMATH’S Goals

• Provide a fun, intellectually stimulating environment for students to learn math.
• Inspire a love of mathematics and learning that lasts into college and beyond.
• Help students significantly improve their performance in mathematics competitions.
• Make mathematics itself and the entire camp experience highly enjoyable.

WHY AwesomeMath Summer Program?

AwesomeMath is designed for bright students with a special interest in mathematics competitions. Both camps offer mathematically gifted students the opportunity to engage in meaningful problem solving activities and explore in detail advanced mathematics. The high quality instruction is provided by renowned lecturers and Olympiad coaches from around the world. AwesomeMath’s philosophy is that students learn better by diving into problems than just sitting through lectures. For this reason our teaching sessions encourage student involvement and are centered on using what is learned to solve concrete problems.

ACADEMIC Program

The structure of the academic program will be the same for both locations. The lectures will focus on the following subjects: Foundations of Number Theory, Euclidean Geometry, Algebraic Inequalities and Techniques, Modular Arithmetic, and Computational Geometry. Every course will be taught by instructors and the mentors will follow each teaching session by a 90-minute problem seminar that focuses on the materials presented in the lecture.

A Typical Day

Tuesdays through Saturdays follow a schedule close to the one below. Academician team contests will be held on Sunday evenings.

*Thank you for all you have done for the AMSP. This was first time for Steve, but he enjoyed this program MUCH! Steve said that it was very educational, resourceful, and very fun. He met lots of friends and was very impressed with many amazing kids from all over the places. Steve wishes he can return to the program next year also! thank to all staff who run this program smoothly and made it so great.*

Eunjoo Park (mother of Steve Han), Gainesville, FL

8:00 am – 9:00 am Morning routine and breakfast
9:00 am – 10:30 am Teaching sessions
12:15 pm – 2:00 pm Lunch break
2:00 pm – 3:30 pm Teaching sessions
3:45 pm – 5:15 pm Problem sessions
5:30 pm – 7:00 pm Dinner
7:00 pm – 8:30 pm Mathematics forum (optional)
8:30 pm – 10:00 pm Recreational activities (optional)

GENERAL Information

The program is designed for students going into 7th-12th grades. Younger students may apply, but significant evidence of mathematical and personal maturity must be evident for admission. We encourage female students to apply for our program. The China Girls Math Olympiad team trained at the AwesomeMath Summer Program 2007. We strive to create a culture of learning that treats everyone as a full member so that nobody feels out of place.

LIFE at the Camp

Cornell Location

Cornell sits on a hillock overlooking 40-mile-long, 400-foot-deep Cayuga Lake, the longest of the Finger Lakes of central New York State. Two sides of the campus are bound by gorges, cut during the last 12,000 years. Creeks and waterfalls fill the gorges, and no matter where you are on campus you are never far from the sight and sound of falling water.

Perhaps the most remarkable feature of the Cornell campus is the seamless interconnection of nature and the built environment. Cornell Plantations, curator of the university’s natural areas, maintains trails, arboretums, and gardens that intertwine and blend with the university’s graceful quads and inspiring architecture. Not only is Cornell a higher education and research powerhouse, it is also one of the most spectacular university campuses anywhere in the world.

Santa Cruz Location

UC Santa Cruz offers the academic excellence of a world-class research university within a unique small-college setting. It is nestled on 2,000 acres of redwood forest and meadows, overlooking Monterey Bay. Its students and faculty affiliate with ten residential colleges, each with unique architecture and environment.

The residence hall floors, typically shared by 12 to 20 students, have common bathrooms and lounge areas. UC Santa Cruz has an award-winning dining program that offers virtually any type of food you can imagine while delivering the utmost in quality.

For both locations, in addition to providing access to the university’s facilities, the staff will organize special events on weekends. All activities at the camp are supervised. We make students’ safety our top priority.

