

SYLLABUS: HONORS EARTH AND ENVIRONMENTAL SCIENCE-Spring 2025; Mrs. Orbock Miller, C-11 (Subject to Change)

Week/Date	Topic	Activities	EEn Objective	CK-12 Assignment
1. 1 / 6-10	Intro to EES/Astronomy	Introductions, policy sheet-expectations, safety contract, online sites/codes. Review scientific methods, measuring, weekly science summaries. Pre-TEST Hierarchy of space; motion-rotation, revolution, precession, nutation, barycenter, Kepler's Laws, Newton's and Gravity	1.1.1, 1.1.2	https://youtu.be/7JuHeDBpXds?si=22ALUbiOfPH-f2il
2. 1/13-17	Astronomy	Theories of origin for the universe, solar system-helio vs geocentric, and moon (phases and eclipses-4/8/24); tides, importance of solar energy to life on earth. Nuclear fusion / fission, Project: NASA Spinoffs TEST		Chapters 1, 23, 24,25, 26
3. 1/20-24	Geology	3rd Rock from the Sun: characteristics-layers, evidence from seismic waves	2.1	Chapter 2
4. 1/27-31	Geology and Maps	FLDA, problems; skills practice: use of models; map reading, Locating yourself on earth-maps, compass, GPS, satellites		
5. 2 /3-7	Geology-Minerals/Rocks	Minerals-building blocks of rocks; Rock types, importance in everyday life, formation, uses; Igneous rocks-intrusive/extrusive/types of volcanoes/distribution	2.1.1,2.2.1	Chapters 3, 4, 8
6. 2/10-14	Geology	Sedimentary & Metamorphic Rocks-investigate NC Rocks- geologic maps		
7. 2/17-21	Geology-energy resources	Mining types (pros and cons); NC natural resources; energy resources-conventional and alternative / sustainability TEST	2.8.1; 2.2.1	Chapters 5, 19, 20 https://youtu.be/7JuHeDBpXds?si=22ALUbiOfPH-f2il
8. 2/24-28	Geology-	Seismology-P/S waves; Earthquakes, Earth's Layers, Structural Geology, TEST	2.1.2,2.1.4	Chapters 6, 7, 8
9. 3 /3-7	Geology	Plate Tectonic Theory- Plate Boundaries GeoHazards Midterm Exam: weeks 1-9		
10. 3/10-14	Geology Surficial Processes	Weathering rates; mass wasting and erosion; soil formation,, soil triangle, importance of agri- and aqua- culture, BMPs, sustainable farming Field Trip: Test Farm	2.1.3	Chapters 9, 10 https://classroom.google.com/ec/va/cpy/3008f688-42af-4fad-8fd2-174356898053
11. 3/17-21	Geology Hydro Studies	Importance of water; water budget, heat transfer in oceans, geographic distribution, river and groundwater basics Field Trip: Richland Creek-caddisflies and microplastics project	2.3.1,2.3.22.4.1	Chapters 13, 14, 21
12. 3/24-28	Geology Hydro studies	Our water use: Pigeon River watershed; case studies, water quality; global water crisis; ocean pollution Field Trips: Water Treatment Plants TEST		
13. 3/31-4/4	Meteorology	Meteorology Basics Introduction/ atmospheric characteristics, weather characteristics, tools, clouds, pressure systems TEST	2.4.2,2.3.2 2.5	Chapters 15, 16, 17

14. 4/8-12	Atmosphere	Station models, air masses, formation of fronts, severe weather, maps		Chapters 15, 16, 17
15. 4/14-18	Spring Break	Spring Break	2.5	Chapters 15, 16,17, 22
16. 4/21-25	Meteorology Weather	Interpreting maps, forecasting, Introduction to climate; natural changes (climatographs) and human influences TEST		
17. 4/28-5/2	Meteorology Climate	Primary and secondary pollution- Climate change debate TEST	2.6	Chapters 15, 16, 17, 22
18. 5 /5-9	Biodiversity/ Sustainability	The biosphere-biomes, ecosystems, importance of biodiversity (Biodiversity PROJECT), threats (HIPPCO)	2.7	Chapters 18, 19, 20, 21, 22
19. 5/12-16	Biodiversity/ Sustainability	Sustainability practices, human population trends, solid and e-waste, limiting resources; NIMBY, Consumer Nation; 4 R's; TEST		
20. 5/19-23	Review	Review for Final Exam- Post TEST	all	

