

MALVERN COLLEGIATE INSTITUTE

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SCH3U

Chemistry, Grade 11, University Preparation

Course Outline

Teacher: Ms. E. Koumarelas

Room: 214

Description/Rationale

This course enables students to deepen their understanding of chemistry through the study of the properties of chemicals and chemical bonds; chemical reactions and quantitative relationships in those reactions; solutions and solubility; and atmospheric chemistry and the behaviour of gases. Students will further develop their analytical skills and investigate the qualitative and quantitative properties of matter, as well as the impact of some common chemical reactions on society and the environment.

Prerequisite: Science, Grade 10

Titles (Topics)

Titles/Topics
Matter, Chemical Trends, and Chemical Bonding
Chemical Reactions
Quantities in Chemical Reactions
Solutions and Solubility
Gases and Atmospheric Chemistry (time permitting)
Culminating Activities

Assessment Evaluation & Reporting

Assessment: Assessment is regular and continuous and is used for the **improvement of teaching and learning and not for grade reporting**. The purposes of assessment are to:

- **Diagnose** and track student progress & achievement;
- Provide **feedback** to students & parents/guardian about student progress & achievement;
- To allow students to **assess** their own progress & achievement;
- To implement & **improve instruction**, curriculum and programs for **all students**

Evaluation: Evaluation is varied and will be done (after teaching, assessment and re-teaching) on particular 'chunks' of work; the most **recent and consistent** achievement on **particular** knowledge, understandings and skills will be used to report **the achievement grade**.

Term Work	= 70% of Final Mark
Culminating Task	= 10% of Final Mark
Exam	= 20% of Final Mark

The evaluation in this course is designed to reflect learning and assessment in the four categories as defined by the Science Policy Document. For both the term work and the culminating activities, the final mark will be calculated according to the following categories:

Knowledge and Understanding
Communication

Thinking and Investigation
Application

Learning Skills (*Responsibility, Organization, Independent Work, Collaboration, Initiative, Self-regulation*) will be assessed, evaluated, and reported separately from the achievement grade on the report card.

Link to Malvern Assessment & Evaluation Policy: <http://bit.ly/2N2hFIR>

Big Ideas

Matter, Chemical Trends, and Chemical Bonding

- Every element has predictable chemical and physical properties determined by its structure.
- The type of chemical bond in a compound determines the physical and chemical properties of that compound.
- It is important to use chemicals properly to minimize the risks to human health and the environment.

Chemical Reactions

- Chemicals react in predictable ways.
- Chemical reactions and their applications have significant implications for society and the environment.

Quantities in Chemical Reactions

- Relationships in chemical reactions can be described quantitatively.
- The efficiency of chemical reactions can be determined and optimized by applying an understanding of quantitative relationships in such reactions.

Solutions and Solubility

- Properties of solutions can be described qualitatively and quantitatively, and can be predicted.
- Living things depend for their survival on the unique physical and chemical properties of water.
- People have a responsibility to protect the integrity of Earth's water resources.

Gases and Atmospheric Chemistry

- Properties of gases can be described qualitatively and quantitatively, and can be predicted.
- Air quality can be affected by human activities and technology.
- People have a responsibility to protect the integrity of Earth's atmosphere.

Fundamental Concepts Covered in This Course

Fundamental Concepts	Matter, Chemical Trends and Chemical Bonding	Chemical Reactions	Quantities in Chemical Reactions	Solutions and Solubility	Gases and Atmospheric Chemistry
Matter	✓	✓	✓	✓	✓
Energy		✓	✓	✓	✓
Systems and Interactions		✓	✓		
Structure and Function	✓			✓	✓
Sustainability and Stewardship	✓	✓		✓	✓

Change and Continuity	✓	✓			
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