



STEM Academy for Environmental Studies at Memorial Middle School

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@MemorialMS



Specialty & Choice Options

Program Overview

Today's society has become increasingly complex and competitive, future success is not only based what you know, but also what you can do with what you know, it's more important than ever for our youth to be equipped with the knowledge and skills to solve tough problems, gather and evaluate evidence, and make sense of information. These are the types of skills that students learn by studying science, technology, engineering, and math—STEM.

STEM education is an integrated, interdisciplinary approach to learning that provides hands-on and relevant learning experiences for students. STEM teaching and learning goes beyond the mere transfer of knowledge. It engages students and equips them with critical thinking, problem solving, creative and collaborative skills, and ultimately establishes connections between the school, work place, community and the global economy. STEM also helps students understand and apply math and science content, the foundations for success in high school, college and careers.

Why STEM?

STEM is important, because it pervades every aspect of our lives. Control the future... "While only 4% of the nation's workforce is composed of scientists and engineers, this group disproportionately creates jobs for the other 96% of people." (Raytheon Corporation, 2016)

"[Science] is more than a school subject, or the periodic table, or the properties of waves. It is an approach to the world, a critical way to understand and explore and engage with the world, and then have the capacity to change that world..."
— President Barack Obama, March 23, 2015

Students benefit from the MMS STEM program because it teaches independent innovation and allows students to explore greater depths of all of the subjects by utilizing the skills learned; these skills are going to be required in order for today's students to be tomorrow's global leaders.

STEM is problem-solving, critical thinking. All MMS students will participate in a variety of academic endeavors, including but not limited to School-wide Science and Engineering Fair, NASA week, Lunch & Learn assemblies, various field studies, trips and out-of-classroom experiences. Students will work individually and collaboratively, using the scientific method and the engineering design process to solve problems and think critically using project-based learning. Students will learn how to write a research paper according to the Georgia Science and Engineering Fair guidelines. Students will also use research articles from a variety of sources to select and present their findings in a variety of ways. Students will utilize skills from this program to participate in various competitions each year depending upon their interests and research focus.

STEM students will be enrolled in a rigorous advanced course load. Students will seek to obtain Carnegie courses every year starting in 6th grade.

Components for Student Success

- Multiple opportunities to earn high school credit through a variety of learning platforms, such as virtual classes, high school certified teachers at the 8th grade level for Math and Science, and a partnership with Rockdale Career Academy.
- High School Offerings:
 - Spanish (Rockdale Virtual Campus)
 - Coordinate Algebra
 - Accelerated Coordinate Algebra
 - Physical Science
 - Personal Fitness and Health (Rockdale Virtual Campus)
- Field Trip Agreements: Fernbank Museum, The High, Elachee, Gwinnett Heritage, Rock Eagle, and more
- Competitions/Challenges: Science Fair, E-Cybermission, Georgia Tech InVenture, 3M Envision, Duke TIP, & Buck Institute Problem-Based Learning
- Project mentors from UGA, Georgia Tech, RMSST
- Exposure to STEM professionals (GBI, AT&T, NASA)
- Math enrichment, mentoring, and after-school tutoring.
- Learning with meteorologists, High-Touch/High-Tech Science Interactive Program, Georgia Tech scientists, NASA astronauts/scientists, and more
- WeatherBug™ live global data to support STEM components with emphasis on data collection utilizing weather drones and labquest Vernier probeware
- Hands on learning through Victory Gardens, two large campus gardens to cultivate STEM
- Industry partnerships with the Environmental Protection Agency (EPA), Georgia Tech, Georgia Power, NASA
- AVID (Advancement Via Individual Determination) provides post-secondary readiness and organization/study skills
- Georgia Tech D2D Student Programs
- Technology Skills (Microsoft Office Suite)
- Advanced Research Writing Courses



Application, Eligibility, and Lottery

RCPS will use an electronic application process for 2018 - 19 School Choice programs. **No paper applications will be accepted.** Students may apply for one School Choice program only for the 2018-19 school year.

