

Earth & Life Through Time
Fall 2020 Syllabus

Class	Date	Topic	Reading*
1	1-Sep	Introduction to course	
Understanding How Our Planet Works			
2	3 - Sep	Earth in Space	Ch. 1
	8 - Sep	No Class – Monday’s class	
3	10 - Sep	Earth in Time	Ch. 1,6
4	15 - Sep	Geologic Time	Ch. 1,6
5	17- Sep	Carbon Cycle	Ch. 10
6	22 - Sep	Climate System	Ch. 4 (pp.88-96)
7	24 - Sep	Rock Cycle	Ch. 8, 9
8	29 - Sep	Continental Drift & Plate Tectonics	Ch. 7
9	1 - Oct	Plate Tectonics	Ch. 7
The Making Our Planet			
10	6 - Oct	Big Bang to Hadean	Ch. 11
11	8 - Oct	Early Rocks and Continents	Ch. 11
12	13 - Oct	Oceans & atmosphere & Climate Snowball Earth	Ch. 12
Life on Earth			
13	15 - Oct	Early Life	Ch. 12
14	20 - Oct	Cambrian Explosion & rise of multicellular life	Ch. 12,13
15	22 - Oct	Invasion of land - Plants	Ch. 13,14,15
16	27 - Oct	Invasion of land - Animals	Ch. 13,14,15
17	29 - Oct	Paleozoic climates & Permian mass extinction	Ch. 13,14,15
Tectonic – Mountain Building in North America and Pangea			
18	3 - Nov	Assembly of Pangea	Ch. 13,14,15
19	5 - Nov	Mesozoic Breakup & American Cordillera	Ch. 16
Mesozoic – Life and Death of the Dinosaurs			
20	10 - Nov	Mesozoic life	Ch. 16,17
21	12 - Nov	End-Cretaceous impact & extinction event	Ch. 17
The Cenozoic – Toward a colder Planet and the Rise of the Mammals			
22	17 - Nov	Cenozoic tectonics	Ch. 18,19

23	19 - No	Cenozoic climate deterioration & Ice ages	Ch. 18,19
24	24 - Nov	Cenozoic life	Ch. 18,19
25	1 - Dec	Hominids	Ch. 19

The Last 20,000 years and the near future

26	3 - Dec	Last Glacial & Holocene	Ch. 20
27	8 - Dec	Modern global change	Ch. 20, IPCC
28	10 - Dec	Modern global change	Ch. 20, IPCC

Online Exams (250 points)

Sep 15-17	Intro, Space and Time	20 pts
Sep 22-24	Carbon Cycle and Climate System	20 pts
Oct 1-5	Rock Cycle and Plate Tectonics	30 pts
Oct 13-15	Making of the Planet	30 pts
Oct 29-Nov 3	Early Life and Invasion of Land	40 pts
Nov 5 – 9	North American Tectonics	20 pts
Nov 12 – 16	Mesozoic Life and Extinctions	20 pts
Dec 1 – 3	Cenozoic Life and Hominids	40 pts
Dec 10 – 15	The Last 20 kyr and near future	30 pts

Exercises (15 pts each for 105 pts)

15 - Sep	Relative Time
24 - Sep	Fractionation & Bowen's Reaction
1 - Oct	Isostasy
8 - Oct	Density
22 - Oct	Life on Land
12 - Nov	Dinosaur Extinction Clues
3 - Dec	CO ₂ Now, Then and in the Future

Participation (50 pts total)

We anticipate that students will lead 20 discussion sessions. Each student will co-lead the discussion 5 times. Leaders will earn up to 4 pts when they lead. Everyone else earns up to 2 pts.