VISITING Faculty

NAOKI SAITO: Art of Problem Solving (2005 – present)
First Place on Canadian Mathematical Olympiad, 1993
IMO Silver Medalist, 1992, Bronze Medalist, 1990

DR. HAROLD REETER: University of North Carolina, Charlotte
Member of the College Board’s AP Calculus Development Committee

AMSP Leadership

DR. TITU ANDREESCU, University of Texas at Dallas, AMSP Director
Director, Mathematical Olympiad Summer Program (1995 – 2002)
Member of the IMO Advisory Board (1998 – 2002)
IMO Silver Medalist (1995, 1997)
MOSP instructor (2005, 2006)

DR. JOSHUA NICHOLS-BARRER, AMSP Academic Director
MOSP instructor (2005, 2006)
IMO Silver Medalist (1995, 1997)

AMSP Faculty

DR. ORION ANDRIOA, Babes-Bolyai University, Cluj-Napoca, Romania
Chairman, Department of Geometry (1995 – present)
Member of the Council for the Romanian Mathematical Olympiad (1995 – present)

DR. MIRCEA BECHEANU, University of Bucharest, Romania
Member of the Romanian IMO team (1990-1992)
Leader of the Romanian OM team (1990-1992)
Member of the IMO Advisory Board (1996-2002)
Member of the IMO Problem Selection Committee (2003, 2004, 2005)

BOGDAN ENICIU, National College BP Hasdeu, Romania
Coach of the Romanian IMO team (1999 – present)
Deputy Leader of the Romanian IMO team (1995 – present)

DR. RAZVIAN GELCA, Texas Tech University
IMO Gold Medalist (1995)

DR. JONATHAN KANE, University of Wisconsin-Whitewater
Member of the AIMC Committee (2004 – present)
Co-founder of the Purple Comet! Math Meet

DR. BRANISLAV KOSANOVIC, computer scientist at Texas Instruments
Works in the field of computer vision
Author of the book: Mathematically Proper Problems

DR. OLLEL MUSHKAROV, Bulgarian Academy of Science; Institute of Mathematics and Informatics
Senior Research Fellow (1979 – present)
Head of Department of Computer Analysis (2002 – present)
Bulgarian IMO Team Leader (1994 – 1995)
Scientific Group leader training (1994 – present)

DR. ZORAN SUNIC, University of North Carolina, Charlotte
Deputy Leader of the Macedonian IMO team
Chair of the MAA’s Edith May Sliffe Award Committee.

DR. WALTER STROMQUIST, Swarthmore College
MOSP instructor (2005 – present)
Math Magazine Editor

DR. MIRZOSAY YOTOV, Florida International University
IMO Bronze Medalist (1985)
Matics Circle leader in Miami, Fl (2005-present)

JUNIOR Faculty

BRIAN BASHAM, Massachusetts Institute of Technology
MOSP qualifier (2007)
1st Place HMMT Combinatorics Subject Test 2006
AMC 10 Perfect Score (2005)

IVAN BORISENKO, Massachusetts Institute of Technology
Assistant Editor, Mathematical Reflections (2005 – present)

DR. IVAN MATIC, Duke University
IMO Silver Medalist (1999)
Assistant Director, Berkely Math Circle

JUAN IGNACIO RESTREPO, McGill University, Canada
International Mathematical Competition Second prize winner (2005, 2006)

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MENTORS & Assistants

Mentors and assistants are graduate or undergraduate students who will share with the students their knowledge, experience, and love of mathematics. Many of the former Olympiad winners have an outstanding record in the IMO. They will also conduct the camp’s problem sessions.

At the University of North Carolina, Charlotte, each week, one of the mentors will be chosen as the mentor of the week, usually the mentor of one of the mentors of the week, and blend with the university’s graceful quads and inspiring architecture. Not only is Cornell a higher education and research powerhouse, it is also one of the most spectacular university campuses anywhere in the world.

