



**Course Outline**

**UNIVERSITY STUDIES and  
ENVIRONMENTAL TECHNOLOGY**

**EAS 100A  
Planet Earth  
Fall Semester, 2013**

**3 CREDITS  
3 HOURS LECTURE, 3 HOURS LAB PER WEEK**

**INSTRUCTOR: Neil O'Donnell**

**INSTRUCTOR:** Neil O'Donnell  
**PHONE NUMBER:** (780) 791-4821  
**E-MAIL:** neil.o'donnell@keyano.ca  
**OFFICE NUMBER:** S209g

**OFFICE HOURS:**

Monday 2:00 – 2:50 pm  
Tuesday 11:00 – 11:50 am  
Wednesday 11:00 – 11:50 am, 2:00 – 2:50 pm  
Thursday 11:00 – 11:50 am  
Friday ----  
Other times are possible, by appointment

**HOURS OF INSTRUCTION:**

Monday	8:00 – 8:50 am	Room 228	Lecture
Tuesday	2:00 – 2:50 pm	Room 228	Lecture
Thursday	9:00 – 9:50 am	Room 228	Lecture
Friday	9:00 – 11:50 am	Room S114	Lab Group 1
Friday	1:00 – 3:50 pm	Room S114	Lab Group 2

**COURSE DESCRIPTION:**

This course introduces the origin and evolution of the Earth and the solar system, plate tectonics and rock cycle. It includes simple energy balances and interactions between radiation and the atmosphere, land, oceans, ice masses, and the global hydrological cycle. It considers evolution of life, biogeography, and global climate in the context of geologic time. The carbon cycle, human interaction with the Earth and mineral and energy resources are also considered.

**PRE-REQUISITE(S):**

None

**COURSE OUTCOMES:**

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

- Establish and explain connections of course knowledge, as it applies to relevant current events, with emphasis on those of environmental concern.
- Apply theoretical knowledge through lab experiments.
- Build a perspective of the Earth as a dynamic system shaped by continuous interactions among its geological, physical, chemical, and biological components
- Explain how the planet Earth functions and how its modern configuration has been achieved
- Prepare to study any branch of earth science in future, and consider the impacts of humans on the planet.

- Demonstrate a holistic view of the planet, focusing not just on individual parts but on the system as a whole.
- Explain the interactions between the different parts of the Earth system.
- Illustrate the theory of plate tectonics, its relationship to the rock cycle, and the effect on the geosphere.
- Examine the totality of earth's water in the hydrosphere and its frozen component, the cryosphere.
- 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.
- Arrange and relate what we know about life and its environment – the biosphere.

**REQUIRED RESOURCES:**

The Blue Planet, Skinner & Murck: Wiley, 3rd Edition, ISN 978-0-470-55648-1  
 Lab Manual: U of A/ Keyano Bookstore

**TOPICS TO BE COVERED:**

**Please Note:**

This course outline may be modified to facilitate unforeseen time constraints. Date and time allotted to each topic is subject to change.

<b>Week No.</b>	<b>Lecture Topics</b>
1	Introduction, Earth System, Energy (Ch. 1&2)
2	Our Place in the Solar System (Ch. 4; exclude pp.97-100))
3	Plate Tectonics (Ch. 5)
4	Earthquakes and the Earth's Interior (Ch. 6)
5	The Rock Record and Geologic Time (Ch. 7)
6	Minerals and Rocks (Ch. 3, 7), 1 <sup>st</sup> Mid-Term Exam
7	Water, Snow and Ice ( Ch. 8, 9)
8	The World Ocean (Ch. 10)
9	Composition of the Atmosphere (Ch. 11)
10	Dynamics of the Atmosphere (Ch. 12, 13)
11	Geochemistry and Life (Ch. 15)
12	Organization of Life in Space and Time (Ch. 16), 2 <sup>nd</sup> Mid-Term Exam
13	Earth Resources (Ch.17, 18)
14	Global Change (Ch. 19), Review

<b>Lab No.</b>	<b>Lab topics (full details in the manual)</b>	
1	Introduction; Lab rules; WHMIS	<i>(during lectures, Weeks 1 &amp; 2)</i>
2	Maps and topographic profiles, or alternate	<i>Week 2, Sept.13</i>
3	Local Field trip; Water Intake Plant; Abasands	<i>Week 3, Sept.20</i>
4	Earth materials: minerals and rocks	<i>Week 4, Sept.27</i>
No lab	(Possible voluntary weekend Field trip: Gravel Pit)	<i>Week 5, Oct.5-6</i>
5	Mapping geologic history	<i>Week 6, Oct.11</i>
6	The tectonic system	<i>Week 7, Oct.18</i>
7	Water at and beneath the Earth's surface	<i>Week 8, Oct.25</i>
8	Glaciers and glaciations	<i>Week 9, Nov.1</i>
No lab	(catch up lab time)	<i>Week 10, Nov.8</i>
9	Solar radiation, atmosphere and oceans	<i>Week 11, Nov.15</i>
10	The life and times of planet Earth	<i>Week 12, Nov.22</i>
11	Mineral resources and the human footprint	<i>Week 13, Nov.29</i>
No lab	(Final day of classes)	<i>Week 14, Dec.6</i>
	Review	Review

## MOODLE

Go to <http://ilearn.keyano.ca>

This course is supported through Moodle. Assignments, readings and handouts will be posted on Moodle. Login information will be provided by your instructor. For further instructions please see the Moodle handout.

