EAS 100, Planet Earth

3 credits, 3 hours lecture, 3 hours lab per week

Course Description

Introduction to the origin and evolution of the Earth and the solar system. Introduction to plate tectonics and the rock cycle. Simple energy balances and interactions between radiation and the atmosphere, land, oceans, ice masses and the global hydrological cycle. Evolution of life, biogeography, and global climate in the context of geologic time. The carbon cycle. Human interaction with the Earth. Mineral and energy resources.

Pre and Co-requisites

Any 100-level Science course.

Course Learning Outcomes (CLOs)

Upon successful completion of the course, students will be able to:

CLO1 establish and explain connections of course knowledge, as it applies to relevant current events, with emphasis on those of environmental concern.

CLO2 apply theoretical knowledge through lab experiments.

CLO3 build a perspective of the Earth as a dynamic system shaped by continuous interactions among its geological, physical, chemical, and biological components.

CLO4 explain how the planet Earth functions and how its modern configuration has been achieved.

CLO5 prepare to study any branch of earth science in future and consider the impacts of humans on the planet.

CLO6 demonstrate a holistic view of the planet, focusing not just on individual parts but on the system as a whole.

CLO7 explain the interactions between the different parts of the Earth system.

CLO8 illustrate the theory of plate tectonics, its relationship to the rock cycle, and the effect on the geosphere.

CLO9 examine the totality of earth's water in the hydrosphere and its frozen component, the cryosphere.

CLO10 examine the atmosphere as it supports life by virtue of its chemistry, as a storage of solar energy, and as an influence on our climate system.

CLO11 arrange and relate what we know about life and its environment – the biosphere.

Evaluation

Assessment Type	Percentage
Labs	30%
Class Activity / Assignment	10%
Mid-term Exams	20%
Final Lab Exam	10%
Final Lecture Exam	30%
Total	**100%**

Course Completion Requirements

Minimum passing mark of 50% or D is required.

Grading Scale

4.0 Grade Scale	Alpha Grade	Percentage Grade
4.0	A+	93-100
4.0	A	85-92.9
3.7	A-	80-84.9
3.3	B+	77-79.9
3.0	B	74-76.9
2.7	B-	70-73.9
2.3	C+	67-69.9
2.0	C	64-66.9
1.7	C-	60-63.9
1.3	D+	55-59.9
1.0	*D	50-54.9
0.0	F	0-49.9

Land Acknowledgement

We respectfully acknowledge that Keyano College is located on Treaty 8 territory, the traditional & contemporary meeting grounds and gathering places of the Denesuline, Cree and Métis Peoples of this region. Our name, Keyano (kiyânaw in nêhiyawêwin - Cree language), translates to “we, us, our” and speaks to the connection we have as a community and our commitment to being in right relationships with the First Peoples of these lands.

Every effort has been made to ensure that information in this course outline is accurate at the time of publication. Keyano College reserves the right to change courses if it becomes necessary so that course content remains relevant. In such cases, the instructor will give the students clear and timely notice of the changes.

Keyano College reserves the right to modify the syllabus, curriculum, or schedule of any course/program, or to cancel a course/program entirely, at any time and for any reason. Such changes may be necessary due to unforeseen circumstances, regulatory requirements, or to ensure the highest quality of education.

Students will be notified of any significant changes as soon as possible. Keyano College is not responsible for any inconvenience or disruption caused by these changes. It is the responsibility of the students to stay informed about any updates or modifications to their courses.

Course Outline Review Date: June 2025