GEOL 1122 Walker notes

Note on first week of classes:

For the 12:20 to 1:10 class, we just have a small bit to cover on the spheres (holdover from Lecture 1), and then we'll launch into Lecture 2 on Monday. If you can, please download the outline for Lecture 2, Part 1 from my class web site.

For the 1:25 to 2:15 class, we'll start class with Lecture 2, Part 1. Focus on the Carbon cycle in your readings for that day. Please bring Lecture 2, Part 1 outline if you can from my class website.

So Far
This week, we discussed: the age of the Earth (when it formed), differentiated into core, mantle, and crust, and how Earth's structure influences Plate Tectonics (or the movement of the lithospheric plates on the upper Mantle). We talked a little about the mechanism driving plate tectonics (convection cells in the mantle and "Ridge Push, Slab Pull"). We also discussed when Plate Tectonics may have started on Planet Earth and how Plate Tectonics contributes to the three main rock types on earth (as exemplified by the rock cycle). We will get into the development of Plate Tectonic Theory, the evidence for Plate Tectonic Theory, and how the crust of the Earth is formed (mountains, valleys, submarine trenches) via plate tectonics during Week 7 of the class.

We then introduced the four major spheres on earth, and next week, we'll talk about how these spheres are linked via chemical cycles (Lecture 2, Part I; Lecture 2, Part 2; note, part II is not uploaded to the website). Plate tectonics also affects global climate, sea level, and also the mineralogy of ocean life!! You might start asking yourself: how does Plate Tectonics affect climate? Sea level? How can the process of Plate Tectonics influence how sea creatures, like a clam or a coral, builds its skeleton?

For studying this weekend (if you want to!), read Chap. 1 especially pages 6-8; 10-11; 14-18.). For lecture 2, please read Chap. 1 (the water cycle, pp. 18-20); Chap. 10 (Earth's chemical cycles). The upcoming lectures are what the rest of the class is based on, so I'll spend more time on them and make sure you understand the concepts. Monday we'll discuss the carbon cycle (and stable carbon isotopes) and hopefully start the water cycle (and stable oxygen isotopes as they relate to global climate). These two cycles link all four spheres (geo-, hydro-, bio- and atmos-) and affect global climate.

Please email me if you have questions: swalker@gly.uga.edu