

# Summer 2007

## 2007 Summer Enrichment Program in Mathematics and Technology for Talented Youth (MTTY) (Established 1994)

**Website:** <http://www.talentedyouth.org> **Tel. (703)973-MTTY(6889)**

**1. Introduction:** The purpose of this program is to offer non-credit enrichment courses in mathematics and computer sciences for students who are entering the 6th grade through 12th grade. The courses are designed to provide an accelerated learning environment in a college atmosphere for high-potential students. This program was established in 1994 by Dr. J. E. Lin. It is an independent and self-supported program. The classes are held at George Mason University, Fairfax Campus.

**Eligibility:** The participants must have at least a B average in the most recent mathematics course.

### 2. Schedule:

**Term 1. June 25 - July 6, 2007, Monday through Friday (except 7/4/2007).**

Morning Session: 9:00 AM - 12:20 PM.

Afternoon Session: 1:00 PM - 4:20 PM.

**Term 2. July 9 - July 20, 2007, Monday through Friday.**

Morning Session: 9:00 AM - 12:00 PM.

Afternoon Session: 1:00 PM - 4:00 PM.

**Term 3. July 23 - August 3, 2007, Monday through Friday.**

Morning Session: 9:00 AM - 12:00 PM.

Afternoon Session: 1:00 PM - 4:00 PM.

**Term 4. (Saturday) 7/7, 7/14, 7/21, and 7/28.**

Morning Session: 10:00 AM - 12:00 PM

Afternoon Session: 1:00 PM - 3:00 PM

**3. Subjects:** Pre-algebra, Algebra 1, Geometry, SAT I Mathematics Preparation, Algebra 2 with Trigonometry, Pre-calculus, SAT II Mathematics Preparation, Introduction to JavaScript/Webpage Design, Fundamentals of Computing with Visual BASIC Programming Language, and Fundamentals of Computing with Visual C++ Programming Language.

**4. Class size:** Each class is limited to 25 students with the minimum of 8 students.

### 5. Tuition:

(1) \$400 per course for Term 1, 2, and 3 except Introduction to JavaScript/Webpage Design, Fundamentals of Computing with Visual BASIC Programming Language, and Fundamental of Computing with Visual C++ Programming Language.

(2) \$500 per course for Introduction to JavaScript/Webpage Design, Fundamentals of Computing with Visual BASIC Programming Language, and Fundamental of Computing with Visual C++ Programming Language.

(3) \$120 per course for Term 4 (Saturday) SAT I Mathematics Preparation and SAT II Mathematics Preparation.

### 6. Application procedure:

(1) Complete the attached registration form.

(2) Write a check payable to **MTTY** (Mathematics and Technology for Talented Youth) for the amount of the tuition.

(3) **Mail the completed registration form and the check to:**

**Dr. J. E. Lin**

**Box 3736**

**George Mason University**

**4450 Rivanna Lane**

**Fairfax, VA 22030-4441**

**7. For more information,** please contact Dr. J. E. Lin at (703)973-6889 or send an email to: [talentedyouth@gmail.com](mailto:talentedyouth@gmail.com)

Website address: <http://www.talentedyouth.org>

## Summer 2007

### ***COURSE DESCRIPTION***

1. Pre-Algebra: The topics covered include variables, formulas, solving problems by using equations, operations with algebraic expressions, graphing linear equations, and inequalities.
2. Algebra 1 (Pre-requisite: Pre-Algebra): The topics covered include properties of numbers, solving equations, polynomials, factoring polynomials, graphs, linear equations, inequalities, fractional expressions and equations, real numbers, radical expressions, quadratic equations. Logical reasoning and mathematical applications are emphasized throughout the course.
3. Geometry (Pre-requisite: Algebra 1): The topics covered include points and angles, congruence and angles, triangles and congruence, triangles and inequalities, parallel lines, quadrilaterals, similarity, polygons, circles, coordinate geometry, and 3-dimensional geometry. Proofs are emphasized throughout the course.
4. SAT I Mathematics Preparation (Pre-requisite: Algebra 1, Geometry, and basic Algebra 2): This course covers arithmetic, algebra, geometry, probability, and other miscellaneous topics that appeared in the previous SAT I Mathematics tests.
5. Algebra 2 with Trigonometry (Pre-requisite: Algebra 1 and Geometry): The topics covered include functions, polynomials, rational expressions, trigonometry, trigonometric equations, identities, Laws of Sine and Cosine, and graphing trigonometric functions.
6. Pre-calculus (Pre-requisite: Algebra 2 with Trigonometry): This course covers functions, graphs, exponential functions, logarithmic functions, trigonometric functions, parametric equations, polar coordinates, inequalities, and applications.
7. SAT II Mathematics Preparation (Pre-requisite: Pre-calculus) This course reviews the material covered in the SAT II Mathematics Subject Test. Problem-solving skills are emphasized throughout the course.
8. Fundamentals of Computing with Visual BASIC Programming Language: This course is for beginners only. No prior programming experience is required. Topics included are (but not limited to) Basics of Computing, Controls, Lists and Menus, Events, Functions, Arrays, Multiple Document Interface, Object-based Programming, and BASIC applications.
9. Fundamentals of Computing with Visual C++ Programming Language: This course is for beginners only. No prior programming experience is required. Topics included are (but not limited to) Basics of Computing, Control Structures, Functions, Arrays, Strings and Files, Pointers, Classes, Operator Overloading, Inheritance, and C++ Applications.
10. Introduction to JavaScript / Webpage Design:  
This course is for beginners only. No prior programming experience is required. Learn HTML, the language of the Internet. Manipulate images PaintShop Pro. (Adjust contrast, colors and size; work with layers). Learn to create Java Scripts that bring "life" to your web pages.

