Science, Technology, Engineering and Mathematics (STEM)

Program Description

The STEM program is a combination of instruction, discussion, and hands-on activities that introduces students to fundamentals of mathematics, computer science, engineering and space science. Students will attend enrichment classes and are introduced to basic concepts and techniques applicable to the program. They will participate in relevant discussions, lectures, demonstrations and research exercises.

During the Engineering portion students will perform hands on activities which will include practical experiments with measures of voltage, construction of power sources, wiring of circuit boards, and reading schematic diagrams. Each student will learn basic circuitry, basic definitions and theories of electricity and partake in briefings from a professional in the engineering industry.

In Mathematics, students will cover concepts and applications in Number theory, Group theory, Finite Structures, and Analysis. The instructor will do grade level review and introduce some advanced concepts. For example, 6-7 grades will be introduced to pre-algebra and pre-calculus. Eighth grade and above will focus on algebra and trigonometry. The instructor tutors at the college level and is well able to gauge students' abilities and capabilities.

Practical experiences will be used when learning about Computer Science. Older students will learn about BASIC and C++ programming languages and will use personal computers to create Employees Payrolls, PowerPoint Presentations, webpage designs, and a blog. All grade levels will use computerized hardware and software that model real world challenges in aeronautics and microgravity.

All incorporated Space Science will be extracted from the NASA's space missions and technology programs.