

## DEPARTMENT Science

### COURSE OUTLINE –WINTER 2024

#### ES1000 (A3): PLANET EARTH – 3 (3-0-3) UT 90 Hours for 15 Weeks

Northwestern Polytechnic acknowledges that our campuses are located on Treaty 8 territory, the ancestral and present-day home to many diverse First Nations, Metis, and Inuit people. We are grateful to work, live and learn on the traditional territory of Duncan's First Nation, Horse Lake First Nation and Sturgeon Lake Cree Nation, who are the original caretakers of this land.

We acknowledge the history of this land and we are thankful for the opportunity to walk together in friendship, where we will encourage and promote positive change for present and future generations.

**INSTRUCTOR:** GLENDA DELOS REYES, Ph.D.

**PHONE:** 780-539-2826

**OFFICE:** J220

**E-MAIL:** gdelosreyes@nwpolytech.ca

**OFFICE HOURS:** Tuesday 1:00 – 2:45 p.m.  
Wednesday 11:00 - 1:00 p.m.

**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 and human interaction with the Earth. Mineral and energy resources.

**PREREQUISITE(S)/COREQUISITE:** None.

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

**REQUIRED TEXT/RESOURCE MATERIALS:** *The Blue Planet, 3<sup>rd</sup> Edition* by Skinner and Murck, ES1000 Laboratory Manual

**DELIVERY MODE(S):** 3 hours of lecture (WF 1:00 – 2:20 pm, J228)

3 hours of lab (M 14:30-17:20 J107)

**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:

Please consult the Alberta Transfer Guide for more information. You may check to ensure the transferability of this course at the Alberta Transfer Guide main page <http://www.transferalberta.ca>.

\*\* 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%	
Quizzes/Essays	5%	At the end of each Chapter
Midterm #1	25%	Feb 16 <sup>th</sup>
Midterm #2	25%	March 27 <sup>th</sup>
*Laboratory	15%	
Final Exam	25%	Cumulative (Time and Location TBA by Registrar's office)

*\* Must get at least 50% in the lab to pass the course.*

**NOTE:** There will be no makeup or deferral available for any missed Quizzes, Tests or Labs. Lab reports must be submitted at the end of the class. Students who missed the lab due to sickness/unavoidable reason will get the average class mark for the missed experiment.

**Final Exam:** This exam is cumulative. The final exam for lecture will be written during the exam period. Writing early is not permitted. Final exam for laboratory will be given during the last meeting in the lab and covers all experiments. Final lab exam is equivalent to two lab reports.

### GRADING CRITERIA: (The following criteria may be changed to suite the particular course/instructor)

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	95-100		C+	2.3	67-69
A	4.0	85-94		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:**

NOTE: The course schedule is on myClass and may be updated there if necessary. This schedule is preliminary but gives a good idea of which sections in the textbooks you should read to be caught up with the class lectures.

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

**STUDENT RESPONSIBILITIES:** Assignments must be handed in on time, and tests/exams must be written on the days announced in class. If an emergency prevents a student from writing a test/exam on the scheduled day, the student must contact the instructor immediately to make other arrangements. Otherwise, the student will receive a zero grade for that component of the course.

For more information, refer to the College Policy on Student Rights and Responsibilities at <https://www.gprc.ab.ca/about/administration/policies/fetch.php?ID=69>

**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 Northwestern Polytechnic Calendar at <https://www.nwpolytech.ca/programs/calendar/> or the Student Rights and Responsibilities policy which can be found at <https://www.nwpolytech.ca/about/administration/policies/index.html>.

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