

*Core Curriculum Goals (Natural Sciences)*

Students should be able to:

- a. understand the basic concepts of the natural sciences;
- b. appreciate the process by which knowledge in the natural sciences is advanced;
- c. distinguish between sound science and unsound science;
- d. use rigorous reasoning and the scientific method to test hypotheses;
- e. show familiarity with tools, techniques and instrumentation used in the natural sciences;
- f. appreciate the power and beauty of the natural sciences.

*Learning Outcomes in Chemistry*

1. Apply knowledge of fundamental chemistry concepts: (Goals a, e)
  - a. Qualitatively describe structure of atoms and connect atomic structure to arrangement of periodic table.
  - b. Draw structures of molecules and illustrate intermolecular forces
  - c. Balance chemical equations
  - d. Qualitatively evaluate the favorability of a chemical reaction based on energy concepts
  - e. Understand the significance of the 3-D structure of a molecule and how it impacts its behavior/function. Interpret technical writing and graphical information (Goals d, e)
2. Apply knowledge of the scientific method to evaluate arguments and scientific claims. (Goals b, c, d)
3. Evaluate the effects of chemical technology on society. Examples may include assessing environmental impact, discussing ethics of technology, and/or making benefit/risk assessments. (Goals b, c, f)
4. Link what occurs at the molecular level with phenomena in everyday life. (Goals c, f)