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Course: Earth Sciences 11
Teacher: Mr. Francis Tsen
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Course Length: 10 months
 (approx 120 hours)

Course Curriculum

The curriculum for this course is build around the following Big Ideas:

<p>Earth materials are changed as they cycle through the geosphere and are used as resources, with economic and environmental implications.</p>	<p>Plate tectonic theory explains the consequences of tectonic plate interactions.</p>	<p>The transfer of energy through the atmosphere creates weather, and this transfer is affected by climate change.</p>	<p>The distribution of water has a major influence on weather and climate.</p>	<p>Astronomy seeks to explain the origin and interactions of Earth and its solar system.</p>
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Students are expected to know the following:

- properties of earth materials:
 - **minerals**
 - **igneous rocks**
 - **sedimentary rocks**
 - **metamorphic rocks**
 - **geologic resources**
- surface and internal **processes** of the rock cycle
- **economic and environmental implications** of geologic resources within B.C. and globally
- evidence that supports plate tectonic theory
- factors that affect **plate motion**
- First Peoples knowledge of local plate tectonic settings and geologic terrains
- the **hydrologic cycle**
- changes in the composition of the atmosphere due to natural and human causes
- **weather** as the interaction of water, air, and energy transfer
- solar radiation **interactions** and **impacts on the energy budget**
- **evidence of climate change**
- First Peoples knowledge of climate change and interconnectedness as related to environmental systems
- **water as a unique resource**
- First Peoples knowledge and perspectives of water resources and processes

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- **properties of the ocean and the ocean floor**
- local and global **ocean currents**
- influences of large bodies of water on **local and global climates**
- **effects of climate change** on water sources
- the nebular hypothesis (explanation of the formation and properties of our solar system)
- **Earth as a unique planet** within its solar system
- **stars** as the centre of a solar system
- impacts of the **Earth-moon-sun system**
- application of space technologies to the study of changes in Earth and its systems

Mark Weighing

Category	Weighing
Learning Guide	30%
Unit Projects	30%
Unit Exams	40%

Resources

- Textbook not required.
- Scientific calculator required

Course Content

Completion of one project or learning guide will activate a student.

Module	Units	Formative Assessment	Summative Assessment
Module 1	1: Introduction to Astronomy, Stars, and Galaxies	1 Assignment 1 Project	1 Unit Test
	2: Bodies of the Solar System	1 Assignment 1 Project	1 Unit Test
	3: Earth, Sun and Moon as a System	1 Assignment 1 Project	1 Unit Test
Module 2	4: Plate Tectonics and Internal Processes of the Earth	1 Assignment 1 Project	1 Unit Test
	5: Surface Processes	1 Assignment 1 Project	1 Unit Test
	6: Minerals, Rocks and the Rock Cycle	1 Assignment 1 Project	1 Unit Test
Module 3	7: Oceanography	1 Assignment 1 Project	1 Unit Test
	8: Atmospheric Sciences	1 Assignment 1 Project	1 Unit Test

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Students are expected to:

- contact the teacher by instant messaging, email or phone when help is needed or questions arise
- be actively engaged and submitting work on a regular basis
- inform the teacher when they will be inactive for two or more weeks.
- be aware that if they are inactive in a course for four or more weeks they may be removed from that course
- check their email at least twice a week
- create and submit completed solutions for all activities in the unit/chapter before requesting a test.
- cite all sources properly
- answer in their own words
- check that their work and tests have been marked.
- make time available to come in to Burnaby Online to write tests.
- make appointments to write tests at least 2 school days in advance.