The application window is November 17 - December 15, 2017. The online application will be available on the district website at:

rockdaleschools.org

The Student Registration Office at 1143 West Avenue will provide assistance to access the online application if needed, Monday through Friday, 8:00 a.m. - 3:00 p.m., on a first come, first served basis. Only complete applications will be accepted.

Eligibility Criteria

- Students must meet standards in ELA, Reading, Math, Science, and Social Studies on the Milestones assessment. If Milestones results are not available, other assessment data may be considered.
- Students with strong math and science skills are encouraged to apply.
- Students must meet the student registration requirement for Rockdale County Public Schools.
- Students and parents must agree to the Choice contract.

Lottery

In the event there are more eligible applicants than space available, students will be selected via a random lottery drawing. If needed, a lottery will be held in January.



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A Message from the Principal

I am full of anticipation about what the new school term has in store for Memorial Middle School. Our vision of making Memorial Middle School an exemplary learning environment that supports the growth, development, and academic success of all students while preparing them for the rigors of high school and beyond will guide our work as well as our connections with each other. The faculty and staff of Memorial Middle School commits to the process that it will take to prepare our students for the rigors of high school and beyond. Our work, with your support and collaboration, will guide the successful preparation of every child for the next stages of life.

For students, our purpose is to give you a learning environment filled with experiences that will support your growth and development. We will do this by setting high expectations for academic achievement and behavior. Your Seminole Family will offer you a system of support to make sure that you are able to fulfill the role of a responsible and respectful young adult, ready to learn and ready for the future. As your principal, I will encourage and drive you to meet every goal set for you. I will need you to share in the daily responsibility for your success.

This program will help create memorable moments that will equip our students, challenge their minds, and push us to new limits to make Memorial Middle School an educational environment worthy of success, worthy of recognition. Please make a point to become involved in the many opportunities for us to work in partnership as a school community.

Every day is a great day to be a Memorial Seminole!

— Mrs. Michell N. Glover-Green

Our students are well informed to make decisions that will help them progress in STEM in the following RCPS high school options:

Rockdale Magnet School for Science & Technology
Advanced Science Research, Engineering, Ivy League College and Career Preparation

Rockdale Career Academy
Healthcare, Biotechnology, Agriculture, Engineering

Rockdale Institute for Advanced Technology
Computer Programming and Gaming Design

Heritage High School
Computer Graphic Visual Arts, Engineering Pathway Courses



Experimenting with Pangaea power



STEM labwork



Exploring macro invertebrates on field study



Arduino Robotics with AT&T

Recent MMS Accolades

- 3M Young Scientist State Award winner
- Broadcom Masters Awards at Regional Science Fair; winners eligible to apply for nationals
- Duke TIP state recipients and national recipient – scored 3rd in the nation in the area of English/ Language Arts
- Numerous placings at Regional Science Fair
- Grand Champions at Regional Science Fair advancing to state competition
- Students invited to present work at Georgia Junior Science and Humanities Symposium
- Robotics teams invited to Super Regionals
- Debate Team invited to regional competition
- Winners in PTA Reflections Contest
- Lowe's Toolbox Grant Recipient
- Title I Reward School for High Progress

Exploratory, Extracurricular, Additional Academic Services

4-H	Anime Club
Art Club	National Junior Beta Club
Advanced Art	News Club
Chorus	Reading Bowl Club
Drama Club	Robotics
Student Council	Yearbook Club
Cheerleading	TSA
Football	Science Olympiad
Softball	Envirothon
Basketball	Math Competition Team
Wrestling	100 Girls of Code
Track	Spelling Bee
Intramurals	Young Author's Club
Junior Thespians	

Mentoring Programs

First Ladies
Junior Kappa League
Diamond Girlz Forever
Success Builders
DIVAS
The Journey Boys/Girls



*Rockdale Regional Science and Engineering Fair (RRSEF)
Grand Champions - Junior Division*



*Atlanta Science Festival ARISS Event 2016 at Fernbank Science Center
MMS students with retired astronaut Mark Polansky.*