## EVALUATION:

<b>Assignment</b>	<b>Percentage</b>	<b>Due Date</b>
<b>Lecture quizzes, assignments</b>	<b>10%</b>	See Schedule
<b>Labs</b>	<b>30%</b>	See Schedule
<b>2 Midterms</b>	<b>20% (10% each)</b>	Weeks 6 & 13
<b>Final Examination</b>	<b>40%</b>	TBA

## GRADING SYSTEM:

Letter Grade	Description	Grade Points
A+		4
A	Excellent	4
A-		3.7
B+		3.3
B	Good	3
B-		2.7
C+		2.3
C	Satisfactory	2
C-		1.7
D+		1.3
D	Minimal Pass	1
F	Failure	0

Students intending to transfer to other institutions should strive for a 'C-' as a minimum. Transfer information on each course is available at the [Alberta Council on Admission and Transfers](#).

### NOTES:

Attendance at labs is mandatory. All labs must be completed and submitted for completion of the lab component.

Please dress appropriately for the weather on any field trips! Proper footwear is important. If the weather does not co-operate, the lab schedule will shift.

Individual components of the course will be given a numerical mark. The grading system will be applied using a combination of absolute achievement and relative standing in the class. **Be aware, that a total score of 50% or more in the course as a whole will not ensure a passing grade.** If said score exceeds 50% only by virtue of the lab component, whereas lecture exam results indicate inability to master the course content to any significant degree, the student may still be assigned a failing grade. This **may** occur for anyone whose final exam score is less than 40%, or such other circumstances as may suggest that a passing grade is inappropriate.

### MISSED TERM EXAM OR LABS:

A student who cannot write a term examination or complete a lab assignment due to incapacitating illness, severe domestic affliction or other compelling reasons can apply to have the weight of the missed midterm transferred to the final. All attempts should be made to make up missed labs. Missed labs with no attempts to complete the work will be assigned a "0".

You must notify the instructor of a missed midterm or lab assignment within 48 hours.

Deferral of term work is a privilege and not a right; there is no guarantee that a deferral will be granted. Misrepresentation of Facts to gain a deferral is a serious breach of the Code of Student Behaviour.

**CELL PHONES:** Cell phones are to be turned off during lectures, labs and seminars. So NO, you cannot use it as a "clock".

**STUDENTS WITH DISABILITIES:** Students who require accommodation in this course due to a disability are advised to discuss their needs with counsellors in the Registrar’s office . Please ensure that the required forms for exams are submitted to the instructor **one week** before the date of the midterms or **by the last lecture class** for the final exam.

**SKILL CENTRE:** Students who require additional help in developing strategies for better time management, study skills or examination skills should contact the Keyano College Skill Centre.

**Disclaimer:** Any typographical errors in this Course Outline are subject to change and will be announced in class. The date of the final examination is set by the Registrar.

**Note:** Recording is permitted only with the prior written consent of the instructor or if recording is part of an approved accommodation plan.

**Students who do not complete all the required work should not expect to pass the course.**

Students should consult <http://www.keyano.ca/Academics/Examinations>

**IMPORTANT DATES:**

September 4, 2013	First day of classes
September 17, 2013	Courses dropped after this date will be designated “W”. (A withdrawal (W) is not reflected in your GPA.
October 25, 2013	Courses dropped after this date will be designated “WF”. (A withdrawal failure (WF) counts as a 0 in your GPA).
December 6, 2013	Last day of classes
December 9-18, 2013	Final Exams

## COLLEGE POLICIES

### Equality, Equity and Respect

The Keyano College is committed to providing an environment of equality, equity and respect for all people within the College community. All members of this community are considered partners in developing teaching and learning contexts that are welcoming to all. Faculty, staff, and students are encouraged to use inclusive language to create a classroom atmosphere in which students' experiences and views are treated with equal respect and valued in relation to their gender, ethnic and cultural background, and sexual orientation.

*Students should consult:*

<http://www.keyano.ca/StudentLife/StudentConduct/IndividualRightsPolicy>

### Plagiarism and Cheating

Every student expects to be treated and evaluated fairly in a course. Plagiarism and cheating robs everyone of this right.

No student may submit words, ideas or data of another student or person as his or her own in any writing, project, assignment, quiz, electronic presentation, exam etc. Any work used that is not the student's own must be clearly cited as belonging to someone else. There are penalties for using other's work and not citing it. The Student's Rights & Responsibilities document clearly outlines these penalties and the appeal process.

- No learner can obtain information from another student during an exam.
- No learner can bring unauthorized information (paper or electronic) into an exam or quiz.
- No student can submit work done in another course for grading in this course without the written prior approval of the course instructor.
- No student can submit copyright protected or commercially produced materials as part or all of an assignment without proper citation & permission.

### Student Rights & Responsibilities

Students should

consult <http://www.keyano.ca/StudentLife/StudentConduct/AcademicPoliciesProcedures>

### Specialized Supports and Duty to Accommodate

*Disability Support Services: Learner Assistance Program*

If you have a documented disability or you think that you would benefit from some assistance from a Disabilities Counsellor, please call or visit the Disability Supports Office 780-792-5608 to book an appointment (across from the library). Services and accommodations are intended to assist you in your program of study, while maintaining the academic standards of Keyano College. We can be of assistance to you in disclosing your disability to your instructor, providing accommodations, and supporting your overall success at Keyano College.

*Specialized Supports and Duty to Accommodate*

Specialized Support and Duty to Accommodate are aligned with the office of Disability Support Services: Learner Assistance Program (LAP) guided by federal and provincial human rights legislation, and defined by a number of Keyano College policies. Keyano College is obligated by legislation to provide disability-related accommodations to students with identified disabilities to the point of undue hardship.