ARECIBO OBSERVATORY SPACE ACADEMY: Inspiring the Next Generation of Scientist from Puerto Rico

Our **MISSION** is to increase student interest in pursuing a science & space application related career, thus encouraging scientific development issuing from Puerto Rico.

**GOAL:** To foster in every student an interest in science, research, inquiry, curiosity and creativity; expose students to various fields of science, mathematics, arts, and space research; encourage students to identify problems and produce creative solutions by applying the scientific method and synthesizing known information.

**METHODS.** The AOSA pre-college program applies multiple instructional methods for students to expand their skills and knowledge. Being part of a scientific environment immersion helps to promote student ingenuity. Students are exposed to a variety of the teaching methodologies, including:

**LECTURING:** oral communication, usually with the aid of visual enhancements, such as powerpoint, videos, and white board.

**COLLABORATIVE TEACHING:** students to become engaged in the learning process by sharing ideas and debating positions; assists students in establishing a personal connection among their peers bringing together their topic, ability to work as a team, communication and leadership skills.

**DEMONSTRATIONS:** uses examples and experiments, this is a preferred technique, to reinforce memory retention by linking scientific facts with real-world applications.

**TEACHING:** using role switching, students assume the role of the instructor and teach their topics to their peers. Students exposed to this teaching methodology tend to increase their self-confidence, leadership, and ESL skills.

**Program Numbers**

**Skills:**
- Leadership & Teamwork
- Quick thinking
- Public Speaking
- Collaborative Writing
- Web Search and site creation

**Concepts:**
- Units of Measurement
- Graphs, tables, charts and data representation
- Problem solving strategies
- Cyber security protocols

**Scientific Research**
- Methodologies,
- Significance of literature review
- Reference Systems

**Program Activities**

Sample of activities cadets embark on, include measuring systems, debates, participation in congress and symposia, sample collection, experimentation, class room discussion, and community support among others.

**VISION.** Prepare students for their academic and professional careers by allowing students to receive an independent and collaborative research experience on topics related to space and aid in their individual academic and social development.