



Box 200

Namao, AB T0A2N0

780-973-9191

# COURSE OUTLINE

## Science 9

### SEPTEMBER 2014 – JUNE 2015

#### Ms. Shute

**Student Signature:**

**Parent Signature:**



##### Science 9 – 2014/2015

###### OBJECTIVES

To develop in students a scientific literacy through:

* 1. Understanding of basic scientific concepts and development of skills
  2. Applying of such concepts and skills
  3. Communicating scientific ideals effectively
  4. Developing critical and creative thinking skills
  5. Understanding how science can be used to explain or solve natural or real – life situations

###### COURSE OUTLINE

**Unit A: Biological Diversity** (Social and Environmental Emphasis)

* Students will investigate and interpret diversity among species and within species, and describe how diversity contributes to species survival.
* Students will investigate the nature of reproductive processes and their role in transmitting species characteristics.
* Students will describe, in general terms, the role of genetic materials in the continuity and variation of species characteristics; and investigate and interpret related technologies.
* Identify impacts of human action on species survival and variation within species, and analyze related issues for personal and public decision making

**Unit B: Matter and Chemical Change** (Nature of Science Emphasis)

* Students will iInvestigate materials, and describe them in terms of their physical and chemical properties.
* Students will describe and interpret patterns in chemical reactions.
* Students will describe ideas used in interpreting the chemical nature of matter, both in the past and present, and identify example evidence that has contributed to the development of these ideas.
* Students will apply simplified chemical nomenclature in describing elements, compounds and chemical reactions.

**Unit C: Environmental Chemistry** (Social and Environmental Emphasis)

* Students will investigate and describe, in general terms, the role of different substances in the environment in supporting or harming humans and other living things.
* Students will identify processes for measuring the quantity of different substances in the environment and for monitoring air and water quality
* Students will analyze and evaluate mechanisms affecting the distribution of potentially harmful substances within an environment.

**Unit D: Electrical Principles and Technologies** (Science and Technology Emphasis)

* Students will investigate and interpret the use of devices to convert various forms of energy to electrical energy, and electrical energy to other forms of energy.
* Students will describe technologies for transfer and control of electrical energy
* Students will identify and estimate energy inputs and outputs for example devices and systems, and evaluate the efficiency of energy conversions
* Students will describe and discuss the societal and environmental implications of the use of electrical energy.

**Unit E: Space Exploration** (Science and Technology Emphasis)

* Students will Investigate and describe ways that human understanding of Earth and space has depended on technological development.
* Students will identify problems in developing technologies for space exploration, describe technologies developed for life in space, and explain the scientific principles involved.
* Students will describe and interpret the science of optical and radio telescopes, space probes and remote sensing technologies.
* Students will identify issues and opportunities arising from the application of space technology, identify alternatives involved, and analyze implications.

###### COURSE SET UP

Assignments, Projects, & Labs 15%

Quizzes 30%

Exams 35%

Final Exam 20%

1. **REQUIRED MATERIALS**

* Textbook
* Binder with Paper
* Pen (s) & Pencil(s)
* Pencil Crayons, Felts, Crayons (One type is sufficient)
* Ruler
* Eraser
* Graph paper
* Scientific calculator

###### EXPECTATIONS

* Students need to attend every class and complete assigned work every evening.
* Students, who do not complete assigned work, will be expected to attend a lunch hour detention to complete the work.
* Students need to inform the office if they are away during an exam or quiz.

1. **ASSESSMENT RE – WRITE POLICY**

* **Students will not be permitted to re –write tests, (unit exams).**
* **Students will only be able permitted to re – write assignments and quizzes at the discretion of the teacher.**

1. **NHI – NOT HANDED IN POLICY**

* If an assignment is not completed to the instructor’s satisfaction it will be awarded an NHI, (Not Handed In). A student will be given opportunities to turn this assignment in at a later date as long as the conditions outlined in the assessment re – write policy, (section F) are met. The student will be allowed these opportunities until completion of the unit the assignment is included in. Upon the completion of the unit, (a unit test has been taken), the mark will remain an NHI, (weighted as a zero), for the remainder of the school year.

\*\*\* Exceptions to the expectations, re – write policy and NHI policy may occur, are rare, and are at the discretion of the teacher. \*\*\*