

# **Canterbury High School**

Ottawa-Carleton District School Board

## **Science Department**

Semester I – 2010 /11 – Course Outline

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**Course Title: Grade 9 science, applied**

**Course Code: SNC1P**

**Prerequisite: N/A**

**Grade Level: 9**

**Credit Value: 1.0**

Teacher: Ms. Antony

**Course Overview:** 110 hours

This course enables students to develop their understanding of basic concepts in biology, chemistry, earth and space science, and physics, and to apply their knowledge of science to everyday situations. They are also given opportunities to develop practical skills related to scientific investigation. Students will plan and conduct investigations into practical problems and issues related to the impact of human activity on ecosystems; the structure and properties of elements and compounds; space exploration and the components of the universe; and static and current electricity.

### **Strands:**

#### **Course Expectations**

#### **Biology: Sustainable Ecosystems and Human Activity (Unit One)**

By the end of this course, students will:

- analyse the impact of human activity on terrestrial or aquatic ecosystems, and assess the effectiveness of selected initiatives related to environmental sustainability;
- investigate some factors related to human activity that affect terrestrial or aquatic ecosystems, and describe the consequences that these factors have for the sustainability of these ecosystems;
- demonstrate an understanding of characteristics of terrestrial and aquatic ecosystems, the interdependence within and between ecosystems, and the impact humans have on the sustainability of these ecosystems.

#### **Chemistry: Exploring Matter (Unit Two)**

By the end of this course, students will:

- analyse how properties of common elements and/or simple compounds affect their use, and assess the social and environmental impact associated with their production or use;
- investigate, through inquiry, physical and chemical properties of common elements and simple compounds;
- demonstrate an understanding of the properties of common elements and simple compounds, and general features of the organization of the periodic table.

## **Earth and Space Science: Space Exploration (Unit Three)**

By the end of this course, students will:

- analyse the major challenges and benefits of space exploration, and assess the contributions of Canadians to space exploration;
- investigate the properties of different types of celestial objects in the solar system and the universe;
- demonstrate an understanding of major astronomical phenomena and of the principal components of the solar system and the universe.

## **Physics: Electrical Applications (Unit Four)**

By the end of this course, students will:

- assess the major social, economic, and environmental costs and benefits of using electrical energy, distinguishing between renewable and non-renewable sources, and propose a plan of action to reduce energy costs;
- investigate, through inquiry, the properties of static and current electricity and the cost of the consumption of electrical energy;
- demonstrate an understanding of the concepts and principles of static and current electricity.

## **Units of Study**

**In science, each strand covered will be a unit of study. The units of study are:**

- **Biology: Sustainable Ecosystems and Human Activity**
- **Chemistry: Exploring Matter**
- **Earth and Space Science: Space Exploration**
- **Physics: Electrical Applications**

**See above section for more details.**

## **Teaching Strategies**

teacher demonstrations  
laboratory experiments  
multimedia  
investigative research

small group work  
student-teacher conferencing  
written assignments  
hands-on activities

## **Assessment and Evaluation Strategies**

written tests  
lab reports  
observation (formal and informal)  
homework checks and quizzes  
summative assignment

rubrics  
group presentations  
discussion  
research projects  
exam

## **Evaluation Summary**

Knowledge and Understanding	17.5 %
Thinking, Inquiry & Problem Solving	17.5 %
Communication	17.5 %
Making Connections	17.5 %
Summative Evaluation	15 %
Final Examination	15 %

**Please refer to the achievement chart for science in the ministry curriculum documents for more information.**

## **References**

**[http://www.edu.gov.on.ca/eng/curriculum/secondary/science910\\_2008.pdf](http://www.edu.gov.on.ca/eng/curriculum/secondary/science910_2008.pdf)**

## **Student Resources / Texts**

**Science Links 9, McGraw-Hill Ryerson, replacement cost \$65 + tax and shipping.**