**For more information, please contact Dr. J. E. Lin at (703)973-6889 or send an email to: [talentedyouth@gmail.com](mailto:talentedyouth@gmail.com)  
Website address: <http://www.talentedyouth.org>**

**THE REGISTRATION FORM FOR 2007 SUMMER ENRICHMENT PROGRAM IN MATHEMATICS AND TECHNOLOGY FOR  
TALENTED YOUTH AT GEORGE MASON UNIVERSITY**

Name \_\_\_\_\_ Home phone ( \_\_\_\_\_ ) \_\_\_\_\_

Address \_\_\_\_\_

Email \_\_\_\_\_ Parent's work phone ( \_\_\_\_\_ ) \_\_\_\_\_

School \_\_\_\_\_

Entering grade level as of 9/07 \_\_\_\_\_ Interested in the carpool? Yes \_\_\_\_\_, No \_\_\_\_\_.

Course selection: (Place the course choice 1, 2, 3, ... in the order of preference, 1 is the most desirable, etc.)

**Term 1 (June 25 - July 6, 2007, Monday through Friday, except 7/4)**

Morning session (9:00 AM - 12:20 PM)

\_\_\_ Pre-algebra (\$400)

\_\_\_ Algebra 1 (\$400)

\_\_\_ Geometry (\$400)

\_\_\_ Algebra 2/ Trigonometry (\$400)

Afternoon session (1:00 PM - 4:20 PM)

\_\_\_ Introduction to JavaScript / Webpage Design (\$500)

\_\_\_ Fundamentals of Computing with Visual Basic Programming Language (\$500)

**Term 2 (July 9 - July 20, 2007, Monday through Friday.)**

Morning session (9:00 AM - 12:00 PM)

\_\_\_ Pre-algebra (\$400)

\_\_\_ Algebra 1 (\$400)

\_\_\_ Geometry (\$400)

\_\_\_ Pre-calculus (\$400)

Afternoon session (1:00 PM - 4:00 PM)

\_\_\_ Introduction to JavaScript / Webpage Design (\$500)

\_\_\_ Fundamentals of Computing with Visual C++ Programming Language (\$500)

**Term 3 (July 23 - August 3, 2007, Monday through Friday.)**

Morning session (9:00 AM - 12:00 PM)

\_\_\_ Pre-algebra (\$400)

\_\_\_ Algebra 1 (\$400)

\_\_\_ Geometry (\$400)

\_\_\_ Algebra 2/ Trigonometry (\$400)

Afternoon session (1:00 PM - 4:00 PM)

\_\_\_ Introduction to JavaScript / Webpage Design (\$500)

\_\_\_ Fundamentals of Computing with Visual C++ Programming Language (\$500)

**Term 4 (Saturday) 7/7, 7/14, 7/21, and 7/28.**

Morning session (10:00 AM - 12:00 PM)

\_\_\_ SAT I Mathematics Preparation (\$120)

Afternoon Session (1:00 PM - 3:00 PM)

\_\_\_ SAT II Mathematics Preparation (\$120)

\*\*\*The following information is required by George Mason University\*\*\*

Emergency Contact: The following person should be contact in case of emergency:

Name: \_\_\_\_\_ Relationship: \_\_\_\_\_ Telephone: \_\_\_\_\_

Name of the Health Insurance Company or HMO: \_\_\_\_\_

Insurance Policy Number \_\_\_\_\_

**Risk Release Statement**

The undersigned, being the parents/guardian of the above named student, certified that I hereby relieve the program coordinator and the instructors of any legal and financial responsibilities of the above named student for accident and sickness that may take place during the conduct of this program. I also agree, for myself, my heirs and assigns, to release and hold harmless George Mason University, the Commonwealth of Virginia, and their officers, employees and agents from any claim, damage, liability, injury, expense or loss, including defense costs and attorney's fees, arising from the above student's activities in the program. Signed: \_\_\_\_\_ Date: \_\_\_\_\_

**Application procedure:**

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# 2007 Summer Enrichment Program

## in

### Mathematics and Technology For

### Talented Youth (MTTY)

### at George Mason University

Term 1 (6/25 - 7/6)	Term 2 (7/9 - 7/20)	Term 3 (7/23 - 8/3)	Term 4 (Saturday) (7/7, 7/14, 7/21, 7/28)
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#### Morning Session

Pre-algebra	open	open	open	
Algebra 1	open	open	open	
Geometry	open	open	open	
Algebra 2 with Trigonometry	open		open	
SAT I Math Preparation				open
Pre-calculus		open		

#### Afternoon session

SAT II Math Preparation				open
Introduction to JavaScript with Webpage Design	open	open	open	
Fundamentals of Computing with Visual Basic Programming Language	open			
Fundamentals of Computing with Visual C++ Programming Language		open	open	

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