The graduate understands the structure and function of Earth systems, including the closely coupled subsystems: geosphere, hydrosphere, atmosphere, and biosphere.

The graduate understands the Earth's history and that the Earth exists in a state of dynamic equilibrium that evolves over geologic time.

The graduate understands the components and properties of the solar system, and understands that the major components are in a state of regular and predictable motion.

The graduate understands the composition, history, and properties of the earth and the universe, and the scale of the universe in space and time.

The graduate has a deep understanding of the following oceanographic concepts: global plate tectonics, the origin of the oceans, air/sea interactions, and human interactions with the oceans.