



DEPARTMENT OF SCIENCE

COURSE OUTLINE –WINTER 2016

ES1000 (A3) – PLANET EARTH – 3 (3-0-3) 90 Hours over 15 Weeks

INSTRUCTOR: Dr. Tanvir Sadiq. **PHONE:** 780-539-2865
OFFICE: J209 **E-MAIL:** TSadiq at gprc dot ab dot ca
OFFICE HOURS: TBA or By Appointment

CALENDAR DESCRIPTION:

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

PREREQUISITE(S)/COREQUISITE:

NOTE: This course is not available to students with credit in ES1010 or ES1020

REQUIRED TEXT/RESOURCE MATERIALS:

The Blue Planet, 3rd Edition by Skinner and Murck, (*Second Edition is NOT acceptable.*)
Contact your instructor for information on lab manual.

DELIVERY MODE(S):

Lectures, Labs

COURSE OBJECTIVES:

The objective of this course is to introduce students to the basic concepts of Earth System Science and provide an understanding and appreciation of the Earth and interacting components.

LEARNING OUTCOMES:

Upon successful completion of this course a student is expected to have:

- Developed an understanding and appreciation of the basic characteristics, history and processes of Planet Earth, and
- Gained an insight into how different components of Earth system interact and affect life on the Planet.

TRANSFERABILITY:

University of Alberta, University of Calgary*, Athabasca University, Augustana Faculty-University of Alberta, University of Lethbridge Other (transfers in combination with other courses or to other institutions)

***Warning:** Although we strive to make the transferability information in this document up-to-date and accurate, **the student has the final responsibility for ensuring the transferability of this course to Alberta Colleges and Universities.** Please consult the Alberta Transfer Guide for more information. You may check to ensure the transferability of this course at Alberta Transfer Guide main page <http://www.transferalberta.ca> or, at <http://alis.alberta.ca/ps/tsp/ta/tbi/onlineSearch.html?SearchMode=S&step=2>

** Grade of D or D+ may not be acceptable for transfer to other post-secondary institutions. **Students are cautioned that it is their responsibility to contact the receiving institutions to ensure transferability**

EVALUATIONS:

Participation	5%	
End of Chapter Quizzes	10%	
Tests	40%	(At the end of major topics)
Labs	10%	
Final Exam (TBA)	35%	(Cumulative, lab material also included,)

NOTE: There will be no makeup or deferral available for any missed Quizzes, Tests or Labs.

GRADING CRITERIA:

The following is a guideline only.

Please note that most universities will not accept your course for transfer credit **IF** your grade is **less than C-**.

Alpha Grade	4-point Equivalent	Percentage Guidelines		Alpha Grade	4-point Equivalent	Percentage Guidelines
A+	4.0	90-100		C+	2.3	67-69
A	4.0	85-89		C	2.0	63-66
A-	3.7	80-84		C-	1.7	60-62
B+	3.3	77-79		D+	1.3	55-59
B	3.0	73-76		D	1.0	50-54
B-	2.7	70-72		F	0.0	00-49

COURSE SCHEDULE/TENTATIVE TIMELINE:

(Tentative, subject to change)

Weeks	LECTURE TOPICS	Chapters
1, 2	Foundation of the Earth: Scientific method, Components of the integrated earth system; Earth in space; Geological time.	1, 2, 4
3, 4, 5	Geosphere: Minerals and rocks; Rock cycle; Plate tectonics.	3, 5, 6, 7
6, 7, 8	Hydrosphere: The water planet (surface water, groundwater, snow, ice, glaciers and oceans)	8, 9, 10
9, 10, 11	Atmosphere: Composition; Dynamics and circulation; Weather systems; Climate changes.	11, 12, 13
12, 13, 14	Biosphere: Biology and geology; Elemental cycles; Organization of life in space and time; Biodiversity; Anthropogenic influences and resources.	14, 15, 16, 19

STUDENT RESPONSIBILITIES:

Students are expected to attend all classes and labs. If you miss a class, make arrangements to copy the notes from your class fellows. **Attendance at labs is mandatory and all lab assignments must be completed and handed in by the end of lab. Lab material is testable on the final exam.**

STATEMENT ON PLAGIARISM AND CHEATING:

Cheating and plagiarism will not be tolerated and there will be penalties. For a more precise definition of plagiarism and its consequences, refer to the Student Conduct section of the College Admission Guide at <http://www.gprc.ab.ca/programs/calendar/> or the College Policy on Student Misconduct: Plagiarism and Cheating at <http://www.gprc.ab.ca/about/administration/policies/>

**Note: all Academic and Administrative policies are available on the same page.