

# **Canterbury High School**

Ottawa-Carleton District School Board

## **Science Department**

Semester I – 2010 / 11 – Course Outline

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**Course Title: Grade 10 science, academic**

**Course Code: SNC2D**

**Prerequisite: SNC1D**

**Grade Level: 10**

**Credit Value: 1.0**

Teachers: Mr. Burgess, Ms. Antony, Mr. Wade, Mrs. Weir

**Course Overview:** 110 hours

This course enables students to enhance their understanding of concepts in biology, chemistry, earth and space science, and physics, and of the interrelationships between science, technology, society, and the environment. Students are also given opportunities to further develop their scientific investigation skills. Students will plan and conduct investigations and develop their understanding of scientific theories related to the connections between cells and systems in animals and plants; chemical reactions, with a particular focus on acid-base reactions; forces that affect climate and climate change; and the interaction of light and matter.

### **Strands:**

#### **Course Expectations**

#### **Biology: Systems of living things**

By the end of this course, students will:

- evaluate the importance of medical and other technological developments related to systems biology, and analyse their societal and ethical implications;
- investigate cell division, cell specialization, organs, and systems in animals and plants, using research and inquiry skills, including various laboratory techniques;
- demonstrate an understanding of the hierarchical organization of cells, from tissues, to organs, to systems in animals and plants.

#### **Chemistry: Chemical Processes**

By the end of this course, students will:

- analyse a variety of safety and environmental issues associated with chemical reactions, including the ways in which chemical reactions can be applied to address environmental challenges;
- investigate, through inquiry, the characteristics of chemical reactions;
- demonstrate an understanding of the general principles of chemical reactions, and various ways to represent them.

## **Earth and Space Science: Climate Change**

By the end of this course, students will:

- analyse some of the effects of climate change around the world, and assess the effectiveness of initiatives that attempt to address the issue of climate change;
- investigate various natural and human factors that influence Earth's climate and climate change;
- demonstrate an understanding of natural and human factors, including the greenhouse effect, that influence Earth's climate and contribute to climate change.

## **Physics: Light and Geometric Optics**

By the end of this course, students will:

- evaluate the effectiveness of technological devices and procedures designed to make use of light, and assess their social benefits;
- investigate, through inquiry, the properties of light, and predict its behaviour, particularly with respect to reflection in plane and curved mirrors and refraction in converging lenses;
- demonstrate an understanding of various characteristics and properties of light, particularly with respect to reflection in mirrors and reflection and refraction in lenses.

## **Units of Study**

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

- **Biology: Systems of Living Things**
- **Chemistry: Chemical Processes**
- **Earth and Space Science: Climate Change**
- **Physics: Light and Geometric Optics**

**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	25 %
Thinking, Inquiry & Problem Solving	25 %
Communication	10 %
Making Connections	10 %
Summative Evaluation	10 %
Final Examination	20 %

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

## **References**

**[www.edu.gov.on.ca/eng/curriculum/secondary/science910curr.pdf](http://www.edu.gov.on.ca/eng/curriculum/secondary/science910curr.pdf)**

## **Student Resources / Texts**

**None**