Overview

Concepts in Science for graduates provides already-licensed teachers seeking an additional license or endorsement 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 analyzes a variety of measurements to solve scientific problems.

- **Matter and Energy**
  The graduate analyzes interactions between matter and energy to explain how they flow within, into, and out of systems.

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

- **Statistics and Data Analysis**
  The graduate evaluates experimental data to determine their validity.

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.

Order the LabPaq specific to your program as the contents of each are different. Delivery of your LabPaq takes about 5–7 business days, so please order your LabPaq 1–2 weeks before starting your course to ensure you will have the supplies you need to complete the experiments.

The packing list that comes with your kit will not allow you to do a full inventory because it does not list all the contents of the individual modules in your kit. Please use the packing list linked with your program to do a complete inventory of your kit when it arrives. You should do an inventory of your kit within 30 days of receiving it. If you are missing any items, contact HOL Customer Service at 866-206-0773, option 3. If you feel that HOL is not providing you with responsive customer service, please let your program mentor or course instructor know immediately.

If you are enrolled in a secondary chemistry program, follow the instructions for ordering the General Chemistry - Grad LabPaq, which you will use in this course, as well as General Chemistry I with Lab and General Chemistry II with Lab. Use the packing list for the General Chemistry – Grad LabPaq to do a full inventory of your kit as soon as it arrives.

If you are enrolled in a secondary biology, secondary earth science or geoscience, or middle school science program, follow the instructions for ordering the Chemistry for Biological, Earth and Middle Grade Sciences LabPaq, which you will use in this course and Chemistry with Lab. Use the packing list for the Chemistry for Biological, Earth, and Middle Grade Sciences LabPaq to do a full inventory of your kit as soon as it arrives.

If you are enrolled in a secondary physics program, follow the instructions for ordering the Chemistry for Physics LabPaq, which you will use in both this course and Chemistry with Lab. Use the packing list for the Chemistry for Physics LabPaq to do a full inventory of your kit as soon as it arrives.

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. We highly recommend using Google Chrome for the best experience.)

Cohort Sign-up

Cohorts provide additional structure and support for challenging aspects of this course. In a cohort you receive specific homework assignments and meet online with mentors and students regularly to discuss the challenging topics.
Course Information

Statement of Teaching Dispositions

COURSE INSTRUCTOR

Course Instructor Group
conceptsinscience@wgu.edu

Course Instructor Responsibility
How to Work with Course Instructors