

## **SCIENCE DEPARTMENT HIGH SCHOOL 9<sup>th</sup> – 12<sup>th</sup> Grades**

### **PHILOSOPHY**

The Science department at Saddlebrook Preparatory School believes that students who learn science can make informed decisions, are able to ask thoughtful questions and clearly communicate those questions and findings to those around them. Students come in contact with multiple science experiences that nurture and foster their increased understanding of the things they observe and investigate. They advance their ability to offer reasonable explanations, make predictions, and engage in more rewarding activities. They also learn to respect nature and their environment. Science strengthens the skills they need to think effectively, objectively and creatively.

### **OBJECTIVES**

By the conclusion of his or her senior year, each student will have been exposed to the following science themes. The themes and their corresponding objectives are as follows:

1. The Nature of Matter

The student will understand that all matter has observable, measurable properties.  
The student will understand the basic principles of atomic theory.

2. Energy

The student will recognize that energy may be changed in form with varying efficiency.  
The student will understand the interaction of matter and energy.

3. Force and Motion

The student will understand that types of motion may be described, measured, and predicted.  
The student will understand that the types of force that act on an object and the effect of that force can be described, measured, and predicted.

4. Processes of Life

The student will be able to describe patterns of structure and function in living things.  
The student will understand the process and importance of genetic diversity.

5. How Living Things Interact With Their Environment

The student will understand the competitive, interdependent, cyclic nature of living things in the environment and how the diversity of species affects the earth.  
The student will understand the need for protection of the natural systems on the Earth.  
The student will understand how the Earth's health depends upon the world's awareness of harmful pollutants.  
The student will understand the consequences of using limited natural resources.

6. The Nature of Science

The student will be able to use the scientific processes and habits of mind to solve problems.  
The student will be able to collect, organize, describe and interpret data as well as make

decisions and predictions on the basis of information.

The student will understand that most natural events occur in comprehensible, consistent patterns.

The student will understand that science, technology, and society are interwoven and interdependent.

7. Provide modified instruction for non-native speakers of English.

### **COURSE OFFERINGS**

Chemistry

Physical Science

Physical Science Honors

Biology

Physics Honors

Chemistry Honors

Marine Biology

Anatomy and physiology

Biology Honors

Environmental Science

### **STRENGTHS**

1. There are many opportunities for experiential science learning.
2. The science curriculum, school facilities, and environment proximity to a wide variety of natural habitats provide for various hands-on learning through experiments and lab work.
3. Three locked

### **RECOMMENDATIONS**

Calculus and Physics should be separate classes – not taught at the same time.

More equipment should be purchased for the physics department.

Provide more of the expendable resources for the science lab activities.