Mr. Sjokvist
Room 107

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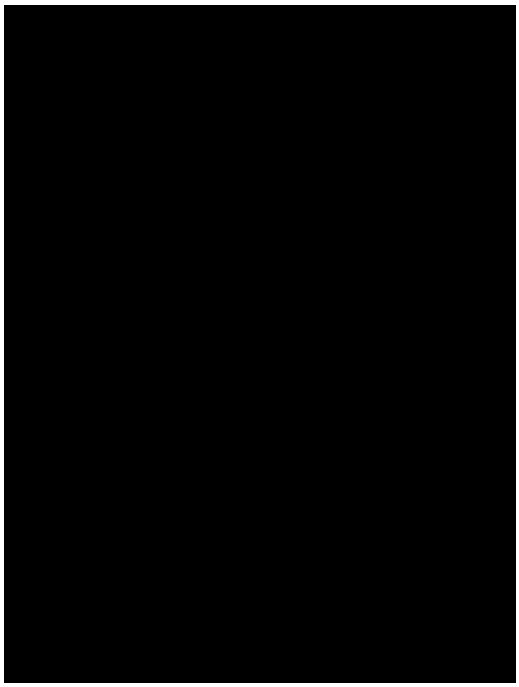
Earth Science - Astronomy 11
Course Outline

This course is for anyone who has looked up at the sky and asked themselves "what's out there?" There are many interesting developments in this field that challenge our understanding of space and time.

Requirements:

- A curious mind! Curiosity may have killed the cat, but it will get the Astronomy student an A! Put up your hand, ask questions, and get involved in the lesson.
- Work Ethic: Students will be expected to show a reasonable effort on all work assigned. This includes a significant amount of labs and projects. There will be frequent quizzes in order to reinforce learning and prepare for unit tests.
- Initiative and responsibility: Students are expected to make up any missed material or tests on their own time, which means seeing me for help or making up tests outside of class time. I am available at lunch in room 107, as well as Wise block on Wednesdays.
- Productivity: Students are expected to be productive at all times in the class. If they finish the day's assignment in class, they should continue on to the next section.
- Safety first! There are lots of activities in this course, but these are feasible only if students follow the rules that are designed for their own safety and that of their classmates.



Materials:

- Supplies: Students are expected to show up every day prepared for class. A pen, pencil, ruler and paper are required for every class. For labs, a calculator will be needed, as well as graph paper and blank paper for diagrams.

Water bottle: This is a laboratory classroom with chemicals being used on a regular basis. The only food or drink related item permitted in the laboratory is a water bottle with a sealable cap.

Text:

Astronomy Today: Chaisson & McMillan (5th Edition)

Astronomy focus:

This course is designed to facilitate deep student inquiry into topics of interest in the Earth Science curriculum. While all the big ideas in this course will be explored, many of the content areas will be studied through the lens of comparing Earth with other planets and exoplanets. Students will be given a wide range of choice in projects in order to foster student investment in their learning.

Effort Mark: will be evaluated according to the NorKam CARES effort matrix which is posted in the classroom.

Core Competencies: will be evaluated using self-assessment. Students will consider their own development in the areas of:

- Communication
- Critical Thinking
- Creative Thinking
- Social Responsibility
- Personal Identity
- Personal Awareness

Assessment

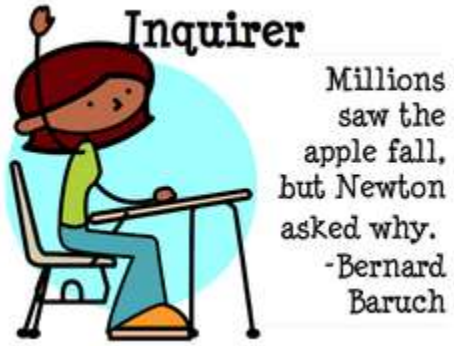
Formative assessment: will consist of assigned questions and quizzes. Formative assessment does not count towards the final mark

Summative assessment: will consist of unit tests, laboratory reports, and projects. There will be rewrite opportunities for unit tests. However, corrections on formative and summative work are expected in order to qualify for a retest.

Curricular Competencies: skills that all students are expected to develop in this course. They will be assessed during experiments and projects in each unit and consist of:

- Questioning and predicting
- Planning and conducting an experiment
- Processing and analyzing data
- Evaluating experimental results
- Applying and innovating
- Communicating

NorKam attributes: students are expected to demonstrate the attributes of Global Citizenship, adaptability, and inquiry. These attributes will be incorporated into the rubrics of student projects.



Course Content:

Content is organized into the following units which will be equally weighted:

Unit	Big Ideas	Elaborations
Environment	Earth materials are changed as they cycle through the geosphere and are used as resources, with economic and environmental implications.	
		First Peoples knowledge of climate change and interconnectedness as related to environmental systems
		Economic and environmental implications of geologic resources within B.C. and globally
		Evidence of climate change
		Changes in the composition of the atmosphere due to natural and human causes
Tectonics	Plate tectonic theory explains the consequences of tectonic plate interactions.	
		First Peoples knowledge of local plate tectonic settings and geologic terrains
		Properties of earth materials: Minerals, igneous rocks, sedimentary rocks, metamorphic rocks, and geologic resources
		Factors that affect plate motion
		Evidence that supports plate tectonic theory
		Surface and internal processes of the rock cycle
Water cycles	The distribution of water has a major influence on weather and climate.	
		First Peoples knowledge and perspectives of water resources and processes
		Influences of large bodies of water on local and global climates
		Water as a unique resource
		The hydrologic cycle
		Weather as the interaction of water, air, and energy transfer
Star systems	Astronomy seeks to explain the origin and interactions of Earth and its solar system.	
		The nebular hypothesis (explanation of the formation and properties of our solar system)
		Earth as a unique planet within its solar system
		Solar radiation interactions and impacts on the energy budget
		Impacts of the Earth-moon-sun system
		Application of space technologies to the study of changes in Earth and its systems
Final Exam	Cumulative Assessment of the course	
		Final exam consists of multiple choice, written response, and experimental sections