

# SUMMER MATHEMATICS INSTITUTE (SMI)

*Where students work hard, play hard, and go home happy!*

**Sponsored by the Texas Academy of Mathematics and Science**

**WHERE:** University of North Texas  
Denton, Texas

**DATES:** July 5<sup>th</sup> – 25<sup>th</sup>, 2020

**COURSES TAUGHT:** Algebra I, Geometry, Algebra II, Precalculus

**\*COST:** \$2,200 (covers classes, housing, dining, recreational activities, etc.)

*\*Need-Based Scholarships Available\**

## **Program Description**

The Summer Mathematics Institute (SMI) is a fast-paced intensive program for mathematically talented students. Rising 7<sup>th</sup> – 11<sup>th</sup> grade students who are excited about learning and have excelled in mathematics are eligible to apply. Participants enroll in a single-class during the three-week residential program and have the opportunity to master one year of high school mathematics.

Central to the SMI residential program is the idea that living where they learn, students become part of a community of like-minded young people. These students are committed to academic excellence, social and emotional growth, and creative and recreational excitement. Crucial to this stimulating environment is the inclusion of students who share similar abilities, interests, talents, and commitments. At SMI, students learn responsibility, self-motivation, community participation, and respect for others.

The academic program is key to the spirit and structure of SMI. In order for students to perform at the upper level of their capabilities, students must have a strong interest in mathematics. Students are required to attend class for 6 hours per day, Monday through Friday, and for 3 hours on Saturday mornings. Students are also required to attend a supervised evening study/tutorial session Monday through Friday evenings for 1 hour. At the end of the program, a final student performance report is sent to the student's school and the student's parents.

## **SMI Program Staff**

***TAMS Staff:*** Several full-time TAMS staff members coordinate all of the pre-camp planning. This includes directors who work as academic counselors for the TAMS program during the school year. The directors are available to speak with students and parents who have questions about the program. The directors also coordinate daily meals, assist in planning recreational activities, and are responsible for the welfare and discipline of participants.

***Teachers:*** Teachers are responsible for developing the academic program, scheduling each day's academic activities, and supervising the teaching assistants (TAs). They are also responsible for the classroom behavior of participants and their academic progress. SMI teachers are exemplary public school teachers from the Texas public school system.

***Teaching Assistants:*** At least one teaching assistant (TA) is assigned to each course. TAs work with the teachers in the classrooms and also assist students in the evening study/tutorial sessions. In the classroom, they may work with individual students or small groups of students. They are required to live with the students in the residence hall. The people selected for TAs are current or recent graduates of the Texas Academy of Mathematics and Science.

***Resident Advisors:*** The SMI employs 5 resident advisors (RAs) who live in the residence hall with the students. Each RA is assigned to a group of 10-14

students. The RAS are responsible for the welfare of students in their group outside of class. They ensure that residential life is safe, enjoyable, and comfortable. They also lead evening and weekend social and recreational activities. RAs are well-trained individuals with residence hall, counseling, and/or teaching experience.

**Program Assistant:** The program assistant (PA) is responsible for assisting staff members with administrative tasks. The duties include but are not limited to unlocking the classrooms, preparing for the evening study sessions, checking out students to authorized individuals on Sunday mornings, assisting with the supervision of students on field trips, and filling in for TAs during emergencies. The PA is a current or recent graduate of the Texas Academy of Mathematics and Science.

### Academic Program

**Instructional Strategies:** The SMI program uses a diagnostic-prescriptive approach to learning. This model was developed for use with mathematically talented students who are ready to learn at a faster and more advanced level than is typical. Students are required to take a pre-test before studying the chapter content. The pre-test is timed so students are not tempted to spend hours working on problems they do not fully understand. During testing sessions, students should show all work or steps. This information will provide the teacher and teaching assistant with diagnostic information about the student's misunderstandings. The teaching staff will grade the pre-test, analyze the answers, and assign problems/practice exercises based on the problems missed on the pre-test. The final step of the diagnostic-prescriptive approach is to give individual students the post-test. The goal is for the students to score at least 90% correct on this assessment. Students scoring 100% are immediately allowed to take the pre-test for the next chapter. Students who receive a grade above 90% but less than a perfect score, require some additional work on the topics they do not understand. Once the teacher or teaching assistant is satisfied that the student has mastered the topic, the student is allowed to take the pre-test for the next chapter. Students mastering less than 90% of the material on the post-test require additional instruction and practice with the teaching staff on the chapter's concepts. The post-test is analyzed, re-teaching done, and the student will be given additional assignments. These students will take a second version of the post-test.

The program assumes a certain level of maturity on the student's part. Unlike a traditional class where you wait for everyone else to finish or to hear the lecture, at SMI students will learn at their own pace. Most days students

will read the assigned pages independently and ask questions or seek help from the teacher or teaching assistant for concepts they do not understand.

