Overview

Concepts in Science for undergraduates provides students seeking a bachelor’s degree and initial teacher licensure in science education with an introduction to essential science themes present within and across all science disciplines, including chemistry, physics, biology, and the geosciences. These themes include comprehending the magnitude of the physical and natural world, analyzing and converting measurements, understanding the basic nature and behavior of matter and energy, examining atomic structure, identifying and naming basic types of chemical bonds, and analyzing and interpreting scientific data. Concepts in Science provides a solid foundation for future, in-depth, scientific studies and should be taken prior to any other science content course. There are no prerequisites for this course.

Competencies

- **Scientific Measurement**
  The graduate applies principles of measurement to solve scientific problems.

- **Matter and Energy**
  The graduate explains how various forms of matter and energy respond to physical and chemical changes to understand how matter and energy flow within and among systems.

- **Atoms, Molecules, and Ions**
  The graduate determines the composition of atoms and compounds to understand the properties of matter.

- **Statistics and Data Analysis**
  The graduate analyzes numeric data to identify patterns and relationships.

Learning

Getting Started

Welcome to Concepts in Science! Before you begin, you will need to order a LabPaq from Hands-On Labs. This LabPaq is a physical shipment and contains equipment and supplies you will need to complete science experiments at home. The experiments reinforce science content and teach laboratory techniques. The cost of the LabPaq is covered by your program lab fee.

If you are enrolled in the BASCCH12 program, follow these instructions to order the “General Chemistry – Undergrad” Labpaq, which you will use in this course, as well as General Chemistry I with Lab and General Chemistry II with Lab.

If you are enrolled in the BASCB12, BASCG12, or BASC9 program, follow these instructions to order the “Chemistry for Bio, Geo, and Middle School Students” Labpaq, which you will use in this course and Chemistry with Lab.

If you are enrolled in the BASCPH12 program, follow these instructions to order the “Chemistry for Physics Students” LabPaq, which you will use in both this course and Chemistry with Lab.

After you have ordered the correct LabPaq, view the “Get Started” section of the course, which demonstrates how to use the competency diagnostic tool at the beginning of each unit to identify areas in which you are not yet competent so you can plan your study time accordingly. Each course unit aligns to a single course competency and includes readings, videos, knowledge checks, discussions, labs, and simulations that will help you build and apply your science knowledge and skills. At the end of each unit, complete the competency check to gauge your progress after completing the recommended lessons. If you find that your performance on the competency check has not improved as a result of completing the recommended lessons, reach out to a course instructor for support. Competency will be demonstrated by the successful completion of an objective assessment. (Note: You can view this course in any browser except Internet Explorer 11.)

Assessments

Preassessment: Concepts in Science

Status: Not Attempted

# of items: 60

Time allotted: 150 minutes

Code: PCCC

Take Now

Objective Assessment: Concepts in Science

Status: Not Attempted

# of items: 60

Time allotted: 150 minutes

Code: CCC1

A score of Competent or Exemplary is required to pass all assessments. Passing a preassessment does not guarantee you will pass the high-stakes assessment.
On objective assessments, you will be charged a retake fee for the third attempt and every attempt thereafter. For more information click here.