2017 Science 30
Semester 1 Course Outline

Instructor: Mr. J. Ricci

Materials: Science 30 Textbook
3 Ring Binder
Scientific Calculator

Program Vision:

The secondary science program is guided by the vision that all students, regardless of gender or cultural background, are given the opportunity to develop scientific literacy. The goal of scientific literacy is to develop in students the science-related knowledge, skills and attitudes that they need to solve problems and make decisions and, at the same time, to help students become lifelong learners who maintain their sense of wonder about the world around them.

Diverse learning experiences within the science program provide students with opportunities to explore, analyze and appreciate the interrelationships among science, technology, society and the environment and to develop understandings that will affect their personal lives, their careers and their futures.

Outline/Timeline:

Unit A: Living Systems Respond to Their Environment: (Approximately 23 Classes)
The human body continually interacts with the external environment. In this unit, students learn that the circulatory system assists in this interaction between the blood cells and the external environment and, in combination with the immune system, defends the body against pathogens. Students apply the principles of heredity and molecular genetics to explain human disorders and to assess the risks and benefits of genetic technologies.

Unit B: Chemistry and the Environment: (Approximately 22)
In maintaining quality of life, society is becoming increasingly reliant upon chemical substances of life. These chemicals and their by-products can also adversely affect the environment and living systems. A knowledge of chemistry is essential to fully understand the benefits and risks of chemicals to humankind and in monitoring the emission of these substances into the environment. In this unit, students examine the impacts of acids and bases, organic compounds and air pollutants on aquatic and terrestrial ecosystems.

Unit C: Electromagnetic Energy:
(Approximately 22)

Electrical energy transmission and transformation technologies, based on field theory and on an understanding of electromagnetic radiation (EMR), play an important role in meeting human needs. These technologies are also useful in furthering our understanding of the universe. In this unit, students investigate the functioning of these technologies, the principles of field theory and the properties of EMR. This unit provides a foundation for further studies of electromagnetism.

Unit D: Energy and the Environment:
(Approximately 11)

Sustainable development requires balancing global energy demands with maintaining a viable biosphere. Students investigate and analyze the sources of renewable and nonrenewable energy and, in doing so, explore the need for multiple perspectives and the need to develop energy-efficient technologies. This unit provides an opportunity for students to address the demand for environmentally sustainable solutions to meet global energy needs.

Evaluation:

Departmental Final Exam	30%
Of the remaining 70% ...	
Assignments, eTests & Classwork	20%
Quizzes, Unit & Chapter Tests	80%