Outcomes Assessment for Geology 211 (Physical Geology)

Course Outcomes	Objectives (SWBAT)
1. Understand that Earth scientists use repeatable observations and testable ideas to understand and explain our planet, using a variety of tools (such as geologic maps) and scientific standards	**1.1 Show how the scientific method was used to construct a major geologic theory such as plate tectonics (or the structure of the earth)** **1.2 Answer a geologic question by use of graphs, equations, direct measurements, topographic maps, or geologic maps.**
2. Understand that the Earth is 4.6 billion years old, and that deep time is an essential aspect of the development of the planet.	**2.1 Solve a radiometric dating problem.** **2.2 Solve a relative dating problem**
3. Understand that Earth is a complex system of interacting rock, water, air, and life, and how these elements have shaped Earth's surface.	**3.1 Explain the mode of formation of the three major rock types (igneous, sedimentary and metamorphic), and how they are linked by the rock cycle and the plate tectonic cycle** **3.2 Identify rocks and minerals in hand samples** **3.3 Identify and describe the mode of origin of common landscape features** **3.4 Describe the major compositional and physical layers of the earth.**
4. Understand that earth is continuously changing, both on the surface and in the interior	**4.1 Describe how plate tectonics explains geological phenomena such as earthquakes, volcanoes, faults, and the distribution of these phenomena** **4.2 Describe the changes that happen in the oceans, atmosphere, and glaciers during climate change such as ice ages or global warming**
5. Understand the importance of water on Earth	**5.1 Give an example of how water shapes the earth's surface** **5.2 Explain the hydrologic cycle.**
6. Natural hazards pose risks to humans	**6.1 Describe the major geologic hazards of the Pacific Northwest**
7. Humans significantly alter the Earth.	**7.1 Describe how human activities can affect can climate** **7.2 Explain how human use of rock, mineral, or water resources can affect the earth's surface**