**Academic Performance & Student Evaluation:** The goals and expectations of the SMI are designed and geared toward providing a richness of environment and enhanced learning opportunities to ensure that academic performance will match academic ability. At the end of the program, each student will be required to take a comprehensive final exam regardless of how s/he has progressed. The teachers will grade the exams. Each teacher will complete an evaluation report which will include a recommendation for the student's math placement for the next academic year. Copies of this report will be mailed to the student's school and the student's parents. **The student's school will decide whether or not to accept the teacher's recommendation. Therefore, we do not guarantee that students will receive credit for the course. We strongly encourage parents to talk with their student's school in advance about the possibility of receiving credit.**

### Student Activities

SMI combines a challenging academic environment with numerous opportunities for cultural exposure, social growth, and traditional recreational summer camp activities. Student activities are designed to enhance the social and cultural components of SMI.

**Evening Programs & Entertainment:** In addition to the evening study/tutorial session, a second evening activity provides an entertainment/recreational component. These in-house organized events include games, recreational sport activities, and special group activities.

**Weekend Get-Away Days:** Off-campus trips are planned for Saturdays and Sundays. These trips give students and staff a chance to take a break from their routines and do something different. Some of the previous year's trips have included the Fort Worth Museum of Science and History, Spinning Wheels Skating Rink, Main Event Entertainment Center, bowling, and swimming.

**Parent Visitation Times:** Sunday mornings are parent visitation times. Parents wanting to spend time with their students away from campus must submit a written request to the SMI directors at least 24 hours in advance. For security reasons, parents/guardians must present a picture ID before the student can be released to them. Due to lack of space, parents or other guests are not permitted to stay overnight in the residence hall rooms.

## **Residential Life**

**Living Structure & Supervision:** Students live in residence hall groups of approximately 10-12 students of the same gender and are under the direct supervision of a resident advisor. Students share a bedroom with one other person. Each room has two single beds, two desks, two chairs, and closet space for two. Students share a community bath.

**Meals:** Meals are served cafeteria-style three times a day on Mondays through Fridays. On Saturdays, students will eat breakfast and lunch in a campus cafeteria. Saturday dinners will be ordered from a local restaurant and delivered to the residence hall. On Sundays, students will eat only breakfast and lunch in a campus cafeteria. Dinner will be delivered to the residence hall. Our cafeterias do cater to vegetarians. Students requiring special diets must let us know before the program begins.

**Spending Money:** Students will need limited funds for incidentals such as laundry, occasional snacks, or souvenirs. Automatic teller machines are available on campus for student use

**Daily Schedule:** Students attend class Monday through Friday from 8:30 a.m. until 3:30 p.m. with a break for lunch from 11:30 a.m. until 12:30 p.m. Students can enjoy free time from 3:30 until 5:30 p.m.

### **Sample Weekday Schedule**

7:15 a.m. .... Wake up  
7:45-8:30 a.m. .... Breakfast  
8:30 a.m. .... Morning Class  
Mid-morning ..... Short break  
11:30 a.m. .... Class stops for lunch  
11:30-12:30 ..... Lunch  
12:30 p.m. .... Afternoon Class  
Mid-day ..... Short break  
3:30 ..... Class ends; Activities, free time  
5:30-6:30 ..... Dinner  
6:30-7:30 ..... Mandatory Study Hall  
7:30-9:15 ..... Recreation Activity  
9:15-9:45 ..... Nightly Meeting  
9:45-10:30 ..... Quiet time  
10:30 p.m. .... Lights out, in bed

### **Sample Saturday Schedule**

7:15 a.m. .... Wake up  
7:45-8:30 a.m. .... Breakfast  
8:30 a.m. .... Class  
Mid-morning ..... Short break  
11:30 ..... Class stops  
11:30-12:30 ..... Lunch  
12:30-5:30 ..... Recreational Activities  
5:30-6:30 ..... Dinner  
6:30-9:15 ..... Recreational Activities  
9:15-9:45 ..... Nightly meeting  
9:45-10:45 ..... In dorm free-time  
11:00-11:30 ..... Quiet Time  
11:30 p.m. .... Lights out, in bed

### **Sample Sunday Schedule**

Morning ..... Free time, church  
11:30-12:30 ..... Lunch  
Afternoon ..... Recreational Activity  
9:15-9:45 ..... Nightly program meeting  
9:45 p.m.-10:30 ..... Quiet time  
10:30 p.m. .... Lights out, in bed

## **Contact Information**

For more information or to obtain an application, please visit the Texas Academy of Mathematics and Science's (TAMS) website at [www.tams.unt.edu](http://www.tams.unt.edu) and click on *Summer Mathematics Institute* or contact our SMI Directors:

Sam Earls ([samuel.earls@unt.edu](mailto:samuel.earls@unt.edu))  
Wendy Boyd-Brown ([wendy.boyd-brown@unt.edu](mailto:wendy.boyd-brown@unt.edu))  
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