

## **STEM ACADEMY**

After school English program on STEM and Environmental Education

### **Content - Philosophy**

The STEM Academy is an educational and entertainment (edutainment) program, conducted exclusively in English, with an emphasis on science, technology, engineering, mathematics and environmental education. The aim of the program is to encourage students to systematically engage in scientific and environmental issues from early on, with scientific missions through which they can solve potentially real problems around the world. Students act as young scientists, through unique entertaining educational scenarios, methodologies based on knowledge research and discovery that stimulate their imagination and interest, acquire age-appropriate experiences, knowledge and skills that enhance their love and devotion to science, environmental education, but also help develop an extended acquisition and use of the English language.

### **Educational and methodological approach**

The program is learner-centered and makes use of all modern educational teaching methods (experiential, exploratory - discovery learning, cooperative and differentiated teaching, integration and use of technological tools).

### **Scientific support**

This program brings together scientists of various disciplines included in it, who advise teachers on how to implement the design of the various scenarios of missions undertaken by the students, but also for the realization of experiments, the mechanical construction and the use of robotics included systematically in the program scenarios. In addition, during the implementation of the program specialized scientists participate in that by offering age appropriate lectures, science demonstrations etc.

### **Structure**

The program is organized in six levels, one for each grade of the elementary school. Each level involves different missions that students as young scientists are invited to address and then resolve. The level changes from class to class and means an increase in the difficulty of the missions, the scientific knowledge contained in them and, consequently, the level of spoken and written English, since it is the language used in the program.

### **Implementation - Equipment - Teaching material**

The program will utilize the elementary school facilities, and the unique green natural environment of the AFS, which allows a variety of experiential activities. In particular, it makes use of the modern school classrooms, which have sophisticated technological equipment (smart board, iPads, wi-fi) and exceptional school furniture (desks, chairs, auxiliary equipment), special teaching methods that promote teamwork, flexible and adaptive various seating arrangements in the classroom. Finally, the material that is used (lego, robots etc.) is most suitable to support such programs with STEM characteristics.

**Program hours**

The program is offered twice a week (14.30 - 16.30), depending on the level. The duration of each session is two hours (120 minutes).

**Teaching staff**

The program is taught by teachers who are native speakers of English, with passion and enthusiasm for science and environmental education, connoisseurs of experiential education and modern educational methods.

**Students to whom the program is addressed**

The program is aimed at students of all grades of the elementary school of the American Farm School. The program is currently not offered to pupils of other private and public elementary schools.