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Chair of the MAA’s Edith May Sliffe Award Committee.
Former chair of the MATHCOUNTS Question Writing Committee
Former member of AIME and USAMO committees
“I had a wonderful time in the AwesomeMath Summer Program! Thank you so much for the great opportunity. I had a lot of fun being around people who have the same interest and at the same time I have gained a lot of knowledge of math! IASP was one of the best experiences in my life. I ended so quickly and I wish it was longer! I am really hoping to go back next year and looking forward to it. Thank you again for a wonderful summer!”

Meyao Tysinger, Mocksville, NC

APPLYING TO AMSP 2011

Each student must submit:

• A personal information form
• Two letters of recommendation: one from a math teacher or mentor and one from someone who knows the student in a personal context
• A completed admission test
• The $25 application fee

The mailing address is:

AwesomeMath c/o Dr. Titu Andreescu
3425 Neiman Rd., Plano, TX 75025

Applications could be sent electronically to:
tandreescu@gmail.com

The test is the student’s opportunity to demonstrate the willingness to explore advanced mathematics topics and the ability to tackle challenging, non-routine problems. Tests will be posted online in January, April, and May (see the schedule below). Solutions must be e-mailed or postmarked to AwesomeMath by the dates indicated in the table.

In making our admission decision, we consider the application as a whole. It is not only the raw test score that matters but the passion for mathematics that becomes evident in the student’s complete application.

It is important to apply early, since a discount of 10% of the tuition fee is given for early registration (if paid by the due date) and airfare is cheaper when purchased in advance. The tuition fee for each of the two locations is $3,885. This covers room, board, transportation from/to airport, and all camp materials, activities, and trips. AMSP 2010 participants receive a $200 discount on the subsequent AwesomeMath camp materials, activities, and trips.

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AMSP Sponsor

Cornell University, University of California, Santa Cruz
Springer/Birkhauser

OTHER AwesomeMath Programs

AMSP has a follow-up program: the AwesomeMath Year-round (AMY). It is given in six segments spread monthly throughout the school year and provides students with further opportunities to broaden their mathematical horizons and hone problem-solving skills, particularly in those fields from which Olympiad problems are drawn. Rather than concentrating solely on problem-solving techniques, the material covered familiarizes students with general mathematical concepts and widely applicable methods of proof. The AMY extends and solidifies the mathematics learned during the AwesomeMath Summer Program.

“I really appreciate this camp because it brought awesome and math together. I made so many friends and learned a lot. AwesomeMath is an experience I will never forget.”

Allison Kaenecke, Falls Church, VA

Additionally, AwesomeMath publishes Mathematical Reflections, a free online journal designed primarily for high school students and undergraduates interested in mathematics. We hope that some work done at the camp will be published therein. The journal’s website is:

http://awesome.math.org/mathematical-reflections

Also check the website for new published books by XYZ Press.

“Thank you for your hard work for the camp, I had an incredible time this summer.”

Aaron Roe, Oklahoma City, OK

Sample Admission Test Questions

Write 1,000,000 as a sum of a prime number and a perfect square.

Can you arrange the numbers 1 through 16 on a circle such that the sum of each two adjacent numbers is a perfect square? Same question for a line.

Points $H$ in the line of length $AB$ such that $AP = BM$ and $AN = BN$. Let $P$ be the point of intersection of $AB$ and $BM$. Evaluate area $ABP$ - area $BMP$.

“The three weeks I spent at the AwesomeMath were the most productive ones in my life. I learned so many different topics which I never even knew existed before. The teachers were some of the top-notch professors and former Olympiad winners from all around the globe. Their accents and names are as exotic as the problems and skills that they taught me! The mentors at the camp were the coolest on the planet. They were all high achievers and former USA(J)MO participants...”

Anupa Murali, Concord, NH

University of California, Santa Cruz
July 09 - August 14

SUMMER PROGRAMS
AwesomeMath 2011

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